# Citizens Memorial Hospital EMS Protocols

**CMH EMS & MIH Protocols**

These protocols are designed to provide standing written orders to provide patient care. Refer to Protocol 0-020 - Standing Orders by Agency Type for specific standing order definitions based on the type of agency represented.

Unless specified adult or pediatric, these protocols apply to both adult and pediatric patients. Pediatric is defined as a patient under the age of 16 years, unless otherwise specified.

## Parts:


- 0 - Front Matter
- 1 - Policies & Guidelines
- 2 - Emergency Protocols
- 4 - Mobile Integrated Healthcare Protocols
- 7 - Medications
- 8 - Equipment
- 9 - Appendix


## Current Signatory Agencies:

- Bolivar City Fire Department
- Bolivar Volunteer Fire Department
- Cedar County First Responders
- Cedar County Sheriffs Department
- Central Hickory Fire Rescue
- Citizens Memorial Hospital
- Halfway Fire and Rescue
- Humansville Fire and Rescue
- Lowry City Volunteer Fire Department
- Pittsburg Volunteer Fire Department
- Pleasant Hope Fire Protection District
- Preston Volunteer Fire Department
- Weaubleau Fire Department
- Refer to Signatory Page for details.

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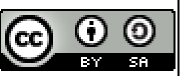
| CMH Pre-Hospital Services Mission: "*Provide safe, exceptional, and compassionate care to our communities with an emphasis on highly trained and empowered staff*." | CMH Mobile Integrated Healthcare Mission: "*Provide exceptional, compassionate, and patient-centered care by a mobile collaborative team to improve patient experience, improve quality outcomes, and reduce healthcare costs*." | |
|---|---|---|



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# Part 0-000 - Front Matter

**CMH EMS & MIH Protocols**

## Contents:


- 0-010 - Signature Page
  - 0-010-01 - Hard-Copy Signature Page
- 0-020 - Standing Orders by Agency Type
- 0-100 - Protocol Deviation
- 0-200 - Document Style Standards
- 0-250 - EMS Research

## Change Log:

| Date | Link to previous version | Description of change |
|---|---|---|
| 06/01/12 | pdf | New document from scratch. Previous protocols were mostly a copy of St. Johns EMS protocols. This version relied heavily on that document from St. Johns. Version 1 approved by Roger Merk, MD. |
| 02/10/14 | | Removed QR codes and re-released as version 3. |
| 12/12/14 | | Changed Pre-Hospital Services to Emergency Medical Services` |
| 12/12/14 | | Added definition of pediatric. Added DELIBERATE ACTIONS. |
| 03/02/15 | | Removed DELIBERATE ACTIONS. |
| 03/30/15 | | Added statement about EMR, EMT, and medic and the adoption of these protocols by first responder agencies. |
| 04/07/15 | | Changed several headings from Protocol to Section to indicate they are informational and not to be used in documentation as the protocol used to treat the patient. |
| 05/08/15 | | Created Section 0-100 - Hard-Copy Protocol Maintenance Agreement to clarify expectations of those with hard-copies issued to them. |
| 11/17/15 | | Added EMH (Ellett Memorial Hospital) to each location where CMH (Citizens Memorial Hospital) is mentioned. |
| 12/28/15 | | Added RN wherever Paramedic was listed to facilitate RNs working in the paramedic role on an ambulance. |
| 07/22/16 | | Added levels for AEMT to all protocols. AEMT scope of practice includes:<br>• IV access and fluid administration of NS and LR.<br>• SL Nitroglycerin for chest discomfort.<br>• IM Epi for anaphylaxis.<br>• IM Glucagon for hypoglycemia.<br>• IV Dextrose for hypoglycemia.<br>• Nebulized brochodilators for asthma.<br>• IM and IN Narcan for narcotic overdose. |
| 07/24/16 | | Removed all QR codes on each section and links to research articles. Replaced with one link and QR code at the front of the document to reduce broken link issues we've had in the past. |
| 08/24/17 | pdf | Removed Section 0-100 - Hard-Copy Protocol Maintenance Agreement |
| 08/28/17 | | Removed all pictures that were decorative instead of informative to make file size smaller. |
| 09/20/17 | | Added references to applicable NEMSIS protocol numbers. Aligned this document to new NASEMSO National Clinical Guideance Document published 9/15/17. |
| 11/11/17 | | Added consider to a large number of protocol entries to allow critical thinking without being held to sometimes unrealistic mandatory requirements. Added links within document to allow quick reference in an electronic format. |

| | | |
|---|---|---|
| 08/24/18 | | Added Creative Commons log at the bottom of each page. Added link at the top of each page for the link back to the table of contents. |
| 03/28/20 | | Removed Front Matter 0-040 - Index. |
| 03/31/20 | | Migrated entire protocol book to online format. Due to ESO softwarethe inability to modify protocol names in that program, protocols were re-organized to match those names (which also mostly align with NEMSIS). Refer to the table below for cross-reference of old vs. new protocol numbersnames. Also, in an effort to reduce the possibility of errorsredundancy, a new policy section was added to be a mirror image of CMH PolicyStat. This document will be the masterPolicyStat will be updated accordingly... eventually. |
| 06/05/21 | pdf | Moved to emsprotocols.online |

Return to Protocols Table of Contents.

Search protocols: [ ] Search

| CMH Pre-Hospital Services Mission: "*Provide safe, exceptional, and compassionate care to our communities with an emphasis on highly trained and empowered staff*." | CMH Mobile Integrated Healthcare Mission: "*Provide exceptional, compassionate, and patient-centered care by a mobile collaborative team to improve patient experience, improve quality outcomes, and reduce healthcare costs*." | |
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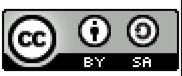

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# Front Matter 0-010 - Signature Page

**CMH EMS & MIH Protocols**

This document is only valid for two years after the corresponding signatures dates below. Official copies of signatures are on file with Theron Becker at Citizens Memorial Hospital.

| Agency | Signatory Name | Date Signed | Remaining | Notes |
|---|---|---|---|---|
| Bolivar City Fire Department | On Behalf of Agency: Brent Watkins | 2023-01-03 | Expires in 1 years, 4 months, 13 days | View the 480 changes since last approval |
| | Medical Director: Keith Butvilas | 2023-05-25 | Expires in 1 years, 9 months, 4 days ago | View the 40 changes since last approval |
| Bolivar Volunteer Fire Department | On Behalf of Agency: Brent Watkins | 2023-01-03 | Expires in 1 years, 4 months, 13 days | View the 480 changes since last approval |
| | Medical Director: Keith Butvilas | 2023-05-22 | Expires in 1 years, 9 months, 1 days ago | View the 40 changes since last approval |
| Cedar County First Responders | On Behalf of Agency: John Wright | 2022-05-20 | Expires in 0 years, 8 months, 29 days | View the 503 changes since last approval |
| | Medical Director: Keith Butvilas | 2023-05-22 | Expires in 1 years, 9 months, 1 days ago | View the 40 changes since last approval |
| Cedar County Sheriffs Department | On Behalf of Agency: Blake Lovan | 2023-03-16 | Expires in 1 years, 6 months, 23 days | View the 451 changes since last approval |
| | Medical Director: Keith Butvilas | 2023-05-22 | Expires in 1 years, 9 months, 1 days ago | View the 40 changes since last approval |

| Agency | Signatory Name | Date Signed | Remaining | Notes |
|---|---|---|---|---|
| Central Hickory Fire Rescue | On Behalf of Agency: Jordon Graham | 2023-06-27 | Expires in 1 years, 10 months, 6 days | View the 1 changes since last approval |
| | Medical Director: Keith Butvilas | 2023-05-22 | Expires in 1 years, 9 months, 1 days ago | View the 40 changes since last approval |
| Citizens Memorial Hospital | On Behalf of Agency: Theron Becker | 2023-05-25 | Expires in 1 years, 9 months, 4 days | View the 40 changes since last approval |
| | Medical Director: Keith Butvilas | 2023-05-22 | Expires in 1 years, 9 months, 1 days ago | View the 40 changes since last approval |
| Collins Fire Protection District Not Currently Approved | On Behalf of Agency: Jake Smith | 2018-10-15 | Expired 2 years, 10 months, 6 days ago | View the 1510 changes since last approval |
| | Medical Director: Keith Butvilas | 2023-05-22 | Expires in 1 years, 9 months, 1 days ago | View the 40 changes since last approval |
| Ellett Memorial Hospital Not Currently Approved | On Behalf of Agency: Robert Coskey | 2018-10-15 | Expired 2 years, 10 months, 6 days ago | View the 1510 changes since last approval |
| | Medical Director: Paul Kramer | 2018-10-15 | Expired 2 years, 10 months, 6 days ago | View the 1510 changes since last approval |
| Halfway Fire and Rescue | On Behalf of Agency: Eric Schmidt | 2023-07-21 | Expires in 1 years, 11 months, 0 days | View the 1 changes since last approval |
| | Medical Director: Keith Butvilas | 2023-05-22 | Expires in 1 years, 9 months, 1 days ago | View the 40 changes since last approval |

| Agency | Signatory Name | Date Signed | Remaining | Notes |
|---|---|---|---|---|
| Humansville Fire and Rescue | On Behalf of Agency: Emma McAntire | 2022-06-20 | Expires in 0 years, 9 months, 30 days | View the 494 changes since last approval |
| | Medical Director: Keith Butvilas | 2023-05-22 | Expires in 1 years, 9 months, 1 days ago | View the 40 changes since last approval |
| Iconium Fire Protection District Not Currently Approved | On Behalf of Agency: Shannon Tucker | 2020-12-17 | Expired 0 years, 8 months, 4 days ago | View the 1015 changes since last approval |
| | Medical Director: Keith Butvilas | 2023-05-22 | Expires in 1 years, 9 months, 1 days ago | View the 40 changes since last approval |
| Lowry City Volunteer Fire Department | On Behalf of Agency: Justin Norris | 2023-05-31 | Expires in 1 years, 9 months, 10 days | View the 1 changes since last approval |
| | Medical Director: Keith Butvilas | 2023-05-22 | Expires in 1 years, 9 months, 1 days ago | View the 40 changes since last approval |
| Morrisville Fire Protection District Not Currently Approved | On Behalf of Agency: Kirk Jones | 2018-10-15 | Expired 2 years, 10 months, 6 days ago | View the 1510 changes since last approval |
| | Medical Director: None/Unknown | 0000-00-00 | Expired 2021 years, 8 months, 21 days ago | View the 2293 changes since last approval |
| Pittsburg Volunteer Fire Department | On Behalf of Agency: David Murphy | 2022-05-20 | Expires in 0 years, 8 months, 29 days | View the 503 changes since last approval |
| | Medical Director: Keith Butvilas | 2023-05-22 | Expires in 1 years, 9 months, 1 days ago | View the 40 changes since last approval |

| Agency | Signatory Name | Date Signed | Remaining | Notes |
|---|---|---|---|---|
| Pleasant Hope Fire Protection District | On Behalf of Agency: Greg Wood | 2022-06-06 | Expires in 0 years, 9 months, 16 days | View the 495 changes since last approval |
| | Medical Director: Kevin Presley | 2023-01-20 | Expires in 1 years, 4 months, 30 days ago | View the 480 changes since last approval |
| Polk County Central Dispatch Not Currently Approved | On Behalf of Agency: Sarah Newell | 2020-07-30 | Expired 1 years, 0 months, 22 days ago | View the 1125 changes since last approval |
| | Medical Director: None/Unknown | 0000-00-00 | Expired 2021 years, 8 months, 21 days ago | View the 2293 changes since last approval |
| Preston Volunteer Fire Department | On Behalf of Agency: Brian Bennett | 2022-05-20 | Expires in 0 years, 8 months, 29 days | View the 503 changes since last approval |
| | Medical Director: Keith Butvilas | 2023-05-22 | Expires in 1 years, 9 months, 1 days ago | View the 40 changes since last approval |
| Sac Osage Fire Protection District Not Currently Approved | On Behalf of Agency: Cheyenne Smart | 2019-08-01 | Expired 2 years, 0 months, 20 days ago | View the 1431 changes since last approval |
| | Medical Director: Keith Butvilas | 2023-05-22 | Expires in 1 years, 9 months, 1 days ago | View the 40 changes since last approval |
| Weaubleau Fire Department | On Behalf of Agency: Kenneth Rife | 2022-05-20 | Expires in 0 years, 8 months, 29 days | View the 503 changes since last approval |
| | Medical Director: None/Unknown | 2023-05-22 | Expires in 1 years, 9 months, 1 days ago | View the 40 changes since last approval |

Refer to Front Matter 0-010-01 - Hard-Copy Signature Form.

## Change Log:

| Date | Link to previous version | Description of change |
|---|---|---|
| 08/29/13 | pdf | Version 2 approved by Roger Merk, MD. |
| 12/16/13 | pdf | Version 3 approved by Roger Merk, MD. |
| 12/20/13 | | Version 3 re-approved by Roger Merk, MD (includes CVA and STEMI changes). |
| 04/14/15 | pdf | 4/1/15 version approved and signed by Dr. Merk and Neal Taylor. |
| 05/31/15 | | Added comments about medications and equipment currently available on ambulances can be found in Section 7-001 - Medications Currently on Response Vehicles and Section 8-001 - Equipment Currently on Response Vehicles. Also added space to fill in who the hard copy is issued to. |
| 11/18/15 | pdf | Version 5 dated December 1st, 2015 approved and signed my Dr. Merk, Dr. Kramer, Neal Taylor, and Cathy Menninga. Created two cover pages (one for CMH and one for EMH) for signatures. |
| 01/27/16 | pdf | Added MPDS medical direction details for sections requiring specific instructions in card set. |
| 02/03/16 | | Combined all signature pages into one page for ease of maintaining. |
| 02/06/16 | | Added community responder AED content. |
| 07/05/17 | pdf | Changed medical director and agency heads names to reflect current staff. |
| 08/24/17 | | Added link to download most recent version. Changed William Proctor to Kirk Jones. Moved list of licenses to Section 0-020. Removed paragraph indicating protocols may not reflect what is actually on ambulances. |
| 08/25/17 | | Added Humansville Fire Rescue under Dr. Carter. Added Dr. Presley and Pleasant Hope Fire Ptoection District. |
| 10/17/17 | | Obtained signatures from Megan Carter and Neal Taylor. |
| 10/18/17 | | Obtained signatures from Whitney Gibson and John Hopkins. |
| 10/20/17 | | Obtained signature from Dr. Presley. |
| 10/25/17 | | Obtained signature from Kirk Jones. |
| 11/29/17 | pdf | Obtained signatures from Megan Carter and Neal Taylor. |
| 08/24/18 | pdf | Added two-year expiration to the title page. Added Collins Fire, Iconium Fire, Lowry City Fire, Sac Osage Fire,Wheatland Fire. Changed signatory names as needed for new personnel. Changed definition of pediatric from 18 yr to 16 yr old. |
| 10/01/18 | | Obtained signature from Neal TaylorJordon Graham. |
| 10/10/18 | | Obtained signature from Abel Smith. |
| 10/16/18 | | Changed Melissa Fletcher to Robert Coskey for Ellett. |
| 10/17/18 | | Added signatures from Kirk Jones, Kevin Presley,James Ludden. |
| 10/18/18 | | Removed Iconium Fire from list of associated fire departments. |
| 10/31/18 | | Added signatures from Megan Carter, LaDell Heryford, Travis Foley, Robert Coskey, Justin Norris,Paul Kramer. |

| | | |
|---|---|---|
| 11/01/18 | | Changed John Hopkins to Emma Igo. Added signatures from Emma IgoGreg Wood. |
| 11/05/18 | | Added signature from Sarah Newell. |
| 07/31/19 | | Changed medical director to Gustavo Nix. |
| 08/01/19 | | Changed medical director to Tony Cauchi. |
| 08/14/19 | pdf | Changed Travis Foley to Cheyenne Stone for signature for Sac Osage Fire. |
| 11/27/19 | pdf | Added Halfway FireRescue as signing agency. |
| 12/03/19 | | Dr. Cauchi signature added. |
| 04/21/20 | | Dr. Nicholes reviewed all protocolssigned approval. He also reviewed hard-copy medicationequipment protocols that were yet to be added to the online formatapproved those as well with the understanding they will be added to the website laterstill bear his approval. |
| 09/27/20 | | Added Halfway FireRescue as a signing agency. |
| 10/01/20 | pdf | Added info from recently signed signature pages from Cedar County Dispatch, Halfway Fire,Humansville Fire. |
| 11/13/20 | | Added links to be able to view only those changes that have happened since each approval signature. |
| 12/18/20 | pdf | Added Iconium Fire Protection District as protocol signatory agencies. |
| 01/02/21 | pdf | Added code that displays expiration status for signatures. |
| 03/15/21 | pdf | Received signature from Justin Norris, Fire Chief for Lowry Volunteer Fire Department. |
| 03/22/21 | pdf | Added signature page from Central Hickory Fire. Been sitting on my desk for a couple week, but just now got to it. |
| 06/05/21 | pdf | Moved to emsprotocols.online |
| 09/02/21 | pdf | Removed Morrisville Fire Rescue as a CMH protocol agency. |
| 12/16/21 | pdf | Updated signature page on file from Dr. Nicholes. |
| 03/18/22 | | Removed Ellett Memorial Hospital per Bruce Goddard on 3/18/2022 |
| 05/20/22 | pdf | Added Pittsburg Volunteer Fire Department as a signatory agency. |
| 05/20/22 | | Added Preston Volunteer Fire Department as protocol signatory agency. |
| 05/21/22 | | Added Weaubleau Fire Department. |
| 05/23/22 | pdf | Updated Cedar County First Responders signature. |
| 06/20/22 | pdf | Updated Humansville signature date. |
| 07/12/22 | pdf | Added new signature from Greg Wood, Pleasant Hope Fire. |
| 12/28/22 | pdf | Dr. Butvilas reviewed and approved protocols for CMH and other affiliated agencies. |
| 03/16/23 | pdf | Added signatures from Dr. Presley and Brent Watkins that have been sitting in my email for a while. Updated Cedar Dispatch from Dakota Newman to Blake Lovan and added Blakes signature. |
| 04/27/23 | pdf | Removed Polk County Central Dispatch at the request of Director Sarah Newell on 4/4/23. |
| 05/25/23 | pdf | Moved all signature information into a database instead of hand-coded into this page. |

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| CMH Pre-Hospital Services Mission: "*Provide safe, exceptional, and compassionate care to our communities with an emphasis on highly trained and empowered staff*." | CMH Mobile Integrated Healthcare Mission: "*Provide exceptional, compassionate, and patient-centered care by a mobile collaborative team to improve patient experience, improve quality outcomes, and reduce healthcare costs*." | |
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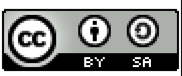


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# Front Matter 0-010-01 - Signature Page - Hard-Copy Signature Form

**CMH EMS & MIH Protocols**

Print this page and update the following to renew signatures. Once completed, return the hard-copy signature form to the CMH EMS Clinical Chief to remain on file. Completed form can be faxed (417-328-7209) or emailed (theron.becker@citizensmemorial.com).

| | |
|---|---|
| Agencies you represent: | |
| Your printed name: | |
| Your title: | |
| Approval date: | |
| **By signing below, you certify the content of the version and date above are true, correct, and approved by you. You also attest your intension to implement, educate, and enforce the guidelines and protocols that apply to your agency/agencies.** | |
| Your signature: | |

## Change Log:

| Date | Link to previous version | Description of change |
| --- | --- | --- |
| 07/05/20 | | Moved this section from 0-010 onto its own page. |
| 06/05/21 | pdf | Moved to emsprotocols.online |

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| CMH Pre-Hospital Services Mission: "*Provide safe, exceptional, and compassionate care to our communities with an emphasis on highly trained and empowered staff*." | CMH Mobile Integrated Healthcare Mission: "*Provide exceptional, compassionate, and patient-centered care by a mobile collaborative team to improve patient experience, improve quality outcomes, and reduce healthcare costs*." | |
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# Front Matter 0-020 - Standing Orders by Agency Type

**CMH EMS & MIH Protocols**

## Dispatch Centers:

Public Safety Dispatchers and Emergency Medical Dispatchers (EMD) will utilize the following protocols while recieving emergency and non-emergency calls where persons may be ill, injured, and/or needing medical transport. Additionally, these protocols shall be used while dispatching ambulances to patients that are ill, injured, or needed medical transport.

Refer to each specific protocol based on the patient's complaint and follow the general guidance found in Guideline 1-200 - Ambulance Dispatch.

## Community Responders:

Persons in the communities served by Citizens Memorial Hospital using or maintaining Automated External Defibrillators (AEDs) will utilize the following protocols to enhance survivability from cardiac arrest:

- Protocol 2-198 - Cardiac Arrest
- Equipment 8-018 - Automated External Defibrillator (AED)

## First Response Agencies:

Emergency Medical Responders (EMR), Emergency Medical Technician (EMT), Advanced Emergency Medical Technician (AEMT), Registered Nurse (RN), Paramedic (Medic), and Community Paramedic (CP) providers will utilize the following protocols while on scene of an illness or injury to coordinate care and stabilize the patient. AEMT, RN, Medic, and CP providers responding with a first responder agencies will operate as EMTs using the following protocols, unless their agency is a licensed Emergency Medical Response Agency (EMRA) with the Missouri BEMS.

## EMS Transport Agencies:

EMT, AEMT, RN, Medic, and CP providers will utilize the following protocols while on scene and during transport to coordinate care, stabilize the patient, and improve their condition where possible. The transporting ALS provider is ultimately responsible to ensure complete patient care, including BLS-level procedures.

# ALS-Level Licensure Definition:

AEMT, RN, Medic, and CP providers responding with an EMRA or ALS Transport Agency are considered ALS personnel.

# Change Log:

| Date | Link to previous version | Description of change |
|---|---|---|
| 02/03/16 | | Added this section to handle specifics for each agency that were previously handled on separate signature pages. |
| 02/06/16 | | Added community responder AED content. |
| 04/12/16 | pdf | Added reference for EMD to Section 6-020 - Air Ambulance. |
| 07/28/16 | | Clarified first responder standing orders regarding AEMT, RN, and paramedics responding with first responder agencies may only perform at the EMT level. |
| 11/11/17 | pdf | Added reference to Protocol 6-090 - Hazardous Atmosphere Standby. |
| 08/24/18 | pdf | Added dispatch codesother requirments for dispatchers to dispatch EMS SupervisorRescue Task Force. |
| 07/23/19 | pdf | Added dispatch requirementslink to performance graphs. |
| 03/28/20 | | Added not to MPDS Protocol 33 that this card was only to be used for transfers out of the hospital - all other locations should use Protocols 1-32. |
| 04/04/20 | | Moved most of the EMD section (without substantive modification) to Protocol 1-200 - Ambulance Dispatch. |
| 06/05/21 | pdf | Moved to emsprotocols.online |
| 03/15/23 | pdf | Added modifications to allow ALS providers responding with EMRA-licensed agencies. Approved by Dr. Butvilas and protocol committee on 1/25/23. Added CP. |

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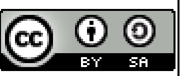


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# Front Matter 0-100 - Protocol Deviation

**CMH EMS & MIH Protocols**

No protocol can account for every clinical scenario encountered, and it is recognized that in rare circumstances deviation from these protocols may be necessary and in a patient's best interest. Variance from protocol should always be done with the patient's best interest in mind and backed by documented clinical reasoning and judgement. Whenever possible. Prior approval by direct verbal order from a physician is preferred. Additionally, all variance from protocol should be documented and submitted for review by the agency's medical director in a timely fashion.

Protocols have certain limitations, and not every clinical scenario can be represented. Although these protocols imply a specific sequence of actions, it may often be necessary to provide care out of sequence from that described if dictated by clinical needs. These protocols provide decision-making support, but need not be rigidly adhered to and is no substitute for sound clinical judgement.

Refer to Guideline 1-400 - Communications for further details.

## Change Log:

| Date | Link to previous version | Description of change |
|---|---|---|
| 11/11/17 | pdf | Added this section with heavy reference to Denver Metro EMS Protocols. |
| 04/04/20 | pdf | Added content without modification from 0-100. |
| 06/05/21 | pdf | Moved to emsprotocols.online |

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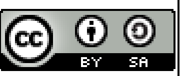
|  | Polk, Hickory, Cedar, & St Clair County EMS Protocols by Theron Becker is licensed under a Creative Commons Attribution-ShareAlike 4.0 International License. |
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# Front Matter 0-200 - Document Style Standards

**CMH EMS & MIH Protocols**

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The following standardized styles will be used throughout this protocol document:

- **Community Responder** protocol headers are on a White (#FFFFFF) background.
- **EMD (Emergency Medical Dispatcher)** protocol headers are on a MarigoldYellow (#FBEC78) background.
- **EMR (Emergency Medical Responder)** protocol headers are on a Quicksand (#BFA492) background.
- **CHW (Community Health Worker)** protocol headers are on a ClayAsh (#C5CDBE) background.
- **EMT (Emergency Medical Technician)** protocol headers are on a Honeysuckle (#CBFE6E) background.
- **AEMT (Advanced Emergency Medical Technician)** protocol headers are on a MountainMist (#979298) background.
- **RN (Registered Nurse)** protocol headers are on a Charm (#CA748B) background.
- **Medic (Paramedic)** protocol headers are on a WildWatermelon (#FE577E) background.
- **CP (Community Paramedic)** protocol headers are on a BattleshipGreen (#8B9B7C) background.
- **SPO (Paramedic Supervisor)** protocol headers are on a BrightTurquoiseBlue (#21CEFD) background.
- **Calculated** information and doses are on a Moccasin (#FFE4B5) background.

  **Medical Control** protocols are on a Gray (#808080) background.
- **Medical Control** protocols are on a Thistle (#D8DBD8) background.

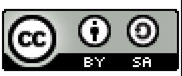
## Change Log:

| Date | Link to previous version | Description of change |
|---|---|---|
| 04/09/20 | | Moved to online version. |
| 06/05/21 | pdf | Moved to emsprotocols.online |
| 12/30/22 | pdf | Standardized licensure colors between all documents. Utilized established colors from education manual based on uniform colors already established. |

Return to Protocols Table of Contents.

Search protocols: Search

| CMH Pre-Hospital Services Mission: "*Provide safe, exceptional, and compassionate care to our communities with an emphasis on highly trained and empowered staff*." | CMH Mobile Integrated Healthcare Mission: "*Provide exceptional, compassionate, and patient-centered care by a mobile collaborative team to improve patient experience, improve quality outcomes, and reduce healthcare costs*." | |
|---|---|---|

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# Front Matter 0-250 - EMS Research

**CMH EMS & MIH Protocols**

When available, these protocols are based on evidenced-based research and peer-reviewed journal articles. On occasion, specific studies are done with historical data from CMH EMS. When specifically referenced, these articles and studies are referenced and can be found at the end of each protocol and in Appendix 9-010 - References.

Additional research articles and papers are stored on a shared OneDrive account. These can be found here: http://ozarksems.com/research.php.

# Change Log:

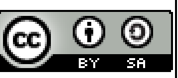
| Date | Link to previous version | Description of change |
|---|---|---|
| 07/24/16 | | Created this section to only have one link and QR code instead of one link on each protocol to reduce the broken links problems. |
| 08/24/17 | pdf | Updated link in Section 0-250 - EMS Research |
| 04/09/20 | | Moved to online version. |
| 06/05/21 | pdf | Moved to emsprotocols.online |

Return to Protocols Table of Contents.

Search protocols: Search

| CMH Pre-Hospital Services Mission: "*Provide safe, exceptional, and compassionate care to our communities with an emphasis on highly trained and empowered staff*." | CMH Mobile Integrated Healthcare Mission: "*Provide exceptional, compassionate, and patient-centered care by a mobile collaborative team to improve patient experience, improve quality outcomes, and reduce healthcare costs*." | |
|---|---|---|



|  | Polk, Hickory, Cedar, & St Clair County EMS Protocols by Theron Becker is licensed under a Creative Commons Attribution-ShareAlike 4.0 International License. |
|---|---|

# Part 1-000 - Policies & Guidelines

**CMH EMS & MIH Protocols**

## Definitions

- **Policy**: Document that contains mandatory actions for staff of Citizens Memorial Hospital. Policy contents are typically required by law, regulation, or standard. Employees are held accountable to these documents and progressive discipline is used to enforce them. Policies are found here: https://citizensmemorial.policystat.com/. The list of CMH PHS policies with quick links can also be found below the Guidelines on this page.

- **Guideline**: Document that contains requests and suggestions and act as a guide to operations that only applies to signatory agencies to this protocol document. Guideline contents are typically explanations of expected performance and are operational in nature and suggested practice by medical direction and agency leadership. Guidelines are found below.

- **Protocol**: Document to guide patient care that only applies to signatory agencies to this protocol document. EMDs, EMRs, EMTs, AEMTs, RNs, and Paramedics that are members of the signatory agencies and utilizing these protocols will be held accountable for adhering to these protocols by the signing medical director and agency leadership. Protocols are found here: https://emsprotocols.online/cmhems/2-000.php.

# Guidelines


- 1-100 - Air Transport of Patients
    - 1-100-50 - Helicopter Landing Zone
- 1-200 - EMS Dispatch
    - 1-200-24 - Call Natures
    - 1-200-48 - Mutual Aid
    - 1-200-72 - Transfer Priority Calculator
- 1-400 - EMS Communications
    - 1-400-12 - Staff Communication Paths
    - 1-400-48 - Medical Control
    - 1-400-72 - Patient Handoff Report
- 1-450 - EMS Leadership
    - 1-450-33 - Documentation Reviews
    - 1-450-66 - Rounding Form
- 1-500 - EMS Education and Competency
- 1-600 - Responder Safety
    - 1-600-50 - Retired
- 1-700 - EMS Operations
    - 1-700-33 - Patient Care Documentation
    - 1-700-60 - Hazardous Atmosphere Standby
    - 1-700-88 - Retired
- 1-800 - Quality Improvement
    - 1-800-33 - Clinical Reviews
    - 1-800-50 - Just Culture Investigation
    - 1-800-66 - Employee Remediation
- 1-850 - Rescue Task Force
    - 1-850-25 - Mass Casualty

# Policies

Links to policies below are those found to effect Pre-Hospital employees or Ambulance operations. This list may not be exhaustive or include recently created policies. The documents are only available after logging in by CMH employees or on CMH network-connected devices.

- Accounting Policies:
  - ACC03-01 Ambulance Meal Expenses During Long Distance Transfers
  - ACC03-02 Ambulance Fuel
  - ACC04-01 Payroll
  - ACC04-04 Travel Policy
- Administration Policies:
  - ADM02-02 Committees
  - ADM02-11 Vehicle Usage
- Clinics Policies:
  - CLN21-01 Transferring Patients to the Emergency Department from a Clinic
- Compliance Policies:
  - COM03-04 HIPAA Compliance Monitoring and Auditing
  - COM04-01 Fraud, Waste, and Abuse
- Educational Services Policies:
  - EDU01-07 Education Documentation
  - EDU01-01 Education Services Department
- Emergency Management Policies:
  - EM01-01 Emergency Management Plan
  - EM01-01 Attachment 1 General Emergency Instructions
  - EM01-01 Attachment 3 Department Specific Emergency Instructions
  - EM01-04 Disaster Press Release
  - EM01-05 Emergency Management Policy
  - EM01-07 Activation and Healthcare Command Center Operations
  - EM01-12 Crisis Communication Plan
  - EM01-14 Evacuation, Emergency Sheltering, and Relocation Plan
- Emergency Services Policies:
  - EMS01-05 Staffing Emergency Department
  - EMS01-06 Integration with Other Hospital Departments
  - EMS01-08 Trauma Quality Improvement Process
  - EMS01-10 Ambulance Diversion and EMResource
  - EMS13-02 Medical Screening Exam
- Employee Health Policies:
  - EH01-08 Meningitis Employee Exposure Protocol
- Health Information Management Policies:
  - HIM03-02 Release of Information
  - HIM11-01 Ammending Protected Health Information
  - HIM11-01 Attachment 1 Ammendments to Helath Information Precords
- Human Resources Policies:
  - HR01-04 Health Coverage

- HR01-13 Conflict Management
- HR02-03 Job Classification
- HR02-04 Hospital Pride Pay
- HR02-05 Overtime Compensation
- HR02-06 Shift Differential
- HR02-08 On-Call Personnel
- HR03-01 Name Badges
- HR03-02 Sexual or Other Harassment
- HR03-03 Disciplinary Action
- HR03-04 Drug Free Workplace
- HR03-05 Dress Code
- HR03-05 Attachment 6 Prehospital
- HR03-06 Patient and Employee Information Confidentiality
- HR04-01 Employee Manual
- HR05-01 Equal Employment Opportunity Policy and Affirmative Action Plan
- HR06-06 Job Posting
- HR06-07 Selection of Employee
- HR06-08 Probationary Period
- HR06-09 Employee Transfers and Promotions
- HR06-10 General Orientation
- HR06-12 Physical Capacity Profile Testing of Employees
- HR06-14 Nepotism
- HR07-01 Grievance Procedure
- HR07-02 Staff Rights
- HR08-02 Jury Duty
- HR08-03 Leave of Absence
- HR08-04 Sick Leave - Non-Exempt (Hourly) Employees
- HR08-05 Sick Leave - Exempt Employees
- HR08-06 Telephone Etiquette / Personal Cellular Phone Usage
- HR08-09 Breaks and Meals
- HR08-10 Holiday Pay
- HR08-14 Clocking Procedures
- HR08-15 Paid Time Off
- HR09-01 Students Orientation
- HR10-01 Performance Evaluations
- HR10-02 Job Descriptions
- HR10-03 Competency Assessment
- HR11-01 Personnel Records
- HR11-02 Professional Licensure
- HR11-03 Access Records
- HR12-01 Termination
- HR13-01 Social Media Networking and Internet-Based Communications


- Infection Prevention Policies:


  - IP01-10 Bed Bug Management
  - IP06-01 Service Animals
  - IP07-01 Cleaning and Disinfecting Patient Care Equipment

  - IP08-03 Influx of Infectious Patients
- Information Services Policies:
  - IS01-01 Organizational Responsibities
  - IS02-01 Use of Information Technology Resources
  - IS02-03 Computer Security
  - IS03-01 Change Management
  - IS04-01 Integrity Controls
  - IS05-01 Computer Operations
  - IS06-01 Support
  - IS07-01 Employee Terminations Procedures
  - IS08-01 Project Managment
  - IS09-01 Documentation
  - IS12-01 Participation in External Research or Databases
  - IS13-01 Disaster Recovery and Business Continuity
  - IS14-01 Mobile Device Security and Use
  - IS14-02 Medical Device Security
  - IS15-01 Remote Access
  - IS18-01 Computer/Hardware Installation
  - IS19-01 Security Management Process
  - IS19-02 Maintenance Record
  - IS20-01 Risk Analysis
  - IS21-01 Risk Management
  - IS22-01 Assigned Security Responsibility
  - IS23-01 Workforce Security
  - IS24-01 Workforce Clearance
  - IS25-01 Security Awareness and Training
  - IS26-01 Security Reminders
  - IS27-01 Log-In Monitoring
  - IS28-01 Password Management
  - IS29-01 Evaluation
  - IS30-01 Access Establishment and Modification
  - IS31-01 Unique User Indentification
  - IS31-02 User Mnemonic Guidelines
  - IS33-01 Automatic Logoff
  - IS34-01 Audit Controls
  - IS35-01 Person or Entity Authentication
  - IS36-01 Policies and Procedures for Security
  - IS38-01 Authorizations and/or Supervision
  - IS40-01 Access Authorization
  - IS41-01 Employee Sanction for Violations of HIPAA Privacy and Security Policies
  - IS41-03 Emergency Access Procedure
  - IS41-04 Preventing, Detecting, Investigating, Containing, Correcting, Documenting, and Reporting Security Violoations
  - IS43-01 Information System Activity Review
  - IS43-02 Encrypting and Decrypting ePHI
  - IS50-02 Network Security Policy

- IS50-03 Patch Management
- Laboratory Policies:
  - LAB01-02 Laboratory Standards
  - LAB03-15 Accuchek Inform II
  - LAB04-01 Critical Values
  - LAB05-01 Quality Control / Quality Management System
  - LAB11-42 Emergency Release of Blood
- Maintenance Policies:
  - MNT01-01 New Equipment Safety
  - MNT02-07 Preventative Maintenance - Mechanical Equipment
  - MNT02-11 Vehicle Maintenance
  - MNT03-03 Electricity and Auxilliary Power
  - MNT07-04 Medical Equipment Cleaning
- Marketing Policies:
  - MKT01-03 Ambulance Media Inquiries
- Materials Management Policies:
  - MM01-03 Receiving Supplies and Equipment
  - MM02-01 Inventory Management
- Nursing Policies:
  - NUR01-12 Transfer of Patients/Residents
  - NUR06-17 Clinical Services Narrative Plan
  - NUR08-01 Code Blue
  - NUR08-07 Endotracheal Intubation
- Patient Accounts Policies:
  - PA02-03 Collection Policy - Patient Accounts
  - PA02-04 Collection of Self Pay Accounts
  - PA02-05 Prompt Pay Discount
  - PA08-02 Motor Vehicle Accident
  - PA20-01 Coding Guidelines
  - PA20-02 Self-Pay Discount
- Performance Improvement Policies:
  - PI01-01 Performance Improvement
  - PI01-05 Medical Device Reporting Program
  - PI01-06 Service Alert Notification Management
  - PI01-07 Cellular Phones and Radio Transmitting Devices
  - PI01-08 Equipment Failure
  - PI02-01 Surveying for Satisfaction
  - PI02-02 Grievance Procedure, Patient/Resident
  - PI02-04 Transport Safety of Patient/Resident
  - PI02-05 Reporting Adverse Medical Device Incidents
  - PI02-06 Just Fix It Process
  - PI03-01 Event Reporting
- Pharmacy Policies:
  - PHA02-03 Procurement, Receiving, and Inventory of Medications
  - PHA02-15 340B Program
  - PHA04-05 Medication Storage

  - PHA04-10 Pharmaceutical Waste
- Pre-Hospital Policies:
  - PHS01-01 Ambulance Driving and Operations
  - PHS01-02 Ambulance Response Outside of the Primary Service Area
  - PHS01-03 Ambulance Medical Control
  - PHS01-04 Ambulance Documentation Requirements
  - PHS01-05 Ambulance Staff Mental Health and Peer Counseling
  - PHS01-06 Passengers in the Ambulance
  - PHS01-09 Ambulance Inventory
  - PHS01-11 Ambulance Station Maintenance
  - PHS01-12 Ambulance Storage
  - PHS01-13 Ambulance Refueling
  - PHS01-15 Ambulance Clinical Quality
  - PHS01-17 Ambulance Keys Security
  - PHS01-18 Ambulance Robbery
  - PHS01-19 Ambulance Staffing
  - PHS01-20 Ambulance Employee Orientation
  - PHS01-22 Ambulance Oxygen Cylinders
  - PHS01-21 Ambulance Accidents
  - PHS01-23 Ambulances Passing School Buses
  - PHS01-24 Ambulance Medications
  - PHS01-26 Rescue Squad Supplies
  - PHS01-27 Ambulance Coverage for Special Events
  - PHS01-28 Ambulance Equipment
  - PHS01-31 Ambulance Operations
  - PHS01-33 Ambulance Transfers
  - PHS01-37 Ambulance Education and Competency
  - PHS01-38 Ambulance Patient Non-Discrimination
  - PHS02-02 Institution of Ambulance Protocols
  - PHS02-04 Ambulance Patients Determined to be Dead on Arrival
  - PHS02-05 Scope of Services - Prehospital Services
  - PHS02-06 Ambulance Staff Response to Request for Blood Sample by Law Enforcement
  - PHS02-08 Pre-Hospital Service Driving Program
  - PHS02-09 Ambulance Bonus Pay
  - PHS02-10 Non-Emergency Medical Transport
  - PHS02-11 Ambulance Staff Criminal Reporting
  - PHS03-01 Ambulance On-Call Crew
  - PHS03-06 Ambulance Maintenance
  - PHS03-07 Ambulance Cot Operations and Lifting of Patients
  - PHS03-08 Ambulance Operations and Safety while in the Roadway
- Registration Policies:
  - RG04-02 Ambulance Only
- Respiratory Care Policies:
  - RC01-05 Transfers Involving Respiratory Care
- Safety Policies:

- SAF01-02 Violence Prevention
- SAF01-04 Patient/Resident Handling
- SAF01-05 Safety Surveillance
- SAF01-12 Recalls and Safety Notifications
- SAF01-15 Storeroom Safety
- SAF01-17 Eyewash Stations and Drench Showers
- SAF01-18 Personal Protective Equipment
- SAF01-21 Respiratory Protection Program
- SAF01-24 Electricity and Electrical Equipment Safety
- SAF04-01 Employee Incidents, Injuries, and Illnesses, Job Related
- SAF06-01 Hazard Communication Program - Material Safety Data Sheets
- SAF07-04 Hazardous Compressed Gases
- SAF10-02 Safety Management Plans

- Security Policies:
  - PS02-12 Safe Approach Work Place Violence Program
  - PS03-07 Helicopter Security
  - PS03-11 M26/X26 Taser
- Social Services Policies:
  - SS04-01 Patient Rights and Responsibilities
  - SS04-04 Communication with Persons with Limited English Proficiency
  - SS05-05 Domestic Abuse
- Surgical Services Policies:
  - SUR08-10 Cleaning, Sterilization, High-Level Disinfection and Storage of Patient Care Devices
- Time Critical Diagnosis Policies:
  - CV30-06 STEMI Multidisciplinary Committee Policy
  - TCD01-03 Scope of Service - Stroke Program

## Change Log:

| Date | Link to previous version | Description of change |
|---|---|---|
| 10/07/20 | | Renamed all policies to guidelines. |
| 10/26/20 | pdf | Working on updating all policies, guidelines, memos, etc. into one place - organizedcoordinated - eliminating redundanciesconflicts. |
| 02/25/21 | pdf | Small organization step as we continue to tackle the project of organizing and improving guidelines. Removed completed changes from needed lists. Fundamental change in definitions of policies vs guidelines. |
| 02/26/21 | pdf | Various changes highlighted in individual guidelines. |
| 04/06/21 | pdf | Further working on planning for updates to guidelines and protocols. Still in the planning phases but updating the plan based on definitions provided by PHS director and CMH legal. |
| 04/07/21 | | More work on flushing out the plan to make policy updates. |
| 04/09/21 | pdf | Completed the planning for changes to Guidelines vs Policies. Sent plan to Ops Chief for review. |
| 06/05/21 | pdf | Moved to emsprotocols.online |
| 06/05/21 | | Changed from bullet layout to table layout to more easily find links. |
| 06/09/21 | pdf | Submitted changes for approval for PHS01-23 and PHS01-27. |
| 06/09/21 | | Submitted changes for PHS02-02 for approval. |
| 06/09/21 | | Made updates to PHS03-08 Ambulance Roadway Operations. |
| 06/10/21 | pdf | Added PDF files for all policies for offline viewing. Policies PHS01-23, PHS01-27, and PHS03-08 updates have been approved. |
| 06/29/21 | pdf | Updated policy PHS01-19. |
| 09/14/21 | pdf | Made policy updates to PHS01-06 (no changes), PHS01-11 (minor changes), PHS01-14 (removed), 1-400-72 (created). |
| 09/29/21 | pdf | Various changes to include: Policy PHS01-06 approved, PHS01-11 approved, PHS01-24 drafted and sent for approval, PHS01-32 retired, PHS01-34 retired, guideline 1-700-88 retired, 1-850-25 updated. |
| 11/05/21 | | Added link to new policy PHS03-01. |
| 02/08/22 | pdf | Updated policies due in Jan 2022. |
| 02/18/22 | pdf | Several policy updates officially approved: PHS01-03 (Ambulance Medical Control), PHS01-08 (Ambulance Cleaning), PHS01-18 (Ambulance Robbery), PHS01-20 (Orientation), PHS01-28 (Equipment), PHS01-31 (Operations), PHS01-37 (Education), PHS01-38 (Non-Discrimination), removed PHS02-03 (Air Transport), removed PHS03-03 (Lost Equipment) |
| 03/07/22 | pdf | Added new policy for Ambulance Peer Counselors - but the policy number is incorrect. |
| 04/11/22 | pdf | Adjustments to policies and guidelines. |

| | | |
|---|---|---|
| 09/12/22 | pdf | Finally cleaned up all the notes for required updates. Most of the updates have been made. The rest of the notes have been transferred to master document for future revisions. |
| 12/09/22 | pdf | Removed Policy PHS02-01. |
| 12/29/22 | pdf | Adding links to all policies that affect PHS. Several more links to add. |
| 12/30/22 | pdf | Finished adding all policies that could be found that affect pre-hospital services. |
| 04/27/23 | pdf | Renamed ambulance guidelines to EMS guidelines |

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| CMH Pre-Hospital Services Mission: "*Provide safe, exceptional, and compassionate care to our communities with an emphasis on highly trained and empowered staff*." | CMH Mobile Integrated Healthcare Mission: "*Provide exceptional, compassionate, and patient-centered care by a mobile collaborative team to improve patient experience, improve quality outcomes, and reduce healthcare costs*." | |
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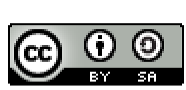
|  | Polk, Hickory, Cedar, & St Clair County EMS Protocols by Theron Becker is licensed under a Creative Commons Attribution-ShareAlike 4.0 International License. |
|---|---|

# Guideline 1-100 - Air Transport of Patients

**CMH EMS & MIH Protocols**

## Scope:

| License | Volunteer | Career | CMH |
|---|---|---|---|
| EMD | NA | Yes | NA |
| EMR | Yes | Yes | NA |
| EMT | Yes | Yes | Yes |
| AEMT | Yes | Yes | Yes |
| RN | Yes | Yes | Yes |
| Medic | Yes | Yes | Yes |
| CP | Yes | Yes | Yes |

## Guideline:

Air ambulances shall be used as appropriate to provide safe and exceptional patient care.

## Purpose:

The purpose of this guideline is to provide guideance on utilization of air ambulances.

# Procedure:

I. Upon request for air ambulance, the dispatch agency covering the jurisdiction where the landing zone will be located, shall contact Cox Air Care and advise location, destination, and patient demographics (if known).
II. If ground transport is within **45 minutes** drive time from the destination at the time of aircraft request, it is potentially faster to drive by ground than request an aircraft.
III. **Consider air ambulance if ONE or more of the following**:
   A. The patient condition or resources available warrant an aircraft as determined by the ambulance lead provider. Prior to arrival of an ambulance on scene, the current lead medical provider may request an aircraft to respond. However, final transport mode decision is made in collaboration between air and ground ambulance providers.
      1. If the transport is a transfer from a hospital, refer to CMH Policy PHS01-33 - Ambulance Transfers. If an aircraft is determined to be warranted, consider requesting additional personnel and/or speciality equipment from the sending facility to accompany the transport as an alternative option, if applicable.
      2. Patient conditions to evaluate includes, but not limited to, patient acuity, potential for deterioration, and/or complex medical management is required. Duration of the transport should be taken into account.
      3. Resources available to evaluate includes, but not limited to, equipment and personnel available in the back of an ambulance during a ground transport.
   B. Ground resources are exhausted.
   C. Prolonged extrication time (greater than 20 min) is anticipated.
   D. Road or bridge conditions which prevent ground transport.
   E. Time Critical Diagnosis where air transport will be quicker than ground transport to TCD facility:
      1. **STEMI:**
         a. Acute MI or Chest Pain suggestive of MI.
         b. Uncontrollable cardiac dysrhythmias.
         c. Need for airway control intervention.
      2. **Stroke:**
         a. Sudden onset of Stroke symptoms with last seen normal less than 12 hours ago.
      3. **Trauma:**
         a. Head or Spinal Trauma with neurological deficits.
         b. Second or third degree Burns greater than 20% BSA.
         c. **Vital signs indicating compensation in addition to the following injuries**: Pulsating abdominal mass, severe bleeding, trauma during pregnancy, loss of consciousness, or penetrating injury.
IV. Request for Air Ambulance should be made as early as possible. Can be made while en route.
V. Request for Air Ambulance should be made through the dispatch in the county of the LZ location.
VI. Once en route, the request can only be canceled by EMS or rescue personnel on scene.
VII. Prepare a safe landing zone. Utilize local law enforcement and fire department.

VIII. Final decision to accept a mission is the responsibility of the pilot.
IX. Patient requests for specific aircraft and destinations should be discussed with flight crew.

## Change Log:

| Date | Link to previous version | Description of change |
|---|---|---|
| 01/29/14 | pdf | Coordinated protocol with CMH policies. |
| 12/12/14 | pdf | Added comment to not put aircraft on standby. Moved MVA with fatality from single to the double criteria. Added clarification to Burns that it must be 2nd or 3rd degree. Added Head injury with neuro deficits. |
| 12/26/14 | | Added no fly zone map within 23 minutes ground travel time to CMH. |
| 11/17/15 | pdf | Modified maps to indicate 35 minute drive time instead of 23 minute to account for landing and patient report. Added EMH district to maps. |
| 04/12/16 | pdf | Added EMD section to include contacting Mercy Lifeline and to clearly define there is no such thing as standby. |
| 08/24/17 | pdf | Changed contact aircraft from Mercy Lifelie to Cox Air Care. Removed comment that there is no such thins as standby. |
| 09/22/17 | pdf | Increased no fly zone from 35 minutes to 45 minutes. This aligns with NSEMSO guidelines and is reflected with recent Cox Air Care response times. |
| 04/04/20 | pdf | Added content (without substantive modification) form old Section 6-021 - No Fly Zone. |
| 04/04/20 | pdf | Added content Added content (without substantive modification) from old Section 6-020 - Air Ambulance. |
| 10/07/20 | | Renamed all policies to guidelines. |
| 06/05/21 | pdf | Moved to emsprotocols.online |
| 12/09/22 | pdf | Added clarification. |

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| CMH Pre-Hospital Services Mission: "*Provide safe, exceptional, and compassionate care to our communities with an emphasis on highly trained and empowered staff*." | CMH Mobile Integrated Healthcare Mission: "*Provide exceptional, compassionate, and patient-centered care by a mobile collaborative team to improve patient experience, improve quality outcomes, and reduce healthcare costs*." | |
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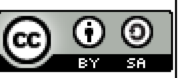

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# Guideline 1-100-50 - Helicopter Landing Zone

**CMH EMS & MIH Protocols**

## Scope:

| License | Volunteer | Career | CMH |
|---|---|---|---|
| **EMD** | NA | Yes | NA |
| **EMR** | Yes | Yes | NA |
| **EMT** | Yes | Yes | Yes |
| **AEMT** | Yes | Yes | Yes |
| **RN** | Yes | Yes | Yes |
| **Medic** | Yes | Yes | Yes |
| **CP** | Yes | Yes | Yes |

## Guideline:

A safe and secure landing area for air ambulances will be used when it is necessary to transfer a patient by helicopter.

## Purpose:

To provide guidelines for safe and secure landing and operations around air ambulances.

## Procedure:

I. The landing area shall be acceptable to the incoming helicopter service pilot.
II. The landing area shall be clear of wires, loose debris, obstructions, or hazards.
III. The landing area shall be a minimum of 100 foot by 100 foot. This area shall be level and without dips or rises.
IV. Landing Zone Command (LZ Command) shall alert the incoming pilot of the landing scene and possible hazards or problems with the landing site.
    A. Communications between LZ Command and the incoming aircraft are usually conducted on radio channel VFire21 - Fire Mutual Aid.
    B. Possible hazards include if multiple aircraft are responding to the same scene.
V. Ground crews shall not approach the helicopter without direction from the helicopter pilot or crew.

A. When the helicopter is approached, it shall be done from a 45 degree angle from the front and in full view of the pilot.
B. An approach from another angle shall only be done under the direction and instruction of the flight crew.

## Change Log:

| Date | Link to previous version | Description of change |
|---|---|---|
| 06/05/21 | pdf | Moved to emsprotocols.online |
| 04/11/22 | pdf | Added content from policy PHS01-07, which will be retired. |

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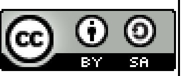
Search protocols: Search

| CMH Pre-Hospital Services Mission: "*Provide safe, exceptional, and compassionate care to our communities with an emphasis on highly trained and empowered staff*." | CMH Mobile Integrated Healthcare Mission: "*Provide exceptional, compassionate, and patient-centered care by a mobile collaborative team to improve patient experience, improve quality outcomes, and reduce healthcare costs*." | |
|---|---|---|

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# Guideline 1-200 - EMS Dispatch

**CMH EMS & MIH Protocols**

## Scope:

| License | Volunteer | Career | CMH |
|---|---|---|---|
| **EMD** | NA | Yes | NA |
| **EMR** | Yes | Yes | NA |
| **EMT** | Yes | Yes | Yes |
| **AEMT** | Yes | Yes | Yes |
| **RN** | Yes | Yes | Yes |
| **Medic** | Yes | Yes | Yes |
| **CP** | Yes | Yes | Yes |

## Guideline:

The designated Emergency Medical Services (EMS) Dispatch Center shall seek to ensure dispatch of the appropriate ambulance which has the shortest Estimated Time of Arrival (ETA) to the scene of priority one, two, and three responses. Citizens Memorial Hospital (CMH) ambulances will be dispatched in an efficient manner to each request for service.

## Purpose:

The purpose of this guideline is to establish standards and procedures for the dispatch of emergency medical resources to requests for ambulance or medical transport and to ensure ALS ambulance is available for 911 Response in CMH service areas.

## Procedure:

I. Dispatch administration:
   A. It should be a goal for all call takers and ambulance dispatchers to be experienced with EMS and be currently certified Emergency Medical Dispatchers (EMDs).
   B. Communications center directors shall be familiar with and strive to meet NFPA 1221 (Standard for the Installation, Maintenance, and Use of Emergency Services Communications Systems), specifically:
      1. **Section 7.2: Telecommunicator Qualifications and Training**. This section references NFPA 1061 (Standard for Public Safety Telecommunications Personnel

Professional Qualifications) and describes required certifications and training.
2. **Section 7.3: Staffing**. This section requires sufficient staffing based on call volume with a minimum of two on duty at all times.
3. **Section 7.4 Operating Procedures**. This section sets call answering and processing time requirements. Specifically, 90% of calls answered within 15 seconds and 90% of calls processed within 60 seconds. EMDs are required and CPR instructions shall be provided when a patient is unresponsive and not breathing. Refer to performance data for the four dispatch centers serving CMH EMS:

C. In each instance when an ambulance is not available to respond to a request for an emergency, an EMS Missed Run Log entry will be made and kept. A report of missed runs will be sent to PHS leadership no later than the 5th day after the beginning of each month. Weekly reporting is preferred.

II. General dispatching:

A. If the dispatched ambulance does not acknowledge the call within one minute, a second attempt at dispatch should be made. If no response after another minute, the next closest ambulance should be dispatched and resources deployed to obtain the status of the non-responsive ambulance staff. Additionally, PHS leadership should be advised of the incident.

B. Primary dispatch should include the ambulance identifier, general location of the call, nature of the call, and priority.

C. Dispatchers should provide secondary dispatch information within two minutes of the unit calling en route, when possible. Secondary information should include the full address and all pertinent patient and safety information.

D. The dispatch center shall record the following for every request for an ambulance. This data shall be available to the ambulance crew at the end of the call to complete required documentation.
1. Call received time
2. Dispatch time
3. En route time
4. On scene time
5. Transporting time
6. Transporting mileage
7. Destination time
8. Destination mileage
9. In service time
10. Run number. A unique run number will be assigned each time an ambulance is dispatched.

E. The EMS Dispatch Center shall monitor ambulance movement through Automatic Vehicle Locators (AVL). The EMS Dispatch center will dispatch the closest ambulance for Priority One and Two responses.

F. A form of call rotation will be used where more than one ambulance covers the same geographic location.

G. If multiple ambulances respond and transport patients, ambulance crews will request additional run numbers. Secondary run numbers will not be auto assigned just because multiple ambulances are responding.

H. Upon arrival at the destination, the ambulance is automatically in service for another call immediately, unless notified by the crew otherwise.
I. Within the last 30 minutes of a shift, the crew may otify dispatch of End Of Shift (EOS) and then will move to the back of the response rotation.

III. 9-1-1 call dispatching:
A. Refer to Guideline 1-200-24 - Call Natures for specific EMD medical directions.
B. Refer to Guideline 1-200-48 - Mutual Aid to determine which ambulances to dispatch based on location.
Requests for mutual aid ambulances from neighboring counties will by honored if an ambulance is available. Ambulances will not be held from response unless directed by PHS leadership. Mutual aid requests further than one county away should be approved by PHS leadership.
C. EMDs will utilize Medical Priority Dispatch System (MPDS) version 13 approved by the International Academy of Emergency Medical Dispatch (IAEMD) to provide emergency medical instructions to 9-1-1 callers. This includes protocols 1 through 33 and associated determinate codes, pre-arrival instructions, and diagnostic tools.
1. If MPDS recommends a BLS ambulance, utilization of BLS resources should be done first. If no BLS ambulance is available, an ALS ambulance should be used for priority 1, 2, and 3. Priority 4 requests should wait until a BLS ambulance is available.
2. If MPDS recommends an ALS ambulance, utilization of ALS resources should be done first. If no ALS ambulance is available, a BLS ambulance should be used in addition to the nearest mutual aid ALS ambulance.
D. All requests for an ambulance where the patient is not located in a hospital, shall be processed as if a 9-1-1 call has been placed. This includes all calls from Long Term Care (LTC) facilities, clinics, and physician offices.
E. If an ambulance is transporting a patient to a facility within the response area, and a Priority One or Two request is pending, check with ambulance crew for quick turn-around and obtain an estimated time they can be enroute to the call. If the time is within 20 min, dispatch may use this unit for a quick turn-around. In either case, dispatch the closest currently available unit to respond (including mutual aid). The ambulance first arriving to the scene will take the call.
F. If an aircraft is requested, the dispatch agency where the landing zone is located should make the request. Refer to fire department dispatching policies for establishing the landing zone. Refer to Guideline 1-100 - Air Transport of Patients. If the aircraft refuses the flight due to weather, do not continue to "shop" for another aircraft.

IV. Transfer dispatching:
A. Refer to Guideline 1-200-72 - Transfer Priority Calculator to determine priority level and dispatch transfers. Reminder, "transfers" are only out of the hospital, all other requests for an ambulance should use MPDS protocols 1 through 32.
B. The above calculator should be used to triage and prioritize transfers out of the hospital. When patients to be transferred are triaged and prioritized correctly, this allows efficient use of ambulance resources and meets the needs for the condition of the patient.
C. If multiple transfers are pending with the same priority level, they should be dispatched in order of current locations as follows:
1. Emergency room

2. Cath lab
3. Obstetrics
4. ICU
5. Medical/surgical

D. ModivCare requests (previously LogistiCare): ModivCare requests are automatically approved unless one or more of the following conditions:
  1. Long distance transfer
  2. A CMH facility is neither the patient location nor the destination

E. Refer to the 9-1-1 dispatching section as it relates to BLS and ALS dispatching.

F. Long distance transfers (defined as greater than 100 miles) must be approved by CMH Pre-Hospital leadership. Contact order for leadership shall be:
  1. Crew Leader on Duty
  2. Supervisor on Duty
  3. Manager on Duty
  4. Manager on Call

## Change Log:

| Date | Link to previous version | Description of change |
|---|---|---|
| 02/03/16 | | Created Section 6-125 - Transfer Out of Hospital. |
| 07/22/16 | pdf | Added OB patient to Priority One transfer criteria. |
| 08/24/17 | pdf | Added priority 2 with comment that it is used as low acuity community requests. |
| 09/25/17 | | Added comment that when physician requests ALS transfer, paramedic will attend the patient in the back. |
| 11/11/17 | pdf | Updated according to new CMH policy. |
| 07/23/19 | pdf | Added link to performance graph. |
| 11/27/19 | pdf | Added reference to stroke protocol if tPA drip. |
| 04/04/20 | pdf | Added content (without substantive modification) from old Section 6-125 - Transfer Out of Hospital. |
| 04/04/20 | pdf | Added content (without substantive modification) from old Section 6-095 - Mutual Aid Maps. |
| 04/04/20 | | Moved dispatch center instructions (without substantive modification) from Section 0-020 - Standing Orders by Agency Type. |
| 05/28/20 | pdf | Moved Call Natures section to its own protocol (1-200-01). Moved Mutual Aid section to its own protocol (1-200-02). Moved Transfer Priority Calculator section to its own protocol (1-200-03). |
| 10/07/20 | | Renamed all policies to guidelines. |
| 11/10/20 | pdf | Added part B & G of CMH Policy PHS01-10 (Basic Life Support Ambulance). Added part C, E, & F from CMH Policy PHS01-35 (Ambulance Communications). Added part B from CMH Policy PHS01-02 (Emergency Response Requested Outside of the Primary Service Area). Added entire memo n.d.-Newell (EMS Policy Cheat Sheet). Added entire memo 2016-10-26-Newell (Ambulances). Added entire memo 2017-10-06-Newell (EMS Psych TransferPriority 4 Transfers). Added entire memo 2017-10-19-Newell (EMS Dispatch PHS01-35). Added entire memo 2018-06-19-Newell (Multiple Run Numbers for CMH). Added entire memo 2018-11-05-Newell (Logisticare Calls). Added entire memo 2020-02-25-Newell (St Clair EMS). |
| 06/05/21 | pdf | Moved to emsprotocols.online |
| 04/27/23 | pdf | Changed name from ambulance dispatch to EMS dispatch. |

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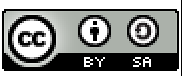
| CMH Pre-Hospital Services Mission: "*Provide safe, exceptional, and compassionate care to our communities with an emphasis on highly trained and empowered staff*." | CMH Mobile Integrated Healthcare Mission: "*Provide exceptional, compassionate, and patient-centered care by a mobile collaborative team to improve patient experience, improve quality outcomes, and reduce healthcare costs*." | |
|---|---|---|



|  | Polk, Hickory, Cedar, & St Clair County EMS Protocols by Theron Becker is licensed under a Creative Commons Attribution-ShareAlike 4.0 International License. |
|---|---|

# Guideline 1-200-24 - EMS Dispatching: Call Natures

**CMH EMS & MIH Protocols**

## Scope:

| License | Volunteer | Career | CMH |
|---|---|---|---|
| EMD | NA | Yes | NA |
| EMR | Yes | Yes | NA |
| EMT | Yes | Yes | Yes |
| AEMT | Yes | Yes | Yes |
| RN | Yes | Yes | Yes |
| Medic | Yes | Yes | Yes |
| CP | Yes | Yes | Yes |

## Guideline:

EMS dispatch centers shall dispatch the correct resources to requests for ambulances.

## Purpose:

The purpose of this guideline is to outline details regarding resources to be dispatched based on the nature of the call.

## Procedure:

| Nature of Call | Dispatcher Actions |
|---|---|
| All 9-1-1 calls | Refer to Guideline 1-100 - Air Transport of Patients.<br>Refer to Guideline 1-200 - Ambulance Dispatch.<br>Refer to Protocol 2-924 - Universal Patient Care. |
| | Structure fire or other incident where firefighters may be entering a hazardous atmosphere: Dispatch a non-dedicated standby ALS ambulance. |
| Aircraft Emergency 2 (Full Emergency) | Dispatch closest ALS ambulance for standby. |

| | |
|---|---|
| Aircraft Emergency 3 (Accident) | Dispatch closest two (2) ALS ambulances and Ops Ambulance (EMS Crew Leader) (or additional ALS ambulance). |
| Aspirin Diagnostic | Refer to Protocol 2-220 - Chest Pain / Suspected Cardiac Event. |
| Hazardous Materials Release | If patient or patients: Refer to MPDS Protocol 8 below.<br>If no patients: Dispatch closest ALS ambulance for standby and notify Ops Ambulance (EMS Crew Leader) (or additional ALS ambulance). |
| All MPDS Protocols | Echo-level (not breathing): Dispatch closest ambulance, closest ALS ambulance (if closest is not ALS), and Ops Ambulance (EMS Crew Leader) (or additional ALS ambulance).<br>In other words, the absolute closest ambulance should be dispatched. A total of two ALS providers should be dispatched. |
| MPDS Protocol 4 (Assault) | 4-D-1 (Arrest): In addition to primary ambulance, dispatch Ops Ambulance (EMS Crew Leader) (or additional ALS ambulance). |
| | 4-D-1 (Multiple Victims): In addition to primary ambulance, dispatch Ops Ambulance (EMS Crew Leader) and Rescue Task Force (or additional ALS ambulance). |
| MPDS Protocol 7 (Burns) | Refer to Guideline 1-300 - Ambulance Operations.<br>Refer to Protocol 2-176 - Burns. |
| | 7-D-1 (Multiple Victims): In addition to primary ambulance, dispatch Ops Ambulance (EMS Crew Leader) and Rescue Task Force (or additional ALS ambulance). |
| | 7-D-2 (Arrest): In addition to primary ambulance, dispatch Ops Ambulance (EMS Crew Leader) (or additional ALS ambulance). |
| | 7-C-4 (Significant Facial Burns): In addition to primary ambulance, dispatch Ops Ambulance (EMS Crew Leader) (or additional ALS ambulance). |
| MPDS Protocol 8 (Hazmat) | Refer to Protocol 2-176 - Burns.<br>Refer to Protocol 2-352 - Exposure: Cyanide.<br>Refer to Protocol 2-374 - Exposure: Nerve Agents. |
| | 8-D-1 (Arrest): In addition to primary ambulance, dispatch Ops Ambulance (EMS Crew Leader) (or additional ALS ambulance). |
| | 8-D-5 (Multiple Victims): In addition to primary ambulance, dispatch Ops Ambulance (EMS Crew Leader) and Rescue Task Force (or additional ALS ambulance). |
| MPDS Protocol 9 (Cardiac Arrest) | Cardiac arrest pathway: Refer to Protocol 2-198 - Cardiac Arrest. |
| | Obvious or expected death: Refer to Protocol 2-198 - Cardiac Arrest. |
| MPDS Protocol 14 (Drowning) | Obvious death: Refer to Protocol 2-286 - Drowning / Near Drowning. |
| | 14-D-2 (Underwater): In addition to primary ambulance, dispatch Ops Ambulance (EMS Crew Leader) (or additional ALS ambulance). |
| MPDS Protocol 15 (Electrocution) | 15-D-1 (Multiple Victims): In addition to primary ambulance, dispatch Ops Ambulance (EMS Crew Leader) and Rescue Task Force (or additional ALS ambulance). |

| | |
|---|---|
| MPDS Protocol 17 (Fall) | 17-D-2 (Arrest): In addition to primary ambulance, dispatch Ops Ambulance (EMS Crew Leader) (or additional ALS ambulance). |
| MPDS Protocol 18 (Headache) | Stroke time window: Refer to Protocol 2-880 - Suspected Stroke.< |
| MPDS Protocol 20 (Heat/Cold Exposure) | 20-D-2 (Multiple Victims): In addition to primary ambulance, dispatch Ops Ambulance (EMS Crew Leader) and Rescue Task Force (or additional ALS ambulance). |
| MPDS Protocol 21 (Hemorrhage) | 21-D-1 (Arrest): In addition to primary ambulance, dispatch Ops Ambulance (EMS Crew Leader) (or additional ALS ambulance). |
| MPDS Protocol 22 (Inaccessible) | 22-D-1 (Mechanical), 22-D-2 (Trench), 22-D-3 (Structure), 22-D-4 (Confined), 22-D-5 (Terrain), 22-D-6 (Mudslide), or 22-B-2 (Peripheral): In addition to primary ambulance, dispatch Ops Ambulance (EMS Crew Leader) (or additional ALS ambulance). |
| MPDS Protocol 24 (Pregnancy) | High risk complications: Refer to Protocol 2-242 - Childbirth / Labor |
| | 24-D-1 (Breech), 24-D-2 (Head Visible), 22-D-3 (Imminent), 24-D-6 (Baby Born, Baby Complications), or 24-D-7 (Baby Born, Mother Complications): In addition to primary ambulance, dispatch Ops Ambulance (EMS Crew Leader) (or additional ALS ambulance). |
| MPDS Protocol 27 (Penetrating) | 27-D-1 (Arrest): In addition to primary ambulance, dispatch Ops Ambulance (EMS Crew Leader) (or additional ALS ambulance). |
| | 27-D-6 (Multiple Victims): In addition to primary ambulance, dispatch Ops Ambulance (EMS Crew Leader) and Rescue Task Force (or additional ALS ambulance). |
| MPDS Protocol 28 (Stroke) | Stroke time window: Refer to Protocol 2-880 - Suspected Stroke. |
| MPDS Protocol 29 (Traffic) | 29-D-1 (Major Incident): In addition to primary ambulance, dispatch Ops Ambulance (EMS Crew Leader) and Rescue Task Force (or additional ALS ambulance). |
| | 29-D-2 (High Mechanism), 29-D-4 (Hazmat), 29-D-5 (Pinned), or 29-D-6 (Arrest): In addition to primary ambulance, dispatch Ops Ambulance (EMS Crew Leader) (or additional ALS ambulance). |
| MPDS Protocol 30 (Trauma) | 30-D-1 (Arrest): In addition to primary ambulance, dispatch Ops Ambulance (EMS Crew Leader) (or additional ALS ambulance). |
| MPDS Protocol 31 (Unconscious) | 31-D-1 (Agonal): In addition to primary ambulance, dispatch Ops Ambulance (EMS Crew Leader) (or additional ALS ambulance). |
| MPDS Protocol 33 (Transfer) | This protocol only applies to transfers out of a hospital (i.e., ER, ICU, etc.). All other requests for an ambulance should be processed using MPDS protocols 1 through 32.<br>Refer to Guideline 1-200-72 - Transfer Priority Calculator. |

# Change Log:

| Date | Link to previous version | Description of change |
|---|---|---|
| 05/28/20 | | Created this protocolmoved the content from 1-200. |
| 10/07/20 | | Renamed all policies to guidelines. |
| 10/07/20 | | Renumbered 1-200-01 to 1-200-24. |
| 02/26/21 | pdf | Added some content from Guideline 1-700 (Ambulance Operations). Changed EMS Supervisor to Ops Ambulance with Crew Leader. |
| 06/05/21 | pdf | Moved to emsprotocols.online |
| 11/30/21 | | Updated link to Aspirin. |

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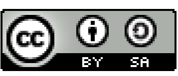
|---|---|---|



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# Guideline 1-200-48 - EMS Dispatching: Mutual Aid

**CMH EMS & MIH Protocols**

## Scope:

| License | Volunteer | Career | CMH |
|---|---|---|---|
| **EMD** | NA | Yes | NA |
| **EMR** | Yes | Yes | NA |
| **EMT** | Yes | Yes | Yes |
| **AEMT** | Yes | Yes | Yes |
| **RN** | Yes | Yes | Yes |
| **Medic** | Yes | Yes | Yes |
| **CP** | Yes | Yes | Yes |

## Guideline:

The closest and most appropriate ambulance shall be dispatched and respond to priority medical emergencies.

## Purpose:

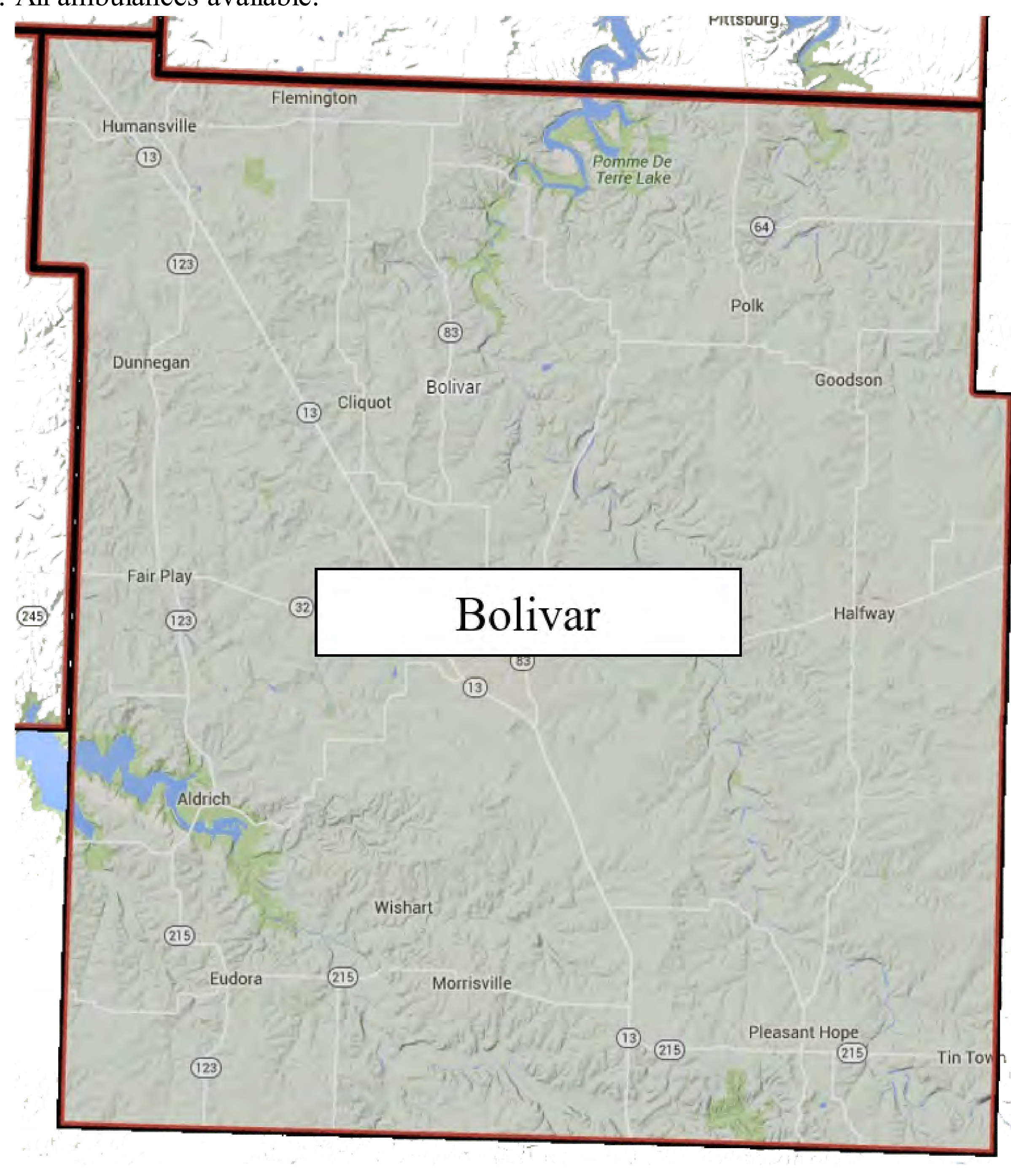
The purpose of this guideline is to provide maps and guideance to dispatchers to facilitate choosing the best ambulance.

## Procedure:

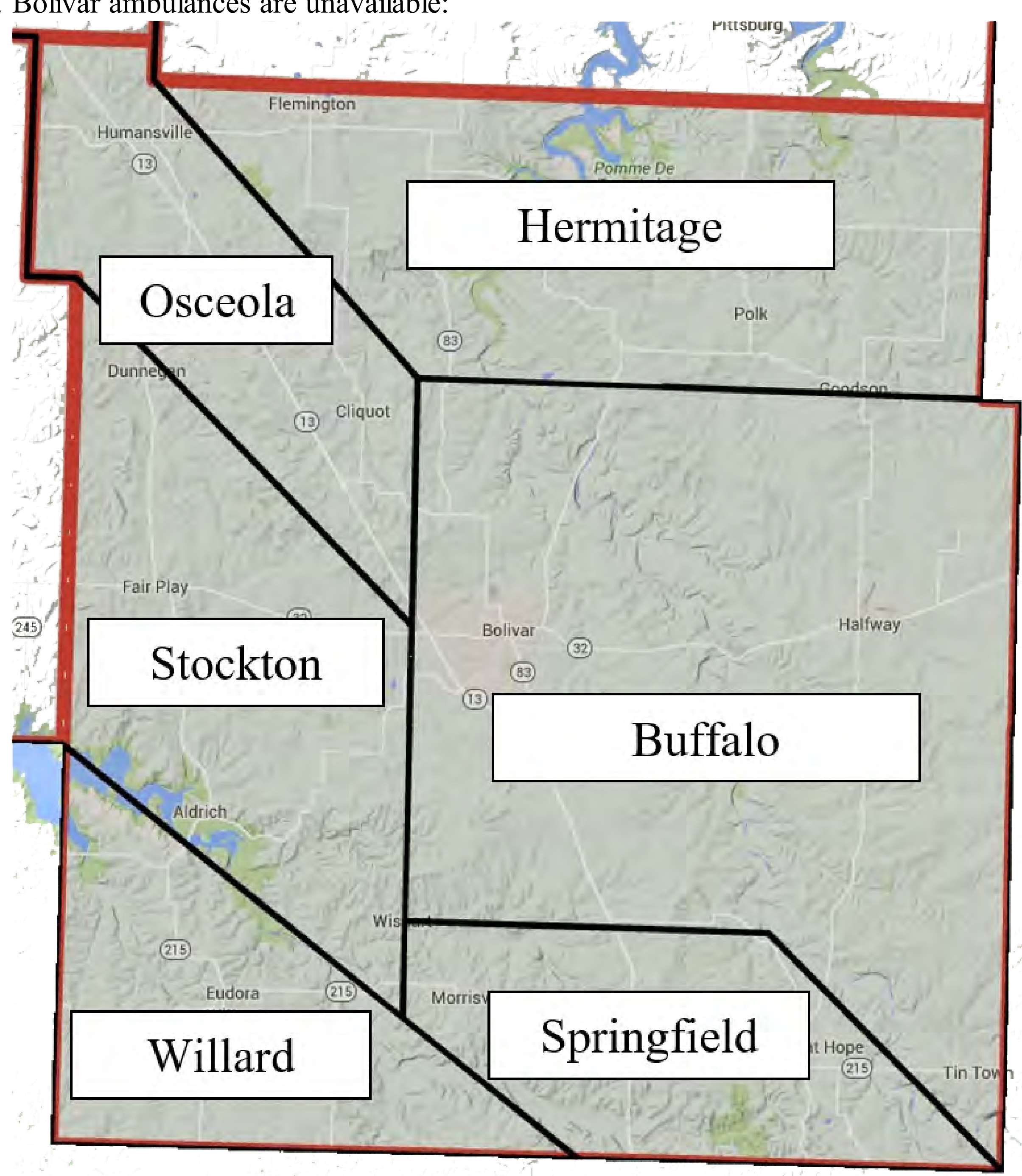
I. When requesting resources, utilize Ambulance Locations and the following maps to determine the closest, most appropriate ambulance.
II. These are simplified boundaries based on response time calculations by Theron Becker in February 2016. KML files are available upon request for integration into GIS and CAD.

III. Polk County:

A. All ambulances available:

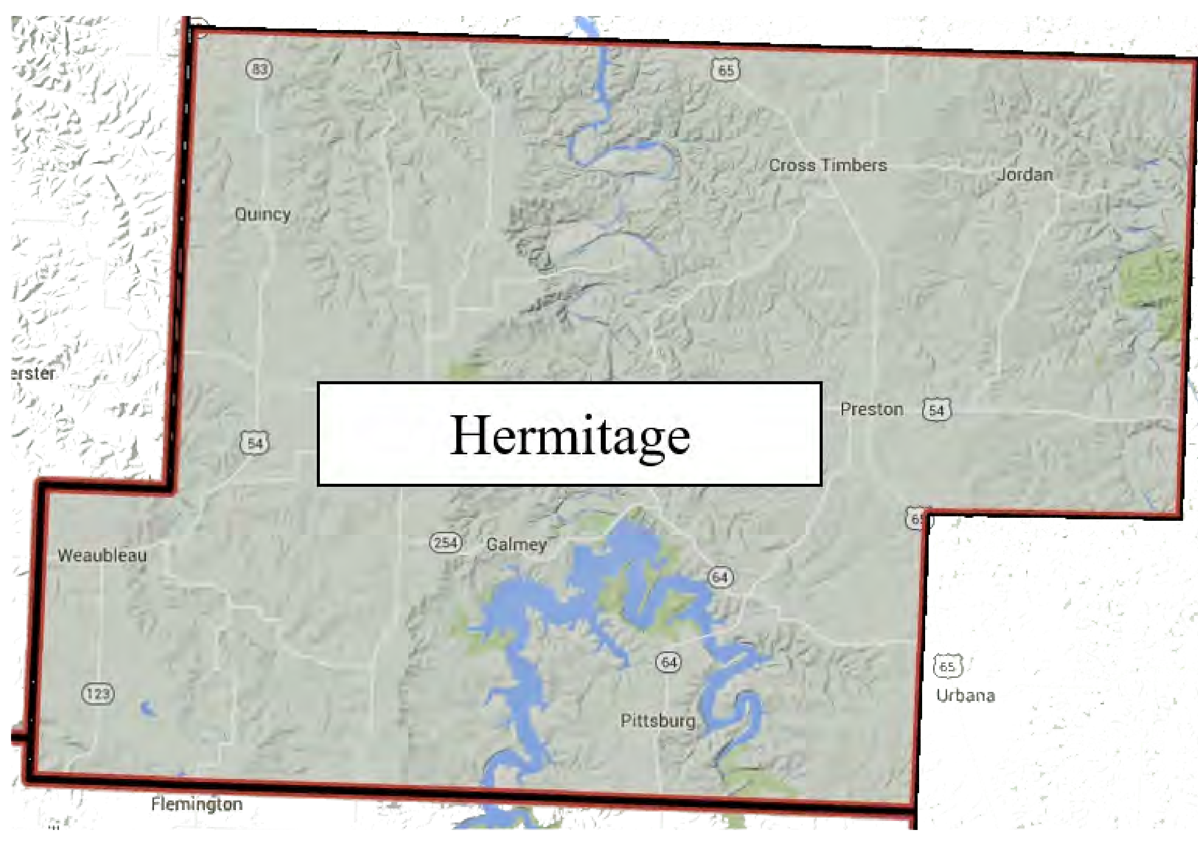


B. Bolivar ambulances are unavailable:

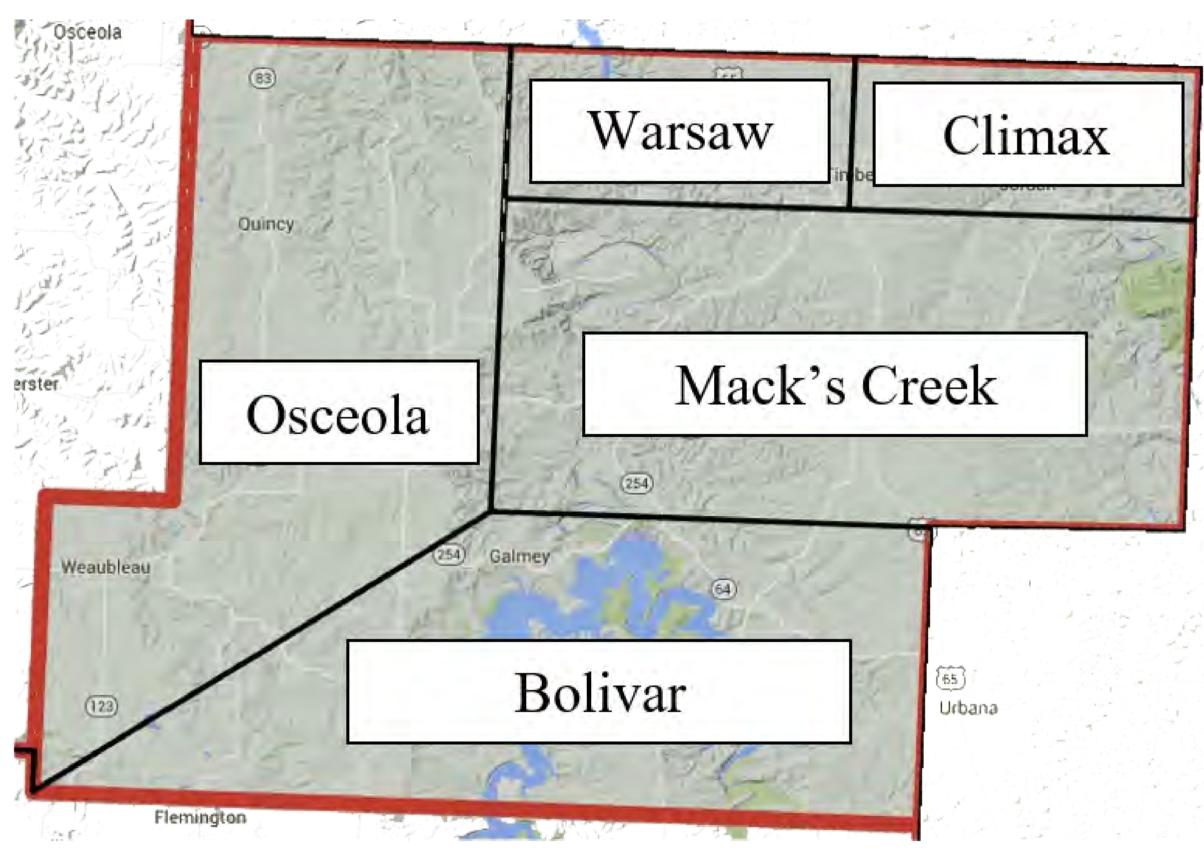


IV. Hickory County:

A. All ambulances available:



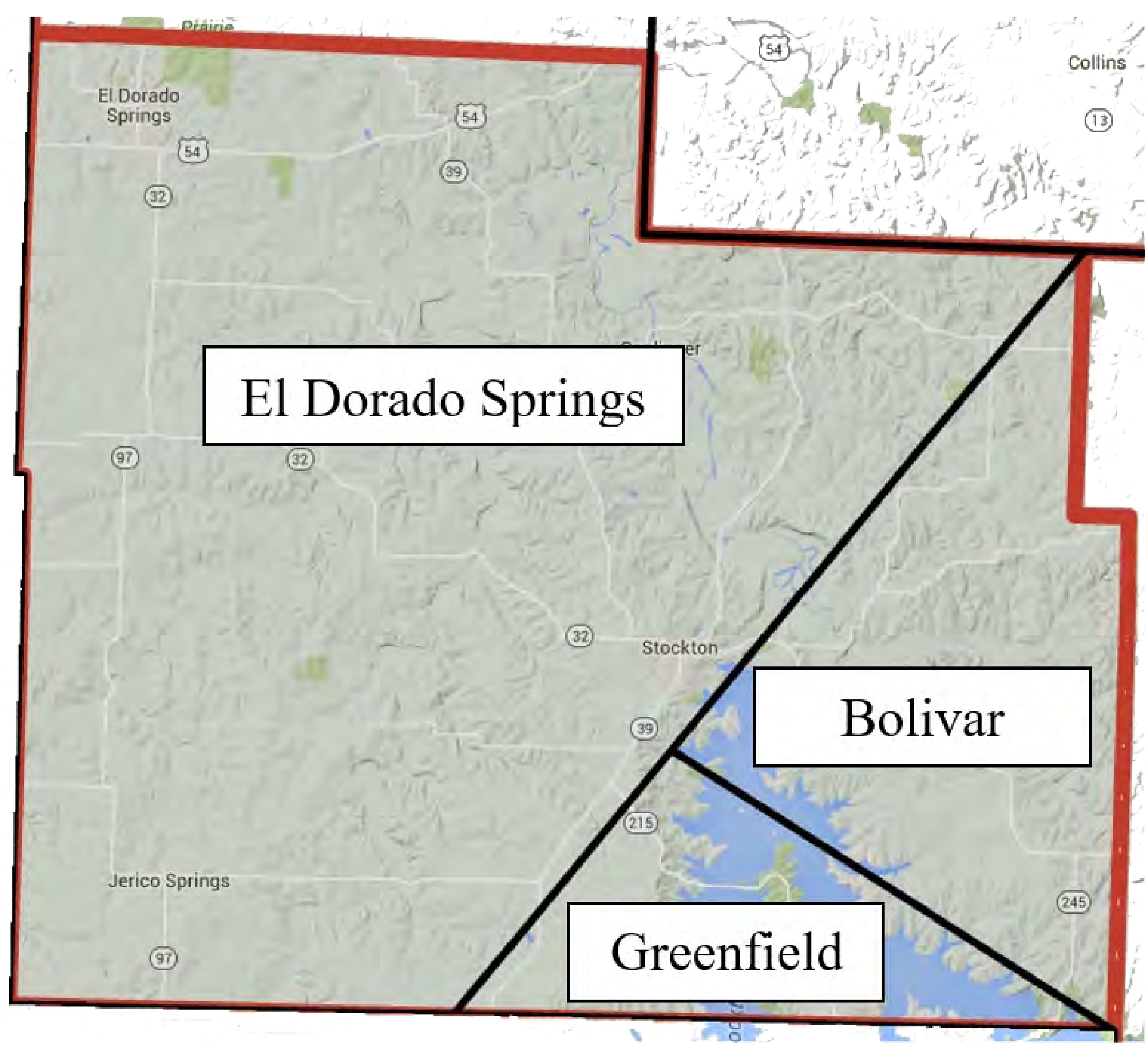
B. Hermitage ambulance is unavailable:



V. Cedar County:

A. El Dorado Springs ambulance is unavailable:

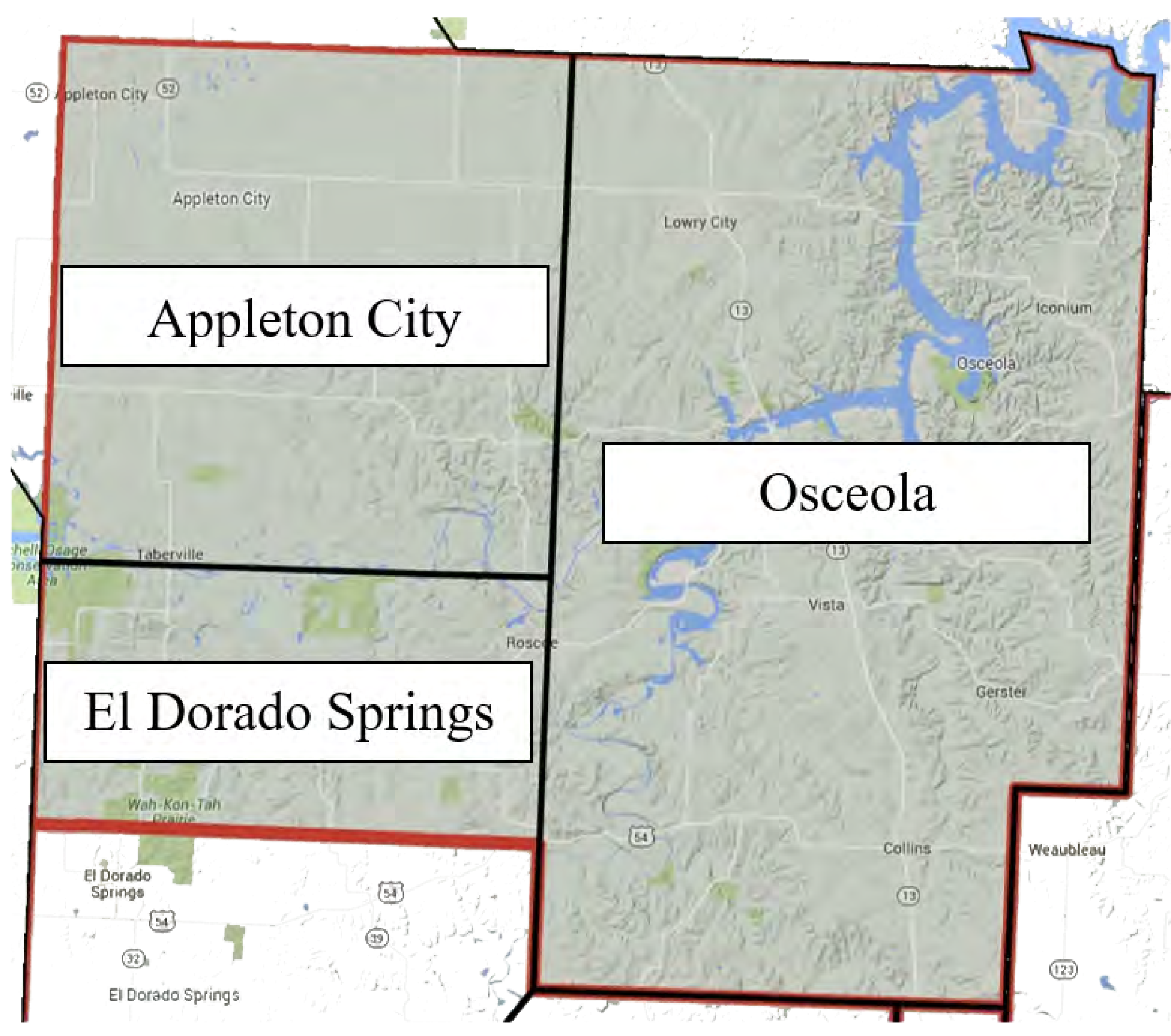
B. Stockton ambulance is unavailable:



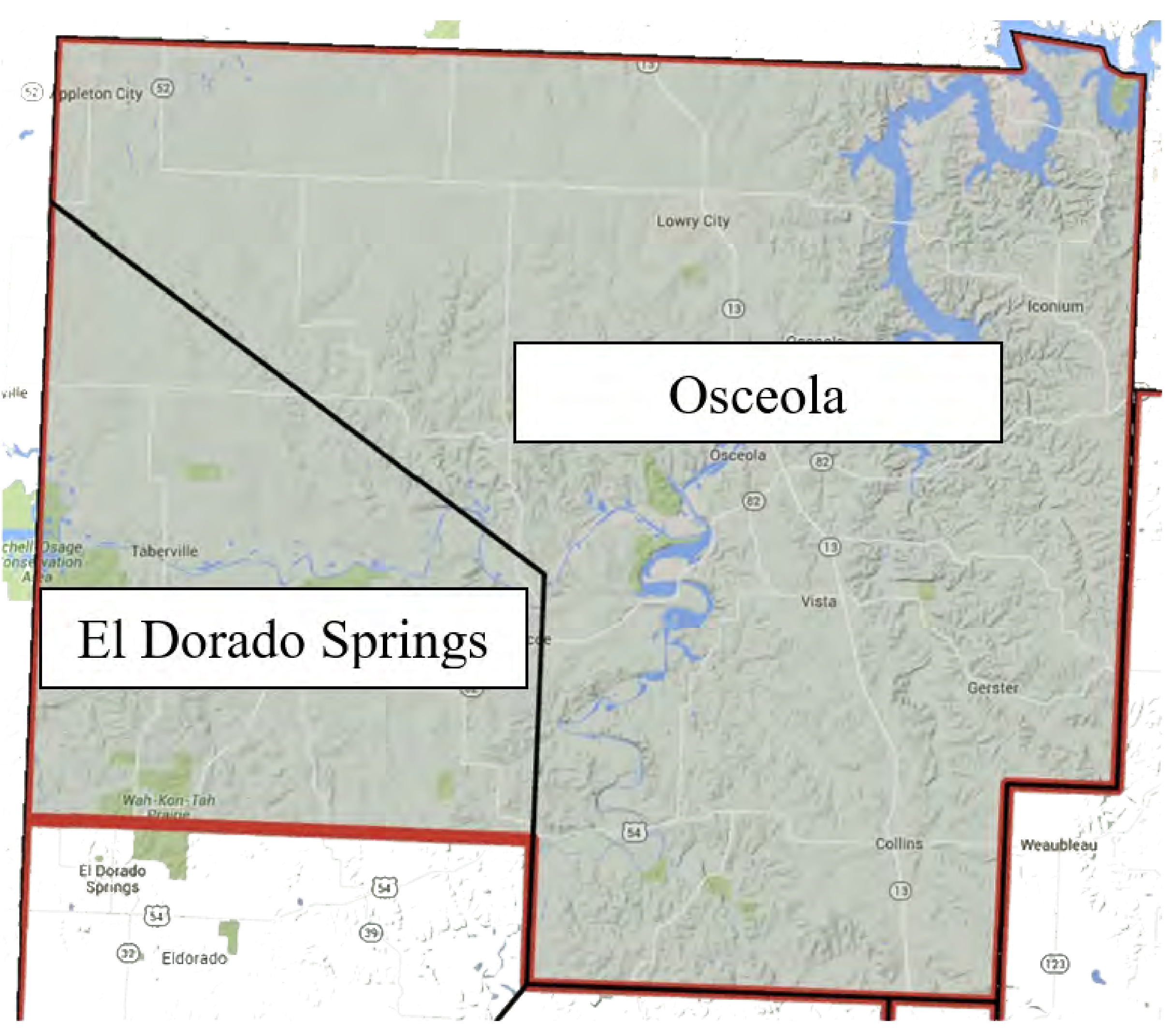

C. Both ambulances are unavailable:
[MAP PENDING]

VI. St Clair County:

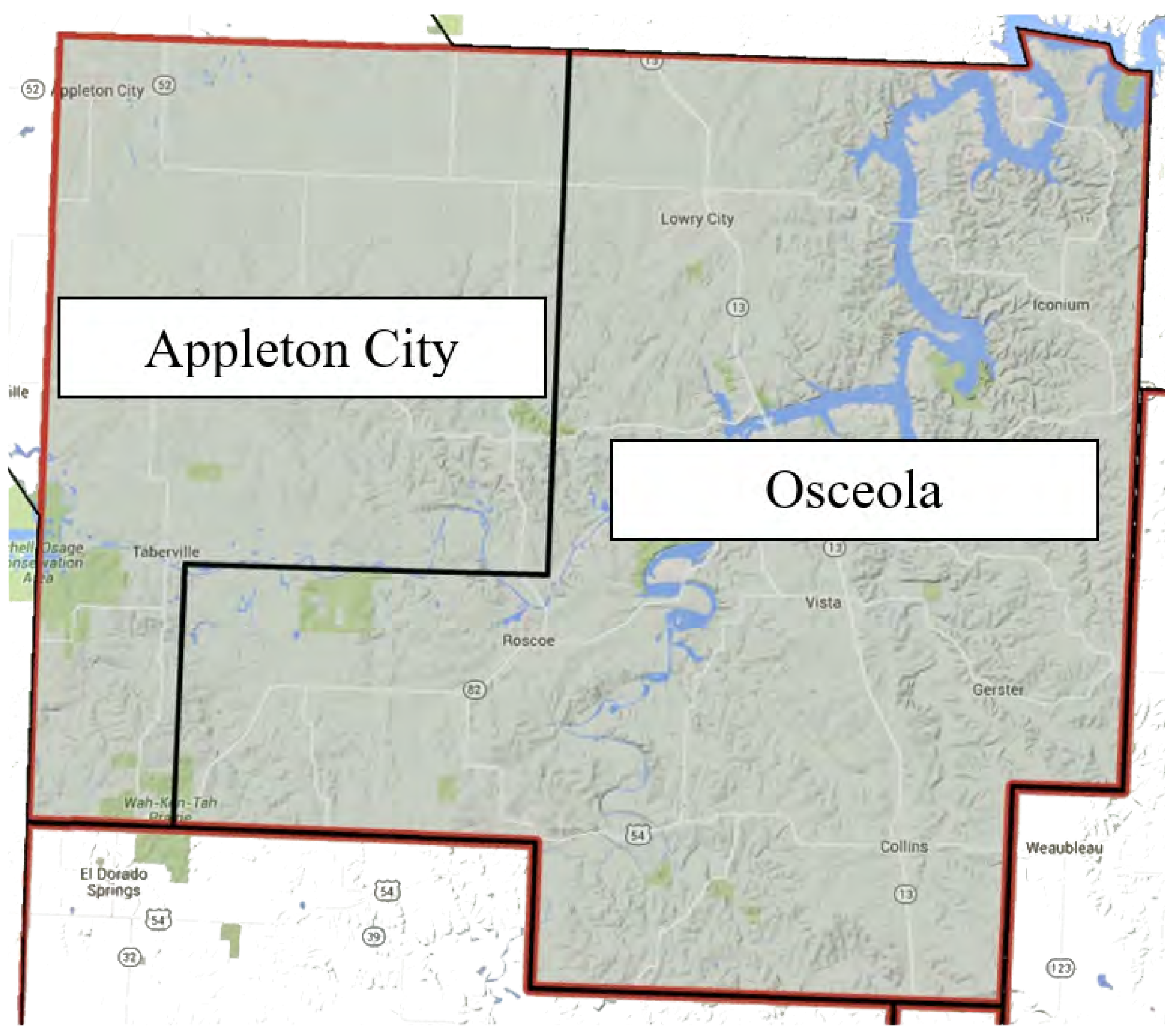
A. All ambulances available:



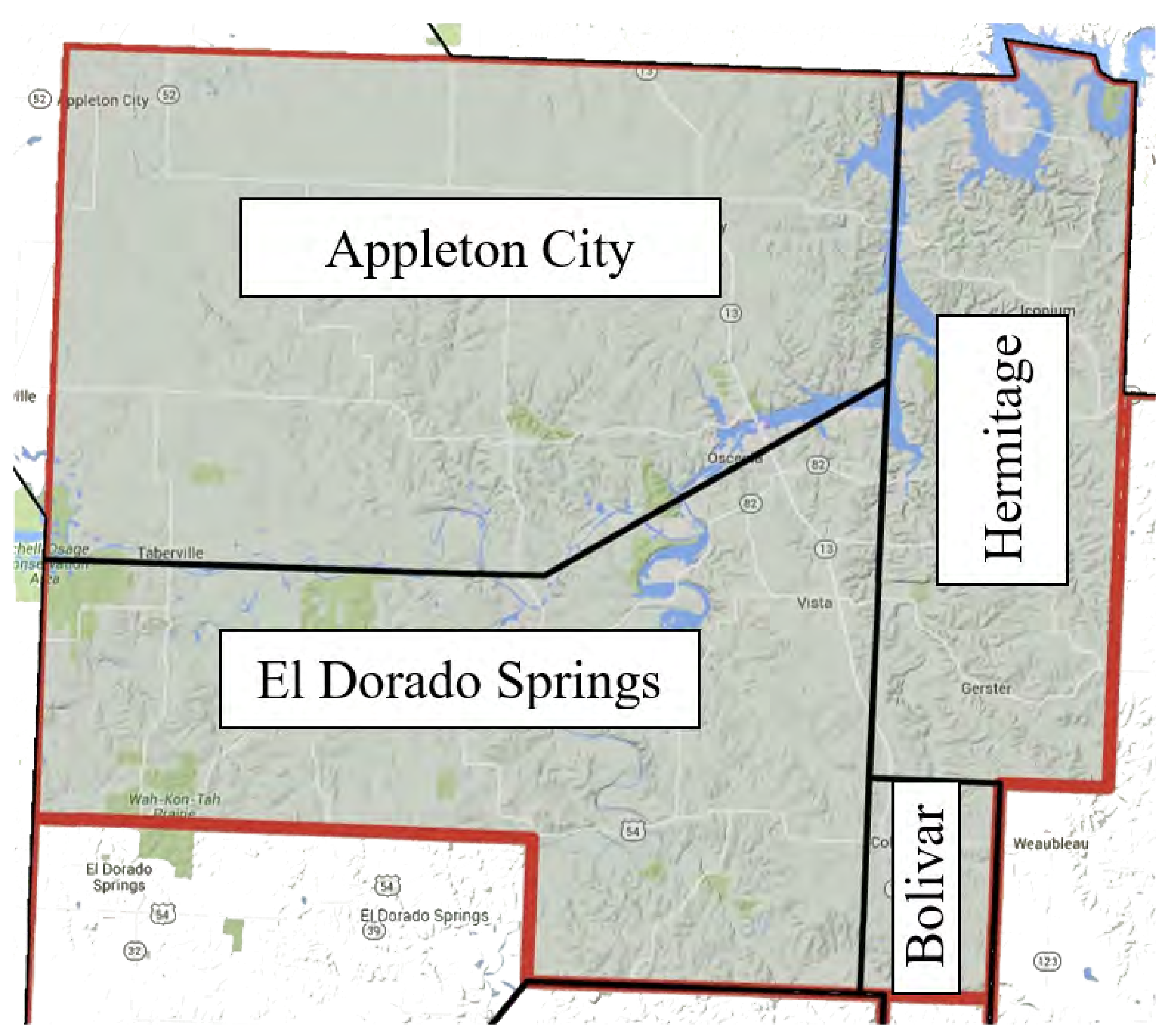
B. Appleton City ambulance is unavailable:



C. El Dorado Springs ambulance is unavailable:



D. Osceola ambulance is unavailable:




E. None of the ambulances are available:
[MAP PENDING]

# Change Log:

| Date | Link to previous version | Description of change |
| --- | --- | --- |
| 05/28/20 | | Created this protocolmoved the content from 1-200. |
| 10/07/20 | | Renumbered 1-200-02 to 1-200-48. Renamed all policies to guidelines. |

| | | |
|---|---|---|
| 06/05/21 | pdf | Moved to emsprotocols.online |
| 09/29/21 | pdf | Maps have been made larger. |

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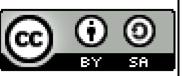
|---|---|---|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# Guideline 1-200-72 - EMS Dispatch: Transfer Priority Calculator

**CMH EMS & MIH Protocols**

Date: 08/21/2023

Name of person completing this form:

RN

Patient sticker here

| Patient diagnosis | Check MULTIPLE | Points possible | Points given |
|---|---|---|---|
| Patient diagnosed with a recent (within four hours) **TCD** (Trauma, Stroke, STEMI, or Sepsis). | ☐ | 10 | |
| Patient currently has a **life-threatening condition** that has to be transported as soon as possible. | ☐ | 10 | |
| Patient needs ugent (within four hours) **surgery or critical treatment** for a medical or trauma condition. | ☐ | 10 | |
| Patient has an urgent (within four hours) need for **obstetrics** (OB) care. | ☐ | 10 | |

| Other considerations | Check MULTIPLE | Points possible | Points given |
|---|---|---|---|
| Patient **currently requiring ALS care** (i.e. airway management, medication administration, and/or cardiac monitoring). | ☐ | 5 | |
| Transport must be initiated within two (2) hours or they will **lose the bed** assignment at the destination. | ☐ | 3 | |
| Before this transfer request, **how many patients are currently waiting in this department** for an ambulance? Do not include this transfer request in the total. | 0 | 1 per patient | |

| Patient's current location | Check ONLY ONE | Points possible | Points given |
|---|---|---|---|
| Patient currently located in an **Emergency Room**. | ○ | 6 | |
| Patient currently located in a **Cath Lab**. | ○ | 5 | |

| | | | |
|---|---|---|---|
| Patient currently located in an **Obstetrics Department**. | ◯ | 3 | |
| Patient currently located in an **Intensive Care Unit**. | ◯ | 2 | |
| Patient currently located in a location **not listed above**. | ◯ | 0 | |

| Destination | Check ONLY ONE | Points possible | Points given |
|---|---|---|---|
| Destination is an **Emergency Room**. | ◯ | 7 | |
| Destination is an **Intensive Care Unit**. | ◯ | 2 | |
| Destination is a location **not listed above**. | ◯ | 0 | |

| Destination distance | Check ONLY ONE | Points possible | Points given |
|---|---|---|---|
| Destination is **less than 10 miles away** (i.e. local). | ◯ | 4 | |
| Destination is **between 10 and 100 miles away**. | ◯ | 0 | |
| Destination is **GREATER than 100 miles away** (i.e. LDT). | ◯ | -8 (subtract 8 points) | |

Calculate points

Select the priority level based on points and table below:

| Priority | Priority name | Dispatch conditions | Ambulance response | Minimum score required |
|---|---|---|---|---|
| 1 | Life-saving transfer | Will be dispatched immediately. The closest ALS ambulance (including mutual aid) will be dispatched.<br>Note: Please consider an air ambulance. | Lights and siren immediately. | 20 |
| 2 | Critical transfer | Will be dispatched only if at least one other ALS ambulance is available in the county for 9-1-1 coverage. | NO lights and siren at time of dispatch. | 10 |
| 3 | Ugent transfer | Will be dispatched only if at least two other ambulances (at least one ALS) is available in the county for 9-1-1 coverage.<br>Note: In Cedar County, only one 9-1-1 coverage ambulance is needed. Priority 2 and 3 are the same in Cedar County. | | 5 |
| 4 | Scheduled transfer | Will be dispatched after contacting the PHS leadership. The leader may call in an extra crew, have a crew hold over, or other decision to best manage the transfer. BLS transfers may be held overnight due to limited ambulance availability. | NO lights and siren at the scheduled time. | 0 |

## Change Log:

| Date | Link to previous version | Description of change |
|---|---|---|
| 05/28/20 | | Created this protocolmoved the content from 1-200. Built a new calculator for approval. |
| 07/01/20 | | Removed old parts of previous policy to eliminate confusion during approval process on PolicyStat. |
| 10/07/20 | | Renumbered 1-200-03 to 1-200-72. Renamed all policies to guidelines. |
| 11/10/20 | pdf | Formatting change to make hard-copy printing better. Moved the comment of holding priority 4 BLS transfers overnight from PHS01-10. |
| 02/10/21 | pdf | Modified page breaks to allow better printing and inserting into PolicyStat. |
| 06/05/21 | pdf | Moved to emsprotocols.online |

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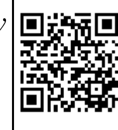
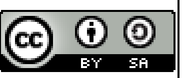
| CMH Pre-Hospital Services Mission: "*Provide safe, exceptional, and compassionate care to our communities with an emphasis on highly trained and empowered staff*." | CMH Mobile Integrated Healthcare Mission: "*Provide exceptional, compassionate, and patient-centered care by a mobile collaborative team to improve patient experience, improve quality outcomes, and reduce healthcare costs*." |  |
|---|---|---|



|  | Polk, Hickory, Cedar, & St Clair County EMS Protocols by Theron Becker is licensed under a Creative Commons Attribution-ShareAlike 4.0 International License. |
|---|---|

# Guideline 1-400 - EMS Communications

**CMH EMS & MIH Protocols**

## Scope:

| License | Volunteer | Career | CMH |
|---|---|---|---|
| **EMD** | NA | Yes | NA |
| **EMR** | Yes | Yes | NA |
| **EMT** | Yes | Yes | Yes |
| **AEMT** | Yes | Yes | Yes |
| **RN** | Yes | Yes | Yes |
| **Medic** | Yes | Yes | Yes |
| **CP** | Yes | Yes | Yes |

## Guideline:

Medical personnel shall communicate to provide the best patient care and patient safety possible.

## Purpose:

The purpose of this guideline is to assist staff in communicating with each other to provide exceptional patient care with an emphasis on patient safety.

## Procedure:

I. Radio and emergency communications shall be made in a NIMS-compliant manner.
   A. Ambulances shall be named and numbered to reduce confusion:
      1. "**Rescue**" refers to a non-transport capable vehicle. This vehicle can have any combination of BLS, ALS, and leadership staff on board and can perform as a quick response vehicle, support vehicle, and/or command vehicle.
      2. "**Squad**" refers to a BLS-level ambulance capable of transporting a patient. NIMS type 3 or 4 ambulance.
      3. "**Medic**" refers to an ALS-level ambulance capable of transporting a patient. NIMS type 1 or 2 ambulance.
      4. "**Ops**" refers to an ALS-level ambulance with an Ambulance Strike Team Leader on board. This ambulance can be referred to as a command vehicle in addition to transport ambulance.

5. Numbering shall be by primary BEMS license assignment:
    a. **01 through 09**: Dunnegan Critical Care Unit (Polk and Hickory Counties).
    b. **10 through 19**: Cedar County Ambulance District (Cedar County).
    c. **20 through 29**: Sac Osage Hospital (St Clair County).

II. Official communication between ambulance staff members should follow the chain of command outlined in Guideline 1-400-12 - Staff Communication Paths. This guideline is not meant to limit communication, only serve as a guide. There is no such thing as too much communication, regardless of the format or path.

III. Medical control contact should follow Guideline 1-400-48 - Medical Control.

IV. While on duty, ambulance staff shall carry a hand-held radio.

V. Required radio communications by ambulance crews: Note, utilization of the phone for the following communications is discouraged.
    A. Start of shift check in within 15 minutes of shift start. This communication shall include vehicle assignment and crew names.
    B. While available for a call, each time a county line is crossed into or out of Polk, Hickory, Cedar, or St Clair counties. Contact both dispatch centers indicating you are leaving one and entering the other and available for call.
        1. Additionally, when leaving Springfield, contact Polk Dispatch advising location and available.
        2. If ambulance is available and mobile farther than usual from the station, advise dispatch of location and availability. Crew members must also stay together during their shift to allow for immediate response.
    C. En route to call.
    D. Unplanned stops during response or transporting.
    E. On scene at scene.
    F. Leaving the scene. If transporting, include mileage and destination facility.
    G. Arrive at destination, if applicable. Include destination mileage.
    H. Within 30 minutes of end of shift, crew may advise "EOS" to be moved to the bottom of the rotation and use this time for EOS duties.
    I. Out of service at the end of shift. If a call is pending, crews may be held by CMH PHS leadership for up to an hour to provide coverage.

VI. When dispatched to an emergency call, crews will respond without dispute. A grievance may be filed with leadership at a later time.

VII. ER radio reports should be attempted starting with at least a 15-minute ETA.

VIII. Patient handoff reports (i.e. from first responders to ambulance crew or from ambulance crew to ER staff) should follow Guideline 1-400-72 - Patient Handoff Report.

# Change Log:

| Date | Link to previous version | Description of change |
| --- | --- | --- |
| 01/29/14 | pdf | Added comment if med control cannot be contacted from CMH policies. |
| 12/12/14 | pdf | Changed phone number for Golden Valley. Changed name for Mercy Joplin Psych. Removed Sac-Osage. |
| 11/17/15 | pdf | Added PRC exception to rule that only paramedics can obtain medical control. Added medical control clarification for EMH vs CMH ambulances. |
| 12/04/15 | pdf | Modified Medical control SHALL be provided by receiving hospital to is preferred to. |
| 08/24/18 | pdf | Added comment that the sending physician can also be consulted for medical control orders. |
| 11/27/19 | pdf | Added locations for 15 min ETA to CMH for radio reports. |
| 04/04/20 | pdf | Added content (without substantive modification) from old Section 6-010 - Acquisition of Medical Control. |
| 10/07/20 | | Renamed all policies to guidelines. |
| 11/10/20 | pdf | Added information from internal memo from Sarah Newell to Polk County Dispatchers dated 10/26/2016. |
| 02/26/21 | pdf | Changed name from Communications to Ambulance Communications. Moved Medical control section to Guideline 1-400-48. Added links to Guidelines 1-400-12. 1-400-48, and 1-400-72. |
| 02/26/21 | pdf | Added content from Polk Dispatch memos dated 10/6/17, 02/25/20, 11/05/18, 6/19/18, and 10/19/17. Added content from CMH Policy PHS01-35 (Ambulance Dispatch). |
| 06/05/21 | pdf | Moved to emsprotocols.online |

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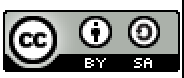
| CMH Pre-Hospital Services Mission: "*Provide safe, exceptional, and compassionate care to our communities with an emphasis on highly trained and empowered staff*." | CMH Mobile Integrated Healthcare Mission: "*Provide exceptional, compassionate, and patient-centered care by a mobile collaborative team to improve patient experience, improve quality outcomes, and reduce healthcare costs*." | |
|---|---|---|

|  | Polk, Hickory, Cedar, & St Clair County EMS Protocols by Theron Becker is licensed under a Creative Commons Attribution-ShareAlike 4.0 International License. |
|---|---|

# Guideline 1-400-12 - Staff Communications Paths

**CMH EMS & MIH Protocols**

## Scope:

| License | Volunteer | Career | CMH |
|---|---|---|---|
| **EMD** | NA | No | NA |
| **EMR** | No | No | NA |
| **EMT** | No | No | Yes |
| **AEMT** | No | No | Yes |
| **RN** | No | No | Yes |
| **Medic** | No | No | Yes |
| **CP** | No | No | Yes |

## Guideline:

EMS personnel and leadership shall communicate frequently and efficiently to ensure safety and exceptional patient care.

## Purpose:

The purpose of this guideline is to provide tools and guideance to facilitate EMS staff communications.

# Procedure:

I. Staff Meetings:
   A. CMH PHS staff meetings will occur weekly on Tuesday mornings at 0830 on a rotating basis as described below:
      1. Bolivar A-week
      2. Hermitage
      3. Stockton
      4. Bolivar B-week
      5. Osceola
      6. Eldorado

II. Upstream Path:
   A. Staff → Crew Leaders through monthly rounding. Refer to Guideline 1-450-66 - Crew Leader - Rounding Form.
   B. Crew Leaders → Managers through monthly rounding.
   C. Managers → Chiefs through scouting reports due each Monday.
   D. Chiefs → Director through scouting reports due each Tuesday.

III. Downstream Path:
   A. Director → Chiefs through weekly briefing each Tuesday morning.
   B. Chiefs → Managers through weekly manager meeting each Wednesday morning.
   C. Chiefs → all staff through weekly email briefing each Wednesday afternoon.
   D. Managers → Crew Leaders through weekly huddles.
   E. Crew Leaders → Staff through daily huddles at shift changes.

# Change Log:

| Date | Link to previous version | Description of change |
| --- | --- | --- |
| 08/13/20 | | Created this section to guide communications processes. |
| 10/07/20 | | Renamed all policies to guidelines. |
| 02/26/21 | pdf | Formatting changes. |
| 06/05/21 | pdf | Moved to emsprotocols.online |

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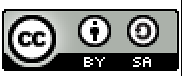
| CMH Pre-Hospital Services Mission: "*Provide safe, exceptional, and compassionate care to our communities with an emphasis on highly trained and empowered staff*." | CMH Mobile Integrated Healthcare Mission: "*Provide exceptional, compassionate, and patient-centered care by a mobile collaborative team to improve patient experience, improve quality outcomes, and reduce healthcare costs*." | |
|---|---|---|



|  | Polk, Hickory, Cedar, & St Clair County EMS Protocols by Theron Becker is licensed under a Creative Commons Attribution-ShareAlike 4.0 International License. |
|---|---|

# Guideline 1-400-48 - Communications: Medical Control

**CMH EMS & MIH Protocols**

## Scope:

| License | Volunteer | Career | CMH |
|---|---|---|---|
| **EMD** | NA | No | NA |
| **EMR** | No | No | NA |
| **EMT** | No | No | Yes |
| **AEMT** | No | No | Yes |
| **RN** | No | No | Yes |
| **Medic** | No | No | Yes |
| **CP** | No | No | Yes |

## Guideline:

Field medical providers shall contact medical control for guideance and orders that outside scope of these protocols.

## Purpose:

The purpose of this guideline is to provide tools for field medical providers to contact medical control.

# Procedure:

I. Refer to Policy PHS01-03 (Ambulance Medical Control).
II. Medical control is the responsibility of the highest medical-licensed provier available and needed* to be primary care provider.
   A. "Needed" level is determined by patient complaint, assessment, and care needed.
   B. Determining needed level of care is the responsibility of the highest medical-licensed provider on the scene.
III. Medical control shall only be provided by a Physician. Medical control shall not accepted from nurses, nurse practitioners, physician assistants, midwifes, or any physician extenders.
IV. Medical control is preferred to be provided by the receiving hospital. If contact cannot be made, CMH Emergency Room will be the default medical control for CMH ambulances and EMH Emergency Room will be the default medical control for EMH ambulances. Sending physician (if transfer) may also be consulted.
V. When transporting from another facility and treatment that deviates from protocol is suggested by transferring Physician, RN/Paramedic should contact receiving MEDICAL CONTROL in the ambulance to verify orders.
VI. If medical control cannot be contacted, protocols should be utilized as standing orders including those designated as requiring medical control. Medical control should be contacted as soon as possible and attempts at contact shall be documented.
VII. If an on-scene physician gives orders, RN/Paramedic shall require credential evidence and the requesting physician must accompany the patient in transport to the receiving facility. This process should not be considered if the physician does not have the appropriate medical sub-specialties as determined by the RN/Paramedic.
VIII. Community Paramedics work in full capacity under the CMH Mobile Integrated Healthcare medical director's license.
   A. Community Paramedics follow standing orders and medical providers orders from Primary Care Providers (PCP) of each patient.
   B. If needed care is beyond standing orders or the care plan as outlined by the PCP, the Community Paramedic shall make contact with a Mid-Level Provider or Physician to obtain written or verbal orders. If PCP orders cannot be obtained, consider contacting the Emergency Room Physician.

Medical Control Contact Information:

| City | Facility | Medical Control Phone |
|---|---|---|
| Appleton City | Ellett Memorial Hospital | 660-476-2111 |
| Bolivar | Citizens Memorial Healthcare | 417-328-6301 |
| Butler | Bates County Memorial Hospital | 660-200-7000 |
| Carthage | McCune Brooks Regional Hospital | 417-358-8121 |
| Clinton | Golden Valley Memorial Hospital | 660-885-6690 |
| Columbia | Boone County Hospital | 573-815-8000 |
| | University Hospital | 573-882-8091 |
| | Veterans Hospital | 573-814-6000 |
| El Dorado Springs | Cedar County Memorial Hospital | 417-876-2511 |
| Ft Leonard Wood | Ft Leonard Wood Hospital | 573-596-0803 |
| Joplin | Freeman West | 417-347-1111 |
| Kansas City | Veterans Hospital | 800-525-1483 |
| Lamar | Barton County Memorial Hospital | 417-681-5100 |
| Lebanon | Mercy | 417-533-6350 |
| Monett | Cox Monett Hospital | 417-235-3144 |
| Neosho | Freeman Neosho Hospital | 417-451-1234 |
| Nevada | Nevada Regional Medical Center | 417-667-3355 |
| Osage Beach | Lake Regional Health System | 573-348-8000 |
| Springfield | Cox North | 417-269-3393 |
| | Cox South | 417-269-4983 |
| | Mercy | 417-820-2115 |
| St Louis | Barnes Jewish Hospital | 314-294-1403 |

## Change Log:

| Date | Link to previous version | Description of change |
|---|---|---|
| 07/05/20 | | Moved this section from 1-400created a new page. |
| 10/07/20 | | Renumbered 1-400-01 to 1-400-48. Renamed all policies to guidelines. |
| 02/26/21 | pdf | Added some content from 1-400 regarding when to contact medical control. |
| 02/26/21 | pdf | Formatting changes |
| 06/05/21 | pdf | Moved to emsprotocols.online |
| 02/08/22 | pdf | Minor changes to align with Policy PHS01-03. |
| 04/27/23 | pdf | Clarified whose responsibility it is to contact medical control. Instead of strictly RN or paramedic only, there is discussion of the highest needed licensed person. This allows EMTs and AEMTs in certain situations. This was approved by medical director and protocol committee on 1/25/23. Also added discussion of medical control of community paramedics. |

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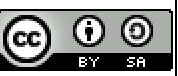
| CMH Pre-Hospital Services Mission: "*Provide safe, exceptional, and compassionate care to our communities with an emphasis on highly trained and empowered staff*." | CMH Mobile Integrated Healthcare Mission: "*Provide exceptional, compassionate, and patient-centered care by a mobile collaborative team to improve patient experience, improve quality outcomes, and reduce healthcare costs*." | |
|---|---|---|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# Guideline 1-400-72 - Communications: Patient Handoff Report

**CMH EMS & MIH Protocols**

## Scope:

| License | Volunteer | Career | CMH |
|---|---|---|---|
| EMD | NA | No | NA |
| EMR | No | No | NA |
| EMT | No | No | Yes |
| AEMT | No | No | Yes |
| RN | No | No | Yes |
| Medic | No | No | Yes |
| CP | No | No | Yes |

## Guideline:

Pre-arrival patient reports should be given to emergency rooms and other facilities receiving patients.

## Purpose:

To provide guidelines for ESO Alerting and radio reports.

## Procedure:

I. If transporting a patient to a facility, a pre-arrival report should be given.
   A. If the transport is a result of a transfer, a report has already been given via doctor-to-doctor, nurse-to-nurse, or other, however, an ambulance heads-up on ETA and any patient changes is polite to the receiving facility.
      1. The transfer pre-arrival report should be done by telephone.
   B. If the transport destination is an emergency room, make all efforts to provide a pre-arrival patient report at least a ten (10) minutes prior to arrival.
      1. Best practice is to create a case in the **ESO Alerting** app for every patient transport. If the destination hospital does not use ESO Alerting, select "Non Transport" as the destination. Use the information you entered to formulate your radio report and then import into ESO EHR.

2. If the destination is CMH ER and time, patient condition, or other factors do not allow the use of ESO Alerting, contact should be made via the encrypted radio channel "**CMH ER Reporting**."
3. If the destination is not CMH ER and not a facility that uses ESO Alerting, contact should be made via the analog, unencrypted radio channel "**VMed28 HEAR**."
4. Another option, but should be rarely used and only as a last resort, is by telephone.

II. **ESO Alerting** procedure:
  A. Mobile devices in ambulances or personal devices may be used. No patient information is stored at any time on the device.
    1. iPads in ambulances may be logged in using "device number" + ".cmhems" (for example "12345.cmhems").
    2. Each employee has a login using "username" + ".cmhems" (for example "flast.cmhems").
    3. The agency code is "cmhems."
    4. The unit number should be "CMH" + short number (for example "CMH 1"). Do not include the full number (i.e. 701 is 1). Do not include "Ops," "Medic," or "Squad."
  B. Assume fields are NOT mandatory until the app tells you they are.
  C. **All hospitals request EMS to OVER TRIAGE (i.e. If your patient *might* be a TRAUMA, STEMI, or STROKE pick the appropriate TCD).**
  D. Enter the basics required for a typical radio report and add anything extra you would like.
  E. Photos of injuries or videos of assessments can be added at any time and are appreciated by ER staff. However, if you are transporting to CMH ER and want to include the ECG, only transmit via the LifePak modem through LifeNet. Do not include a photo of the ECG in ESO Alerting for CMH ER. Non-CMH destinations will need the ECG.
  F. The last page has a required field of "Case Priority." Options are 1, 2, or 3. Think of these like Red, Yellow, or Green.

| Priority 1 (Red): If you are going lights and siren to the ER or this is a TCD patient, select 1 (red). | Priority 2 (Yellow): All patients that do not meet criteria 1 or 3 are 2 (yellow). | Priority 3 (Green): If this patient is appropriate for triage, select 3 (green). |
|---|---|---|

  G. Keep the app open to be notified when the ER opens your report and if they send you any messages.
  H. Estimated Time of Arrival (ETA) is provided by the device's internal GPS. If prompted, select "Always Allow Location Permission."
  I. To import into EHR, open the Flowchart tab in EHR and click "Import."
  J. Nearby hospitals currently using ESO Alerting:

| | | |
|---|---|---|
| ▪ CMH | ▪ Cox Branson<br>▪ Cox North<br>▪ Cox South | ▪ Mercy Springfield |

  K. Fields that import into EHR from Alerting:

| | | |
|---|---|---|
| ▪ Patient name<br>▪ DOB<br>▪ Age<br>▪ Gender | ▪ AVPU<br>▪ GCS<br>▪ Vitals | ▪ Activation type<br>▪ Medications given<br>▪ Procedures performed<br>▪ Destination hospital |

III. **CMH ER Reporting** radio channel procedure:
  A. Follow the procedure below for VMed28-HEAR radio, however, patient identifying information may be provided, if needed.

IV. **VMed28 HEAR** radio channel procedure:
  A. Identify your unit and the destination hospital.

B. Allow the receiving ER time here to divert you, if they are on diversion. All requests for diversion should be made clearly and should be repeated (i.e. "Medic 1 copies Hospital XYZ that we are being diverted."). Diversions shall be documented in EHR.
C. Identify your patient by approximate age and gender.
D. Identify the type of patient condition (medical or trauma) and the triage color code (see color codes in ESO Alerting section above).
E. Report your patient's chief complaint or problem along with relevant history and the findings of assessment and exam.
F. Report the patient's vital signs.
G. Report medications and treatments provided and the results of those treatments.
H. Provide an approximate ETA.
I. If physician's orders are provided, repeat back those orders.

V. **Face-to-Face** handoff procedure:
A. Patient handoff in the field (i.e. rescue services to transporting ambulance or ground ambulance to air ambulance) shall be conducted from the current lead provider to the provider assuming care with as little distractions as possible and face-to-face. For example, let others move the patient while verbal handoff is taking place a few steps away.
B. Patient handoff in the emergency room shall be conducted with the receiving nursing staff with as little distractions as possible and face-to-face. Additionally, EMS crews shall make every effort to seek out the Mid-Level Provider or Physician taking responsibility for the patient and provide a high-level report directly to him or her.

## Change Log:

| Date | Link to previous version | Description of change |
|---|---|---|
| 06/05/21 | pdf | Moved to emsprotocols.online |
| 09/14/21 | pdf | Created this guideline from ESO Alerting training document and CMH policy PHS01-14 (Radio Report). |
| 04/27/23 | pdf | Added face-to-face report section that includes providing a high-level report directly to the ER provider as per Dr. Butvilas request on 3/30/2023. |

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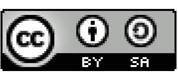
|---|---|---|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# Guideline 1-450 - EMS Leadership

**CMH EMS & MIH Protocols**

## Scope:

| License | Volunteer | Career | CMH |
|---|---|---|---|
| **EMD** | NA | No | NA |
| **EMR** | No | No | NA |
| **EMT** | No | No | Yes |
| **AEMT** | No | No | Yes |
| **RN** | No | No | Yes |
| **Medic** | No | No | Yes |
| **CP** | No | No | Yes |

## Guideline:

CMH PHS leaders shall be utilized to improve safety, quality of care, and efficiency while deploying ambulances and managing emergency medical resources.

## Purpose:

The purpose of this guideline is to provide support to leaders and staff to formally communicate resources and processes for EMS leadership.

## Procedure:

I. CMH EMS Chain of Command:
   A. Medical Director
   B. Pre-Hospital Director
   C. Clinical Chief
   D. Managers
   E. Supervisors
   F. Crew Leaders
   G. Community Paramedics (ALS FTOs have seniority)
   H. Paramedics (ALS FTOs have seniority)
   I. Registered Nurses (ALS FTOs have seniority)
   J. Advanced EMTs (FTOs have seniority)

K. EMTs (FTOs have seniority)
L. Drivers
M. New hires
N. Students and all other riders

II. Crew Leader recommended duties:

A. The Crew Leader position is intended to serve as field supervisor to coordinate ambulance operations and support emergency and non-emergency responses in all four counties.
B. Be involved and dedicated to improving the service you work for and your profession.
C. Have an in-depth knowledge of all EMS policies, guidelines, and protocols.
D. Maintain situational awareness via all communication tools available (radio, Slack, vehicle tracking, etc.). Refer to Links Page for a list of online resources.
E. Make decisions at the lowest possible level. Be Empowered and "Just-Fix-It."
F. Demonstrate good clinical and professional behaviors. Enforce those behaviors when deviations witnessed. Escalate as needed to include appropriate management staff.
G. Complete Just Culture training and utilize Just Culture decision-making.
H. Ensure ESO documentation reviews are caught up. Refer to Guideline 1-450-33 - Documentation Reviewer Reference Sheet.
I. Touch base with EMS leadership, if available and appropriate at the beginning of shift.
J. Contact the appropriate dispatch centers when available.
K. Be the point of contact for dispatch to coordinate transfers and make transfer decisions.
L. Crew Leaders are expected to float between all counties, as appropriate, and are not in any dispatch call rotation.
M. It is up to Crew Leaders to pick up calls when status zero or other issues when an additional response is needed. Refer to Guideline 1-200 - Ambulance Dispatch for a list of call types where an EMS Supervisor and/or an additional ALS ambulance might be needed.
N. Support staff, as available, with Echo-level, multiple patients, RSI situations, and other situations you feel you are needed.
O. Facilitate implementation of hold-over guideline for all crews, including yourself, as needed.
P. Daily activities:
    1. Walk station and grounds. Fix or report any issues.
    2. Follow up on daily cleaning chores to make sure being done.
    3. Conduct staff huddles and report any issues or concerns to supervisor or manager.
    4. Check and correct mileage on Orbcomm when ambulance comes back from Fleet.
    5. Monitor ESO for ensure trip tickes are being completed timely.
    6. Monitor ambulance locations.
    7. Monitor radio traffic and Slack for ambulance status levels in all counties.
Q. Weekly activities:
    1. Complete ambulance mileage report on F: drive.
    2. Check oxygen quantities on hand.
    3. Obtain and forward missed call report from dispatch center.
    4. Check biohazard box and call for pickup when needed.
    5. Monitor restock supplies.
    6. Collect and forward receipts and invoices to manager.

7. Check narcotic boxes and log sheets.
8. Check RSI kits.
9. Ensure daily run logs are completed.

III. Supervisor recommended duties (in addition to Crew Leader above):

A. Ensure ESO clinical reviews are caught up. Refer to Guideline 1-800-33 - Clinical Reviewer Reference Sheet. Refer to Guideline 1-800 - Quality Improvement to determine which charts need reviewed.

## Change Log:

| Date | Link to previous version | Description of change |
|---|---|---|
| 04/04/20 | | Created placeholder for future content. |
| 04/15/20 | | Added content from Crew Leader Expectations developed in the 4/1/20 Manager Meeting. |
| 05/27/20 | | Added link to Clinical reviewers reference sheet. |
| 10/07/20 | | Renamed all policies to guidelines. |
| 02/26/21 | pdf | Added content from unofficial guidelines from Tom Ryan 8/14/20 and Neal Taylor 3/15/19. |
| 06/05/21 | pdf | Moved to emsprotocols.online |
| 04/27/23 | pdf | Changed from Ambulance Leadership to EMS Leadership. Expanded chain of command to include all levels. |

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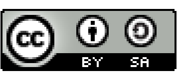
| CMH Pre-Hospital Services Mission: "*Provide safe, exceptional, and compassionate care to our communities with an emphasis on highly trained and empowered staff*." | CMH Mobile Integrated Healthcare Mission: "*Provide exceptional, compassionate, and patient-centered care by a mobile collaborative team to improve patient experience, improve quality outcomes, and reduce healthcare costs*." | |
|---|---|---|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# Guideline 1-450-33 - Documentation Reviews

**CMH EMS & MIH Protocols**

## Scope:

| License | Volunteer | Career | CMH |
|---|---|---|---|
| EMD | NA | No | NA |
| EMR | Yes | Yes | NA |
| EMT | Yes | Yes | Yes |
| AEMT | Yes | Yes | Yes |
| RN | Yes | Yes | Yes |
| Medic | Yes | Yes | Yes |
| CP | Yes | Yes | Yes |

## Guideline:

## Purpose:

## Procedure:

Refer to Guideline 1-700-33 - Documenter Reference Sheet for reference and definitions.

**Reviewers should look for**:

- LifePak download attached?
- Facesheet and other scans attached?
- **Incident tab**:
  - Incident number formatted correctly?
  - Emergent vs. Non-Emergent accurate?
  - EMD complaint and EMD Code correct? Only if EMD was used should a code be entered?
  - Responding from correctly indicates the station they were assigned and aligns with run number?
  - "Transport Due To" correct?
    - Should be "Closest Facility" unless clinical needs made it "Protocol."
    - If "Patient Choice," is there a refusal signature?
  - Receiving facility chart number correct?
  - Mileage looks appropriate?

- **Patient tab**:
  - Complete history included?
- **Vitals tab**:
  - Complete set of vital signs?
- **Flowchart tab**:
  - If ALS provider on the crew, is "ALS Assessment" in flowchart?
- **Assessments tab**:
  - Laterality documented and consistent?
  - All treatments provided supported by assessment findings?

- **Narrative tab**:
  - If anything is marked UTO, has it been explained?
  - Narrative includes complete DRAATT information?
  - Lab value interpretations listed?
  - If transfer, details of hospital visit and reason for transfer included?
  - If PRC, reading the Miranda out loud documented?
  - If PRC, referral documented?
- **Forms tab**:
  - Appropriate forms been filled out?
    - Acute Coronary Sydrome?
    - Obstetrical?
    - Spinal Immobilization Screening Tool?
    - RACE Stroke Scale
    - Sepsis Screening
    - BEFAST Stroke Scale
- **Billing tab**:
  - CMS Service Level correct?
    - If ALS1 or ALS2, is "ALS Assessment" in the flowchart?
    - Is Immediate vs. Non-Immediate selected correctly?
  - If PCS transfer, is Medical Necessity and Transport completed? (*Not just "higher level of care"*)
- **Signatures tab**:
  - Were all signatures obtained?

**Add feedback**:

- Be specific, positive, and give them the benefit of the doubt.

**Rating**:

| Rating | Can be approved for billing immediately? | Changes NEEDED? | Changes RECOMMENDED? |
|---|---|---|---|
| Poor | No | Several major | NA |
| Fair | No | Only a few major | NA |
| Good | Yes | Only a few major | or Several minor |
| Very Good | Yes | None | Only a few minor |
| Excellent | Yes | None | None |

**Send message**:

- Send message for review and/or fixing by the documenter: Include their manager as a recipient of the message. Consider adding their partner, too.
- Open EHR and "unlock" the chart if the documenter needs to make changes.

**Change status**:

- Mark "approved" only if all the above answers are "yes" and it is ready to send to billing.

**Send to clinical reviewer or peer counselors?**:

- If you feel there were serious deviations from protocol, standard of care, or other concern, switch to "clinical review" and assign it to a clinical reviewer or other appropriate leader. Also, please send a Slack or Cortext to let them know to look for it.
- If you feel this call might cause stress to the staff (i.e. pediatric, family member, major trauma, etc.), please send a Slack or Cortext to the appropriate peer counselor.

## Change Log:

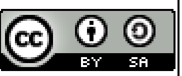
| Date | Link to previous version | Description of change |
|---|---|---|
| 04/22/20 | | Added this section with content from an internal reference document. |
| 10/07/20 | | Renumbered 1-450-01 to 1-450-33. Renamed all policies to guidelines. |
| 02/24/21 | pdf | Slight modification at the request of the Crew Leader group to the grading matrix. |
| 06/05/21 | pdf | Moved to emsprotocols.online |
| 09/29/21 | pdf | Added several comments Crew Leaders requested to assist in remembering to look for items during documentation review. |
| 02/25/22 | pdf | Changed billing terminology from emergency to immediate and added trigger comments for clinical review and peer counselors. |
| 05/27/22 | pdf | Added reminder clues for documentation reviewers to be looking for the added requirements as added to 1-700-33 recently. Specifically to include: Mileage, laterality, additional mandatory forms such as stroke and obstetrics, patient history, transfer details, refusal miranda and referral. Also removed requirement to use the anatomical tool to describe traumas. |

Return to Protocols Table of Contents.

Search protocols: Search

| CMH Pre-Hospital Services Mission: "*Provide safe, exceptional, and compassionate care to our communities with an emphasis on highly trained and empowered staff*." | CMH Mobile Integrated Healthcare Mission: "*Provide exceptional, compassionate, and patient-centered care by a mobile collaborative team to improve patient experience, improve quality outcomes, and reduce healthcare costs*." | |
|---|---|---|



|  | Polk, Hickory, Cedar, & St Clair County EMS Protocols by Theron Becker is licensed under a Creative Commons Attribution-ShareAlike 4.0 International License. |
|---|---|

# Guideline 1-450-66 - Rounding Form

**CMH EMS & MIH Protocols**

## Scope:

| License | Volunteer | Career | CMH |
|---|---|---|---|
| EMD | NA | No | NA |
| EMR | No | No | NA |
| EMT | No | No | Yes |
| AEMT | No | No | Yes |
| RN | No | No | Yes |
| Medic | No | No | Yes |
| CP | No | No | Yes |

## Guideline:

## Purpose:

## Procedure:

This form is to be used by Crew Leaders rounding on staff members. Once complete, forward the form to the appropriate manager for entry into MyRounding software.

**Demographic info:**

Staff member's name being rounded on:

Crew Leader's name:

Date rounding completed:

**Is there someone we can recognize for doing good?**

Name of person to be recognized:

Description of why they should be recognized:

**Do you have any questions or concerns we can address?**

Description of conversation:

**Follow-up (answered by Crew Leader):**

Description of what follow-ups need to happen (i.e. what needs to be passed up the chain or issues to add to the stoplight report):

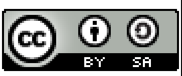
## Change Log:

| Date | Link to previous version | Description of change |
|---|---|---|
| 08/13/20 | | Developed this section as a tool for Crew Leaders. |
| 10/07/20 | | Renamed all policies to guidelines. |
| 06/05/21 | pdf | Moved to emsprotocols.online |

Return to Protocols Table of Contents.

Search protocols: Search

| CMH Pre-Hospital Services Mission: "*Provide safe, exceptional, and compassionate care to our communities with an emphasis on highly trained and empowered staff*." | CMH Mobile Integrated Healthcare Mission: "*Provide exceptional, compassionate, and patient-centered care by a mobile collaborative team to improve patient experience, improve quality outcomes, and reduce healthcare costs*." | |
|---|---|---|



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# Guideline 1-500 - EMS Education and Competency

**CMH EMS & MIH Protocols**

## Scope:

| License | Volunteer | Career | CMH |
|---|---|---|---|
| EMD | NA | Yes | NA |
| EMR | Yes | Yes | NA |
| EMT | Yes | Yes | No |
| AEMT | Yes | Yes | No |
| RN | Yes | Yes | No |
| Medic | Yes | Yes | No |
| CP | Yes | Yes | No |

## Guideline:

Each individual following these protocols shall be educated and demonstrate competence.

## Purpose:

The purpose of this guideline is to establish a process and standards for responders (non CMH-employees) to aquire education and maintain emergency medical competence.

**CMH Pre-Hospital employees are subject to Policy PHS01-37 - Ambulance Education and Competency.**

## Procedure:

A. General Requirements: Two tables below detail requirements for those responders and staff utilizing these protocols. The first table is for first responders and ambulance staff that are not employees of Citizens Memorial Hospital Pre-Hospital Services. The second table is for staff that are employed by CMH PHS.
B. Required Licenses: Refer to the tables below for the required licenses for each responder level. Each individual is responsible for maintaining licensures as listed.

C. Required Certifications: Refer to the tables below for the required certifications for each responder level. Each individual is responsible for obtaining and maintaining certifications as listed.

D. Required Competence: Each year, a list of competency requirements will be compiled from input from Quality Program, MEDICAL CONTROL, staff, dispatch agencies, and first responder agencies.

1. Required Annual Competence: Life support competency opportunities will be available throughout the year (typically every month on the second Tuesday). Successful completion of the Life Support Competency is equivalent to a refresher certification in AHA BLS, ACLS, and PALS (if the student already possesses an unexpired certificate). New AHA certification cards along with CEU certificates will be issued upon successful completion.
2. Required Triannual Competence: At least three times per year, an educational competency will be held. Competencies will routinely be comprised of different topics offered throughout the year. Additional classroom and/or skill competencies may be required based on community and professional development needs. Competency schedule will be posted and announced at least 30 days ahead. Typically, one competency topic per trimester. Refer to Education Manual Section 2-720 - Generic Education Calendar for schedules and announcement flyers. Agencies may deliver the competency locally with the approval of CMH PHS. CMH PHS will offer each topic at least five times over a two-week period to allow participation. CEU certificates will be issued upon successful completion.
3. Required Monthly Competence: Each month, a protocol quiz is available to familiarize responders and staff with current protocols. Refer to Monthly Protocol Competency Quizzes for the list of links to find all quizzes available for the year. Completion of each month's protocol quiz is only valid if completed within the given month (i.e. after the first day and before the last day of the month). Quizzes are open-book and may be taken as many times as necessary to obtain a passing score of at least 80%. CEU certificates will be issued upon successful completion.

E. Recordkeeping: It is the responsibility of each agency to maintain records demonstrating each responder meets these requirements.

| Level | Required Licenses | Required Certifications | Required Competence |
|---|---|---|---|
| EMD | • None. | • EMD certification.<br>• AHA Basic Life Support (BLS) certification or equivalent. | • Annual: EMDs may, but are not required, to attend life support competencies. Maintaining AHA BLS certification is sufficient.<br>• Triannual: Annually, each EMD shall attend and successfully complete **100%** of the offered topics that year.<br>• Monthly: Annually, each EMD shall successfully complete |

| | | | |
|---|---|---|---|
| | | | **100%** of the offered protocol quizzes. |
| EMR (volunteer) | • None. | • EMR certification.<br>• AHA Basic Life Support (BLS) certification or equivalent. | • Annual: Same as EMD.<br>• Triannual: Annually, each volunteer EMR shall attend and successfully complete **33%** of the offered topics that year.<br>• Monthly: Annually, each volunteer EMR shall successfully complete **33%** of the offered protocol quizzes. |
| EMR (career) | • None. | • EMR certification.<br>• AHA Basic Life Support (BLS) certification or equivalent. | • Same as EMD. |
| EMT (volunteer) | • State of Missouri Emergency Medical Technician (EMT) License. | • AHA Basic Life Support (BLS) certification or equivalent. | • Annual: Volunteer EMTs who are not employed by CMH PHS may, but are not required, to attend life support competencies. Maintaining AHA BLS certification is sufficient.<br>• Triannual: Annually, each volunteer EMT shall attend and successfully complete **66%** of the offered topics that year.<br>• Monthly: Annually, each volunteer EMT shall successfully complete **66%** of the offered protocol quizzes. |
| EMT (career) | • State of Missouri Emergency Medical Technician (EMT) License. | • Same as volunteer EMT. | • Same as career EMR. |

| | | | |
|---|---|---|---|
| AEMT (volunteer) | • State of Missouri Advanced Emergency Medical Technician (AEMT) License. | • Same as career EMT. | • Same as volunteer EMT. |
| AEMT (career) | • State of Missouri Advanced Emergency Medical Technician (AEMT) License. | • Same as volunteer AEMT. | • Same as career EMT. |
| RN | • State of Missouri Registered Nurse (RN) License. | • Same as career AEMT plus...<br>• AHA Advanced Cardiac Life Support (ACLS) certification or equivalent.<br>• AHA Pediatric Advanced Life Support (PALS) certification or equivalent. | • Annual: RNs who are not employed by CMH PHS may, but are not required, to attend life support competencies. Maintaining AHA BLS, ACLS, and PALS certifications is sufficient.<br>• Triannual: Same as career AEMT.<br>• Monthly: Same as career AEMT. |
| Medic | • State of Missouri Paramedic License. | • Same as RN. | • Same as RN. |

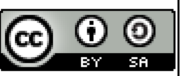
## Change Log:

| Date | Link to previous version | Description of change |
|---|---|---|
| 12/13/13 | pdf | Added National Scope of Practice graphic. |
| 01/29/14 | | Coordinated protocol with CMH policies. |
| 12/12/14 | pdf | Removed quarterly since we usually have five Competencies annually instead of four. |
| 03/31/15 | | Added competency requirements for EMR (1 competency). Added volunteer EMT requirements (2 Competencies). Modified career EMT requirements (4 Competencies). Clarified Paramedic requirements (all Competencies). |
| 09/16/15 | pdf | Added requirements for annual RSI skill scenarios and anesthesia intubations. |
| 01/18/16 | pdf | Added comment about RN/paramedics working as volunteer BLS first responder agency. |
| 01/28/16 | pdf | Added option for CRNA to verify intubations instead of just an anethesiologist. |
| 07/12/16 | | Removed requirement for intbuations. |
| 07/29/16 | | Removed statement that each competency will be held in each county. |
| 11/11/17 | pdf | Updated competency schedule. |
| 07/23/19 | pdf | Modifiedclarified requirements for individuals to attend competencies. |
| 04/04/20 | pdf | Added content from old Section 6-030 - CompetenciesEducation. Added requirement for EMDs to complete competencies. |
| 10/07/20 | | Renamed all policies to guidelines. |
| 01/15/21 | pdf | Updated requirements based on conversation with Dr. Nicholes regarding increasing competency requirements for CMH PHS employees. |
| 01/19/21 | pdf | Added licensure and certification requirements per conversation with Dr. Nicholes. |
| 01/26/21 | pdf | No change to content. Rearranged format from grouped by type of requirement to being grouped by type of responder. |
| 06/05/21 | pdf | Moved to emsprotocols.online |
| 09/29/21 | pdf | Condensed document to make it easier to read. Added requirement for NIHSS certification. |
| 02/08/22 | pdf | Moved employee requirements to Policy PHS01-37. |

Return to Protocols Table of Contents.

Search protocols: [ ] Search

| CMH Pre-Hospital Services Mission: "*Provide safe, exceptional, and compassionate care to our communities with an emphasis on highly trained and empowered staff*." | CMH Mobile Integrated Healthcare Mission: "*Provide exceptional, compassionate, and patient-centered care by a mobile collaborative team to improve patient experience, improve quality outcomes, and reduce healthcare costs*." | |
|---|---|---|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# Guideline 1-600 - Employee Safety

**CMH EMS & MIH Protocols**

## Scope:

| License | Volunteer | Career | CMH |
|---|---|---|---|
| EMD | NA | Yes | NA |
| EMR | Yes | Yes | NA |
| EMT | Yes | Yes | Yes |
| AEMT | Yes | Yes | Yes |
| RN | Yes | Yes | Yes |
| Medic | Yes | Yes | Yes |
| CP | Yes | Yes | Yes |

## Guideline:

## Purpose:

## Procedure:

## EMD:

- 

## EMR:

- 

## EMT:

- Ensure completion of applicable EMR items above.
- 

## AEMT:

- Ensure completion of applicable EMT items above.
-

# RN

# Medic:

- Ensure completion of all applicable BLS items above.
-

**FUTURE REVISION**: Need to add content from PolicyStat.

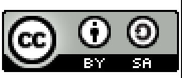
# Change Log:

| Date | Link to previous version | Description of change |
|---|---|---|
| 04/04/20 | | Created placeholder for future content. |
| 10/07/20 | | Renamed all policies to guidelines. |
| 06/05/21 | pdf | Moved to emsprotocols.online |

Return to Protocols Table of Contents.

Search protocols: Search

| CMH Pre-Hospital Services Mission: "*Provide safe, exceptional, and compassionate care to our communities with an emphasis on highly trained and empowered staff.*" | CMH Mobile Integrated Healthcare Mission: "*Provide exceptional, compassionate, and patient-centered care by a mobile collaborative team to improve patient experience, improve quality outcomes, and reduce healthcare costs.*" | |
|---|---|---|

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# Guideline 1-600-50 - RETIRED

**CMH EMS & MIH Protocols**

## Scope:

| License | Volunteer | Career | CMH |
|---|---|---|---|
| EMD | NA | No | NA |
| EMR | No | No | NA |
| EMT | No | No | Yes |
| AEMT | No | No | Yes |
| RN | No | No | Yes |
| Medic | No | No | Yes |
| CP | No | No | Yes |

## Guideline:

## Purpose:

## Procedure:

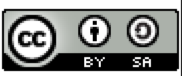
## Change Log:

| Date | Link to previous version | Description of change |
| --- | --- | --- |
| 06/05/21 | pdf | Moved to emsprotocols.online |
| 09/12/22 | pdf | Retired this guideline. It had no contents and is covered by policies. |

Return to Protocols Table of Contents.

Search protocols: Search

| CMH Pre-Hospital Services Mission: "*Provide safe, exceptional, and compassionate care to our communities with an emphasis on highly trained and empowered staff*." | CMH Mobile Integrated Healthcare Mission: "*Provide exceptional, compassionate, and patient-centered care by a mobile collaborative team to improve patient experience, improve quality outcomes, and reduce healthcare costs*." | |
|---|---|---|



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# Guideline 1-700 - EMS Operations

**CMH EMS & MIH Protocols**

## Scope:

| License | Volunteer | Career | CMH |
|---|---|---|---|
| **EMD** | NA | Yes | NA |
| **EMR** | Yes | Yes | NA |
| **EMT** | Yes | Yes | Yes |
| **AEMT** | Yes | Yes | Yes |
| **RN** | Yes | Yes | Yes |
| **Medic** | Yes | Yes | Yes |
| **CP** | Yes | Yes | Yes |

## Guideline:

Ambulances shall operate and function efficiently to provide safe and exceptional patient care.

## Purpose:

The purpose of this guideline is to outline procedures to be used to improve safety and efficency in ambulance operations.

# Procedure:

I. First responder personnel will assume patient care from initial patient contact until face-to-face verbal report given to transporting ambulance crew.
   A. Verbal report shall include, but not limited to: Patient history, current status, and treatments provided. Refer to Guideline 1-400-72 - Patient Handoff Report.
   B. Available documentation should also be transferred (i.e. ECGs, patient information, etc.).

II. Ambulance personnel should acknowledge within 60 seconds of call notification. The responding ambulance is expected to be en route within 60 seconds of call notification on priority 1 and priority 2 calls.

III. Ambulance personnel will assume patient care from initial patient contact or face-to-face verbal report from on-scene medical personnel until face-to-face verbal report given to flight crew or receiving facility.

IV. In a multi-patient incident, ambulance personnel will continue patient care until care can be transferred to appropriate in-coming ambulance with face-to-face verbal report.

V. In the event of mechanical difficulty or other situation requiring transferring a patient to another ambulance, CMH crew may maintain patient care in the new ambulance (even if the new ambulance is not a CMH ambulance).

VI. **While ON duty**, AEMTs, RNs, Paramedics, and Community Paramedic may provide **Advanced Life Support** according to these protocols if the following conditions are met:
   1. The ALS-provider is currently licensed in the state of Missouri AND
   2. The agency the provider is officially responding with is a currently licensed Emergency Medical Response Agency (EMRA) or ALS-level Ambulance Service with MO BEMS.

VII. **While OFF duty**, EMTs, AEMTs, RNs, Paramedics, and Community Paramedics currently employed with an agency that has adopted these protocols may provide **Basic Life Support** following to these protocols.
   A. Ensure 9-1-1 is contacted and an ambulance is responding as appropriate.

VIII. **While OFF duty**, AEMTs, RNs, Paramedics, and Community Paramedics may provide **Advanced Life Support** according to these protocols if the following conditions are met:
   1. Ensure 9-1-1 is contacted and an ambulance is responding as appropriate,
   2. All provisions allowing on-duty ALS care must also be met,
   3. A CMH ambulance must be the transporting unit, AND
   4. The ALS care rendered must be within the scope of practice of the on-duty CMH provider taking patient care (OR the off-duty ALS provider must be the ambulance attendent during transport).

IX. **Ambulance crew documentation**: Refer to Guideline 1-700-33 - Documenter Reference Sheet.

## Change Log:

| Date | Link to previous version | Description of change |
|---|---|---|
| 10/04/13 | pdf | Added BLS section for EMT maintaining care in new ambulance after breakdown. Specified EMT/Medic maintains care even if new ambulance is not CMH. |
| 11/11/13 | | Changed should maintain pt care to may maintain pt care. |
| 12/12/14 | pdf | Removed Blood Draw. |
| 04/03/15 | pdf | Clarified the application of Section 6-100 (Off-Duty Protocols) on non-CMH employees. |
| 04/04/20 | pdf | Added content (without substantive modification) from old Section 6-120 - Transfer of Care. |
| 04/04/20 | pdf | Added content (without substantive modification) from old Section 6-100 - Off-Duty Protocols. |
| 10/07/20 | | Renamed all policies to guidelines. |
| 02/26/21 | pdf | Added content from 1-300 (Emergency Operations) and deleted 1-300. |
| 02/26/21 | pdf | Renamed from General Operations to Ambulance Operations. Moved standby dispatching info to 1-200-24. Moved IDLH standby info to 1-700-60. |
| 02/26/21 | | Added reaction and response time requirements from Policy PHS01-35 (Ambulance Dispatch). |
| 06/05/21 | pdf | Moved to emsprotocols.online |
| 03/14/23 | pdf | Clarified ALS providers can also be responding with an EMRA, not just an ambulance service. Also, removed references to EMH. Approved by Dr. Butvilas and protocol committee on 1/25/2023. |

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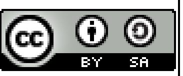
| CMH Pre-Hospital Services Mission: "*Provide safe, exceptional, and compassionate care to our communities with an emphasis on highly trained and empowered staff*." | CMH Mobile Integrated Healthcare Mission: "*Provide exceptional, compassionate, and patient-centered care by a mobile collaborative team to improve patient experience, improve quality outcomes, and reduce healthcare costs*." | |
|---|---|---|



|  | Polk, Hickory, Cedar, & St Clair County EMS Protocols by Theron Becker is licensed under a Creative Commons Attribution-ShareAlike 4.0 International License. |
|---|---|

# Guideline 1-700-33 - Patient Care Documentation

**CMH EMS & MIH Protocols**

## Scope:

| License | Volunteer | Career | CMH |
|---|---|---|---|
| **EMD** | NA | No | NA |
| **EMR** | Yes | Yes | NA |
| **EMT** | Yes | Yes | Yes |
| **AEMT** | Yes | Yes | Yes |
| **RN** | Yes | Yes | Yes |
| **Medic** | Yes | Yes | Yes |
| **CP** | Yes | Yes | Yes |

## Guideline:

## Purpose:

## Procedure:

An ePCR must be completed for every EMS response (regardless of patient contact or transport status).

All PCRs shall be completed, faxed, and exported prior to end of shift unless approved by supervisor.

Appropriate documentation must be completed for each MIH encounter.

### Suggested workflow:

- **Update mobile**: At the beginning of every shift, enter your credentials and click "update."
- **Lock your chart**: After writing your chart in Mobile, "Lock" it by clicking the checkmark in the top right.
- **Sync records on the dashboard**: The chart will no longer be accessible from Mobile. You can "sync" at any time to work on your chart on ESOsuite.net.

- Both "lock" and "sync" are required to finish your chart.

## Incident tab:

- **Response**:
    - Each responding ambulance needs it's own "incident number." If multiple patients per ambulance, add "A", "B", etc. to "run number."
    - **Incident Number** configuration: 20X1234. "20" is the year. "X" is the station identifier:
        - | **B** = Bolivar | **H** = Hermitage | **S** = Stockton | **L** = Eldorado | **C** = Osceola |
          | --- | --- | --- | --- | --- |
    - **Run Type**:
        - Use "911 Response" if an on-duty ambulance was needed for the response.
        - Use "Medical Transport" or "Inter-Facility Transfer" if the scene location is at a hospital and the patient is under the care of a physician.
        - Use "Standby" if a standby or public relation event. Enter the name and address in the patient data area. Narrative should explain why the ambulance was needed at the event.
    - **Response Mode**:
        - If dispatched priority 1 or 2, select "Emergent."
        - If dispatched priority 3 or 4, select "Non-Emergent."
- **Disposition**:
    - **Disposition: Patient treated, transferred care to another EMS professional**: Includes intercept and flight crews. Select the receiving hospital as the destination so the facility will be able to get your documentation.
    - **Transport Due To**:
        - **Closest Facility**: Should be used as the default.
        - **Diversion**: If appropriate facility is on divert or diverted after giving radio report.
        - **Family Choice**: Similar to patient's choice, but patient unable to make decision.
        - **Insurance**: NOT USED.
        - **Law Enforcement**: NOT USED.
        - **On-Line / On-Scene Medical Direction**: Only used if transporting crew spoke directly with sending or receiving physician for orders.
        - **Other**: NOT USED.
        - **Patient's Choice**: Should only be used if patient refused closest facility AND facility recommended by protocol.
        - **Patient's Physician's Choice**: Patient being transferred by physician order.
        - **Protocol**: Should be used if closest facility was bypassed due to TCD.
        - **Regional Specialty Center**: Used in conjunction with a protocol or physician order.
        - **Cancelled**: Only if no patient contact was made.
- **Destination: Chart number**: From destination face sheet.
    - **General info**: Epic usually uses "CSN", Cerner usually uses "FIN", and Meditech uses "Account#."
    - **CMH**: Account number in top right of face sheet is "H" followed by 11 digits (i.e. H00001234567).
    - **Cox**: Patient number (PT NO) in top right of face sheet is 12-digit number (i.e. 123456789012).

  - **Mercy**: CSN number in top left of face sheet is 9-digit number (i.e. 123456789).
  - **St Luke's**: CSN number in the top right of face sheet is 5-digit number (i.e. 12345). CSN can also be found on bottom left under the barcode.
- **Times**:
  - **Call Closed**: This is the time back at the station. If another call, assignment, or errand is taken prior to returning to the station, the call closed time is the time that additional event is initiated. Examples: Dispatch time to a second call, arrival time on an MVA you drive up on, arrival time at a personal errand (if it will take more than a couple mintues) on your way back to the station.

**Patient tab: History:**

- Thoroughly complete this history section.
- Include only the previously diagnosed conditions, not the current condition (unless it has been previously diagnosed by a physician).
- Include smoking history with details of how much they currently smoke per day.

**Vitals tab:**

- A full set of vitals should be obtained on all patient contacts. Two full sets of vitals are preferred if patient contact is longer than 15 minutes. GCS and pain level are included in a full set of vitals.
- If 4-lead or 12-lead performed, at least one entry has ECG interpretation documented.

**Flowchart tab:**

- If a paramedic is present, add "ALS Assessment" and document findings on the Assessment tab.
- "BLS Assessment" is only required when COBRA form says BLS ambulance is required and if a paramedic is not present during the assessment. However, BLS Assessment can be added to any chart if one was completed.
- Include all interventions and assessments available (that were performed) in the selection lists.
- All assessment findings that require treatments available, must be listed with indications of whether they were successfully completed.

**Assessment tab:**

- All positive assessment findings must be listed.
- All treatments provided must coincide with an assessment finding indication as to why the treatment was needed.
- Double-check laterality. All assessment findings must indicate right- or left-sided must coincide with narrative and later documented findings of later assessments by other providers.

**Narrative tab:**

- **Injuried**: If fall, height of fall is number of feet between part of patient that struck an object and the object he/she struck. For example, a fall from standing striking their head might be five (5) feet.
- **Narrative**: Narrative should be a picture of how all the technical information from the rest of the chart played out on the call. Should be DRAATT format in chronological order with double space between each section for easier review:
    - **Dispatch**: All details provided from initial dispatch. Examples include, but not limited to:
        - Precise nature of call at time of dispatch.
        - Was it scheduled?
    - **Response**:How crew responded and any additional information provided while en route.
    - **Arrival**: All details of the scene leading up to patient contact. Examples include, but not limited to:
        - Scene size-up: What did you find?
        - Observations that affect MOI and/or NOI.
        - Location and position patient found.
        - What is your first general impression of patient?
    - **Assessment**: Initial patient presentation and assessment leading up to loading the patient for transport. Examples include, but not limited to:
        - Document and describe any immediate life threats.
        - Further expand on what was listed in the Assessment Tab with details of size, shape, specific location, color, odor, etc.
        - What did the patient tell you?
        - What is the patient’s baseline?
        - Does the patient have decision-making ability?
        - If the patient is pregnant, details of the pregnancy are required which include gestation or due date.
        - If the patient has a prior amputation, details of the amputation are required which include which body part and location of amputation.
        - If out-of-hospital transfer, the following details are required:
            - Why does the transfer need to go by ambulance.
            - Why does the transfer need to occur (what services are not available at the sending facility).
            - What was the specific reason they are at the sending facility (i.e. diagnosis).
            - Include short description of what was done for the patient at the sending facility.
        - Discussion on ECG findings and interpretation.
        - Discussion of lab values and interpretation. Coders are not able to interpret values. This includes examples such as (but not limited to):
            - Low SpO2 must be interpreted and documented as "hypoxic."
            - Low blood sugar must be interpreted and documented as "hypoglycemic."
            - High temperature must be interpreted and documented as "hyperthermic."
            - High capnometry with shark fin capnography must be interpreted and documented as "hypercarbic and obstructed."

- **Treatment**: All treatments performed and the patient's response. Include treatments indicated or considered but not performed and why.
- **Transport**: All details of patient reassessment and what happened during transport including patient hand-off to receiving provider. Examples include, but not limited to:
  - Detailed description of how moved to stretcher.
  - Clinical reason for destination or patient preference. If clinical, what was the clinical reason for that destination? *"Higher level of care" is not a clinical reason for transport. Be more specific.*
  - Describe any changes from earlier assessments.
  - Describe patient belongings and what did you do with them.

- **If PRC**: Should be highly detailed covering all bases. Examples include, but not limited to:
  - Does the patient have the ability to understand the ramifications of the decision to refuse care?
  - If the patient does not have decision-making capacity, who is the responsible party the patient is left in care of?
  - Discussed risks, etc. with family or other concerned party. Name of party.
  - Narrative of the discussion with the patient and others (including noting what the patient repeated back to you).
  - If the patient does not have decision-making capacity, list the physician's name who was consulted when you contacted medical control.
  - "Referral" to other care must be documented (i.e. POV to ER, walk-in clinic, follow-up with PCP, etc.).
  - Document the Refusal Miranda was read out-loud to the patient and/or caretaker. Refusal Miranda can be found here: Protocol 2-682 - Patient Refusal.

**Forms tab:**

- **Acute Coronary Syndrome Form** should be completed on all patients with chest discomfort, altered mental status, syncope, nausea, dizziness, or weakness.
- **Obstetrical Form** should be completed on all pregnant patients.
- **Spinal Immobilization Screening Tool Form** should be completed on all trauma or fall patients.
- **RACE Stroke Scale Form** should be completed on all patients with altered mental status, syncope, nausea, dizziness, or weakness.
- **Sepsis Screening Form** should be completed on all patients with altered mental status, fever, suspected infection, or weakness.
- **BEFAST Stroke Scale Form** should be completed on all patients with altered mental status, syncope, nausea, dizziness, or weakness.

**Billing tab:**

- **Details**:
  - **Response urgency definitions**:
    - **Immediate**: You responded "as quickly as possible to take the steps necessary to respond to the call." (i.e. you were dispatched priority 1 or 2).
    - **Non-Immediate**: "Omega" EMD codes and scheduled transfers and standbys - all other calls should be "emergency." (i.e. you were dispatched priority 3 or 4).
  - **CMS service level definitions**:
    - **ALS2**: The patient required and received:
      - At least three (3) separate administrations of one or more IV medications, OR
      - At least one (1) of the following procedures:
        - Defibrillation,
        - Cardioversion,
        - Pacing,
        - Intubation,
        - Surgical airway,
        - Chest decompression, OR
        - Intraosseous access.
    - **ALS1**: The patient required and received:
      - The complaint at the time of dispatch requires an ALS assessment and they received an ALS assessment. Refer to Protocol 2-924 - Universal Patient Care for the list of conditions requiring ALS. After the ALS assessment, the patient can be transported BLS (if appropriate) and still have a ALS1 CMS service level, OR
      - At least one ALS intervention. ALS interventions are defined by those that require an AEMT or Paramedic license to perform (with the exception of starting an IV and giving isotonic fluids).
    - **BLS**: Does not meet any of the conditions above. Only starting an IV and giving fluids does not make a patient ALS for billing purposes.
- **Transport**:
  - **Physician's Certification Statement (PCS)** should be checked "Yes" or "No" on all transfers.
  - **Reason for Transport** should be completed on all transfers. The reason must correspond with narrative and cannot only be for "higher level of care."
  - **Reason for Transport Comments** should reference comments in the narrative tab.

**Signatures tab:**

- **Billing Authorization**: Start with section I and only move onto the next section if you are unable to complete the previous section.
    - **Section I**: Patient signature is required for assessment and treatment.
    - **Section II**: If patient is unable to sign, is there a responsible party that makes decisions for the patient (i.e. facility staff or parent). Responders and EMS should NOT be signing here.
    - **Section III**: If patient is unable to sign AND no responsible party is present, obtain EMS and facility signatures.
- **Standard Signatures**: Complete ALL the appropriate sections.
    - **Provider Signatures**: Obtain signatures from everyone assigned to the ambulance on that shift.
    - **Facility Signatures**: Obtain signature from the provider taking over patient care (including flight crew). If signature cannot be obtained, type the agency name and provider name and sign "via xxxx" where "xxxx" is your signature.
    - **Refusal**:
        - This is required for all refusals including refusing all care, a specific treatment, or transport to recommended facility.
        - Witness signature is required.
    - **PCS**: This section is not required if a hard copy of the PCS is obtained from the facility.
- **Custom Documents**: Complete ALL the appropriate sections.
    - **Controlled Substances**: Sign and obtain witness signatures if controlled substances are accessed.

**Scanning hard-copy forms:**

- All hard-copy forms shall be scanned and attached to the EHR. This includes PCS forms, face sheets, etc. The process to scan attach is:
    1. Place forms on copier.
    2. Button-presses may vary from copier to copier:
        - The Bolivar variation is: Scan - Scan to Network Folder - Scan_Doc - Scan
        - The Stockton variation is: Send - Address Book - Circle - "ESO_SCAN" - OK - OK - Start
    3. Open ESO
    4. Hamburger Menu
    5. Attachments
    6. Add Attachment
    7. Browse
    8. Files should be located here: F:/Depts/Pre-Hospita/Scan_Doc then the name of the location you scanned to.

## Other reference sheets:

Refer to Guideline 1-450-33 - Documentation Reviewer Reference Sheet for info on how your charts will be reviewed prior to sending to Billing.

Refer to Guideline 1-800-33 - Clinical Reviewer Reference Sheet for info on how your charts will be reviewed for clinical competence.

# Change Log:

| Date | Link to previous version | Description of change |
|---|---|---|
| 04/22/20 | | Added this section with content from an internal reference document. |
| 05/27/20 | | Added DRATT narrative guidance. |
| 07/10/20 | | Added clarification on how to document when intercepting with aircraftother EMS unit. |
| 10/07/20 | | Renumbered 1-700-01 to 1-700-33. Renamed all policies to guidelines. |
| 10/29/20 | pdf | Added commentsclarifications as requested by Crew Leaders doing documentation reviews. |
| 11/06/20 | pdf | Added St Lukes HDE patient number per email from Jessica Giacone (Trauma Outreach Coordinator). |
| 12/16/20 | pdf | Added clarification to disposition and transport due to. |
| 12/23/20 | pdf | Added ECG interpretation requirements. |
| 06/06/21 | pdf | Moved to emsprotocols.online |
| 09/29/21 | pdf | Added comments and clarifications from Crew Leader and Manager meetings to include: run type definitions, fall from height definition, and steps to scan hard-copies. |
| 02/25/22 | pdf | Added definition of call closed time (back at the station). |
| 05/27/22 | pdf | Several additions after recent meetings with coding, billing, and documentation review teams. Call end time is back at station time. History section should only include diagnosed conditions and smoking history with details. Higher level of care is not enough to justify a transfer. Lab values must include interpretations. Documentation of reading PRC miranda with link to that document. Referral to further medical care must be documented. OB form must be completed on all pregnant patients. Several other forms are now also mandatory for certain patient conditions. Full set of vitals are required here as well as Universal Patient Care protocol. Laterality discussed. Amputation descriptions now needed. Several details for transfers added. |
| 06/06/22 | pdf | Minor terminology change on definition of interfacility transfer. |
| 04/27/23 | | Added bland requirement for MIH documentation. More details to follow. |

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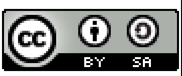
| CMH Pre-Hospital Services Mission: "*Provide safe, exceptional, and compassionate care to our communities with an emphasis on highly trained and empowered staff*." | CMH Mobile Integrated Healthcare Mission: "*Provide exceptional, compassionate, and patient-centered care by a mobile collaborative team to improve patient experience, improve quality outcomes, and reduce healthcare costs*." | |
|---|---|---|


|  | Polk, Hickory, Cedar, & St Clair County EMS Protocols by Theron Becker is licensed under a Creative Commons Attribution-ShareAlike 4.0 International License. |
|---|---|

# Guideline 1-700-60 - Hazardous Atmosphere Standby

**CMH EMS & MIH Protocols**

## Scope:

| License | Volunteer | Career | CMH |
|---|---|---|---|
| **EMD** | NA | No | NA |
| **EMR** | No | No | NA |
| **EMT** | No | No | Yes |
| **AEMT** | No | No | Yes |
| **RN** | No | No | Yes |
| **Medic** | No | No | Yes |
| **CP** | No | No | Yes |

## Guideline:

Ambulances may be utilized on the scene where emergency personnel are engaged in highly dangerous activities.

## Purpose:

The purpose of this guideline is to outline procedures to be used when an ambulance is requested to stand by in the event of emergency responders operating in an Immediately Dangerous to Life and Health (IDLH) atmosphere.

# Procedure:

I. Non-dedicated ambulance may be requested by any public safety agency engaged in operations deemed Immediately Dangerous to Life and Health (IDLH). Examples include, but are not limited to: Structure fires, hazardous materials, clandestine drug labs, etc.
II. If Incident Commander requests ambulance to be dedicated and remain on the scene, contact the supervisor or Crew Leader.
III. Once on scene, check in with the Staging Officer or Incident Commander.
IV. Park the ambulance in a manner to allow view of the scene from a distance but always have the ability to leave the scene in an expedient manner.
V. Ambulance crew duties are to care for civilians, bystanders, and/or responders that require treatment and/or transport for an injury or illness.
VI. Due to possible contamination, firefighters shall not be placed in an ambulance for cooling/warming unless they require treatment and/or transport for injuries or illnesses.
VII. **Persons with smoke inhalation**: Refer to Protocol 2-352 - Exposure: Cyanide.
VIII. Rehab of responders, baseline vitals, hydration, etc. shall preferably be conducted by fire department and/or emergency management personnel. **"Assistance" with rehab duties as assigned within fire department policies which may include**:
    A. Encourage removal of PPE, rest, passive cooling, and oral hydration.
    B. Prior to returning to activity, obtain and record vitals. If vitals are outside the limits below, **suggest** further rest.
        1. SBP greater than 200.
        2. Pulse greater than 110.
        3. Respirations greater than 40.
        4. Temperature greater than 101.
        5. PulseOx less than 90%.

# Change Log:

| Date | Link to previous version | Description of change |
|---|---|---|
| 02/26/21 | | Created this guideline with content from 1-700 (Ambulance Operations). |
| 06/06/21 | pdf | Moved to emsprotocols.online |

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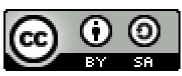
| CMH Pre-Hospital Services Mission: "*Provide safe, exceptional, and compassionate care to our communities with an emphasis on highly trained and empowered staff*." | CMH Mobile Integrated Healthcare Mission: "*Provide exceptional, compassionate, and patient-centered care by a mobile collaborative team to improve patient experience, improve quality outcomes, and reduce healthcare costs*." | |
|---|---|---|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# Guideline 1-700-88 - Retired

## CMH EMS & MIH Protocols

# Change Log:

| Date | Link to previous version | Description of change |
|---|---|---|
| 07/17/20 | | Created this policy from discussion during manager meeting on 7/17/20. |
| 10/07/20 | | Renamed all policies to guidelines. |
| 06/06/21 | pdf | Moved to emsprotocols.online |
| 09/29/21 | pdf | Moved this document from guidelines to policy. Is now Policy PHS01-19 Ambulance Staffing. |

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Search protocols: Search

| CMH Pre-Hospital Services Mission: "*Provide safe, exceptional, and compassionate care to our communities with an emphasis on highly trained and empowered staff*." | CMH Mobile Integrated Healthcare Mission: "*Provide exceptional, compassionate, and patient-centered care by a mobile collaborative team to improve patient experience, improve quality outcomes, and reduce healthcare costs*." | |
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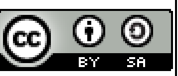

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# Guideline 1-800 - Quality Improvement

**CMH EMS & MIH Protocols**

## Scope:

| License | Volunteer | Career | CMH |
|---|---|---|---|
| EMD | NA | Yes | NA |
| EMR | Yes | Yes | NA |
| EMT | Yes | Yes | Yes |
| AEMT | Yes | Yes | Yes |
| RN | Yes | Yes | Yes |
| Medic | Yes | Yes | Yes |
| CP | Yes | Yes | Yes |

## Guideline:

Documentation and clinical documentation shall be reviewed to ensure quality patient care.

## Purpose:

Guidelines for documentation review is to ensure exceptional and compassionate care is being provided and documented.

## Procedure:

Ongoing in-house quality improvement must include review of documentation by management staff to ensure clinical competence, protocol compliance, appropriate patient care, and liability reduction.

These reviews must be shared in a timely manner with the individuals reviewed for future improvements.

Refer to Guideline 1-800-33 - Clinical Reviewer Reference Sheet.

In the event, clinical issues or concerns are found, refer to Guideline 1-800-66 - Employee Remediation.

Refer to specific licensure levels for minimum review rates.

| | |
|---|---|
| EMD | **Monthly, each agency must review reports by EMDs**:<br>• The first ten (10) reports by newly hired or newly certified EMDs should be reviewed for documentation and clinical correctness.<br>• 10% documentation review.<br>• 50% clinical review. |

| | |
|---|---|
| EMR | **Monthly, each agency must review reports by EMRs**:<br><br>• The first ten (10) reports by newly hired or newly certified EMRs should be reviewed for documentation and clinical correctness.<br>• At least 0% documentation review of a random sampling.<br>• At least 10% clinical review of a random sampling. |
| EMT | **Monthly, each agency must review reports by EMTs**:<br><br>• The first ten (10) reports by newly hired or newly licensed EMTs should be reviewed for documentation and clinical correctness.<br>• **Monthly, each agency must review reports by volunteer EMTs**:<br>  ◦ At least 25% documentation review of a random sampling.<br>  ◦ At least 10% clinical review of a random sampling.<br>• **Monthly, each agency must review reports by career EMTs**:<br>  ◦ At least 50% documentation review of a random sampling.<br>  ◦ Select the lowest scoring documenters and clinicians from previous months for 100% clinical review. Select as many individuals as needed to get total clinical review to at least 10% of all requests for service. |
| AEMT | **Monthly, each agency must review reports by AEMTs**:<br><br>• Ensure completion of applicable EMT items above.<br>• The first 15 reports by newly hired or newly licensed AEMTs should be reviewed for documentation and clinical correctness.<br>• **Monthly, each agency must review reports by AEMTs**:<br>  ◦ At least 75% documentation review of a random sampling.<br>  ◦ Refer to EMT section above for individual selection to meet 10% review rate. |

| | |
|---|---|
| RN | **Monthly, each agency must review reports by RNs**:<br>• The first 20 reports by newly hired or newly licensed RNs should be reviewed for documentation and clinical correctness.<br>• **Monthly, each agency must review reports by RNs**:<br>  ◦ At least 100% documentation review.<br>  ◦ At least 50% clinical review of calls where the patient was transported lights and siren and/or transported by air ambulance.<br>  ◦ At least 50% clinical review of the following diagnoses:<br>    ▪ Cardiac Arrest<br>    ▪ Sepsis<br>    ▪ Stroke<br>    ▪ STEMI<br>    ▪ Critical Trauma<br>      ▪ Specifically, review trauma patients where a c-collar was indicated according to Protocol 2-836 - Spinal Immobilization Clearance.<br>  ◦ At least 75% clinical review of the following treatments:<br>    ▪ Cardioversion, defibrillation, or pacing.<br>    ▪ Intubation (attempted or successful) or cases where RSI should have been used but was not (i.e., GCS less than eight with BVM for prolonged periods).<br>  ◦ At least 100% clinical review of the following treatments:<br>    ▪ RSI (attempted or successful) or paralytics administered (i.e, Rocuronium, Succinylcholine, or Vecuronium.<br>    ▪ Ketamine administered.<br>  ◦ Refer to EMT section above for individual selection to meet 10% review rate. |
| Medic | **Monthly, each agency must review reports by Paramedics**:<br>• The first 20 reports by newly hired or newly licensed Paramedics should be reviewed for documentation and clinical correctness.<br>• **Monthly, each agency must review reports by Paramedics**:<br>  ◦ At least 100% documentation review.<br>  ◦ At least 50% clinical review of calls where the patient was transported lights and siren and/or transported by air ambulance.<br>  ◦ At least 50% clinical review of the following diagnoses:<br>    ▪ Cardiac Arrest<br>    ▪ Sepsis<br>    ▪ Stroke<br>    ▪ STEMI<br>    ▪ Critical Trauma<br>      ▪ Specifically, review trauma patients where a c-collar was indicated according to Protocol 2-836 - Spinal Immobilization Clearance.<br>  ◦ At least 75% clinical review of the following treatments:<br>    ▪ Cardioversion, defibrillation, or pacing. |

- Intubation (attempted or successful) or cases where RSI should have been used but was not (i.e., GCS less than eight with BVM for prolonged periods).
- At least 100% clinical review of the following treatments:
  - RSI (attempted or successful) or paralytics administered (i.e, Rocuronium, Succinylcholine, or Vecuronium.
  - Ketamine administered.
- Refer to EMT section above for individual selection to meet 10% review rate.

| CP | **Monthly, each agency must review reports by CPs**:<br>• The first 20 reports by newly hired or newly licensed CPs should be reviewed for documentation and clinical correctness.<br>• **Monthly, each agency must review reports by CPs**:<br>  ◦ At least 10% documentation review.<br>  ◦ At least 10% clinical review of all client encounters. |
| --- | --- |

## Change Log:

| Date | Link to previous version | Description of change |
|---|---|---|
| 12/29/14 | | Added placeholder for this protocol. |
| 03/31/15 | | Created content for this protocol with similar requirements to Section 6-030 - Competencies and Education. |
| 09/16/15 | pdf | Removed requirements for quality meetings to be held in each county. Added indications for calls to be reviewed that meet RSI requirements. Also added that crew and responders will be invited. |
| 02/03/16 | pdf | Added EMD section with dispatch center requirements. |
| 08/24/17 | pdf | Removed quality review triggers for Ketamine, Vecuronium, and Succinylcholine. |
| 09/22/17 | | Added CPR as a quality reivew trigger. |
| 11/11/17 | pdf | Removed data presentation details. Added at least one representative to all the meeting requirements. |
| 11/19/17 | | Changed percentage of quality reviews from 10% to 15%. and made adjustments to no longer having monthly meetings in each county. |
| 10/15/18 | pdf | Added clarification of percent of meetings are required by each agency. |
| 07/23/19 | pdf | Modifiedclarified requirements for agencies to attend quality meetings. Added links to performance graphs. |
| 04/04/20 | pdf | Added content from old Section 6-105 - Quality Improvement. Major changes to requirments as monthly quality meetings are no longer being held. Agency minimum chart review rates were established. The minimums are currently only draft pending discussions with medical directorsagency heads. |
| 04/27/20 | | Made some changes to reflect improved clinical review process. |
| 06/08/20 | | At the request of Dr. Nicholes, added reviewing trauma charts where a c-collar was indicated. |
| 07/09/20 | | Added reference to employee remediation guideline. Added requirement to review Ketamine use at the request of Dr. Nicholes. |
| 10/07/20 | | Renamed all policies to guidelines. |
| 06/06/21 | pdf | Moved to emsprotocols.online |
| 12/01/21 | | Updated link to Vecuronium. |
| 02/25/22 | pdf | Added recommendation for new hire and newly certified or licensed staff to have additional chart reviews. |
| 02/28/22 | | Updated link for Succs. |
| 02/28/22 | | Updated link for Rocuronium. |
| 03/20/23 | | Changed link for Ketamine. |
| 04/27/23 | pdf | Added CP reviews. |

| CMH Pre-Hospital Services Mission: "*Provide safe, exceptional, and compassionate care to our communities with an emphasis on highly trained and empowered staff*." | CMH Mobile Integrated Healthcare Mission: "*Provide exceptional, compassionate, and patient-centered care by a mobile collaborative team to improve patient experience, improve quality outcomes, and reduce healthcare costs*." | |
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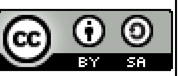

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# Guideline 1-800-33 - Clinical Reviews

**CMH EMS & MIH Protocols**

## Scope

| License | Volunteer | Career | CMH |
|---|---|---|---|
| EMD | NA | Yes | NA |
| EMR | Yes | Yes | NA |
| EMT | Yes | Yes | Yes |
| AEMT | Yes | Yes | Yes |
| RN | Yes | Yes | Yes |
| Medic | Yes | Yes | Yes |
| CP | Yes | Yes | Yes |

## Guideline:

## Purpose:

## Procedure:

Refer to Guideline 1-450-33 - Documentation Reviewer Reference Sheet.

Refer to Guideline 1-700-33 - Documenter Reference Sheet for reference and definitions.

Refer to Guideline 1-800 - Quality Improvement to determine which charts should be reviewed.

**Reviewers should look for**:

- **All charts**:
  - In general, if there is a fill-in spot or drop-down for something, it should be documented there, not the narrative.
  - Review the appropriate protocol and determine minimum treatments were provided.
  - Review the narrative. Were all parts of DRATT included?
- **Trauma**:
  - C-collar and SMR applied according to Protocol 2-836 - Spinal Immobilization Clearance?
  - Appropriate vascular access?
  - Oxygen administered appropriately?

    - TXA administered, if appropriate?
    - Was the patient warmed?
    - Scene time and landing zone time kept to a minimum?
    - Transported according to Protocol 2-924 - Universal Patient Care?
  - **RSI or airway needed**:
    - Treated according to Protocol 2-044 - Airway: RSI?
    - Was RSI appropriate? Was RSI needed and not provided?
    - Medications given correctly?
    - Attempts, placement, confirmation, etc. documented?
  - **Sepsis:**
    - Treated according to Protocol 2-440 - Fever / Sepsis?
    - Temperature recorded?
    - Capnography recorded?
    - Source of infection investigated?
    - LR fluid bolus appropriately given?
    - Blood sugar checked and managed appropriately?
    - Scene time and landing zone time kept to a minimum?
    - Transported appropriately?
  - **STEMI**:
    - Treated according to Protocol 2-220 - Chest Pain / Suspected Cardiac Event?
    - Aspirin within time goal?
    - 12-lead within time goal?
    - Scene time and landing zone time kept to a minimum?
    - Transported according to Protocol 2-220 - Chest Pain / Suspected Cardiac Event?
  - **Stroke**:
    - Treated according to Protocl 2-880 - Suspected Stroke?
    - Blood sugar checked?
    - NIHSS completed?
    - Last known well time documented?
    - Scene time and landing zone time kept to a minimum?
    - Transported according to Protocl 2-880 - Suspected Stroke?

**Add feedback**:

- Be specific, positive, and give them the benefit of the doubt.

**Rating**:

| Rating | Followed protocol? | Patient care issues? | Met quality measures? |
|---|---|---|---|
| Poor * | No | Several minor or a few critical | NA |
| Fair | No | A few minor | NA |
| Good | Yes | None | Met goal |
| Very Good | Yes | None | Slightly exceeded goal |
| Excellent | Yes | None | Significantly exceeded goal |

**Send message**:

- Send message for review by the documenter: Include their manager as a recipient of the message. Consider adding their partner, too.
- If "Poor" rating is given, include Clinical Chief as a message recipient. Refer to Guideline 1-800-66 - Employee Remediation.

**Change status**:

- Mark "CLOSED."

# Change Log:

| Date | Link to previous version | Description of change |
|---|---|---|
| 05/27/20 | | Added this section as a guide for clinical review process. |
| 06/08/20 | | Added comments from Dr. Nicholes. |
| 10/07/20 | | Renumbered 1-800-01 to 1-800-33. Renamed all policies to guidelines. |
| 06/06/21 | pdf | Moved to emsprotocols.online |
| 11/30/21 | | Updated link to Aspirin. |
| 12/01/21 | | Updated link to TXA. |
| 02/25/22 | pdf | Removed draft comment. |
| 03/19/23 | | Changed link for LR. |

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| CMH Pre-Hospital Services Mission: "*Provide safe, exceptional, and compassionate care to our communities with an emphasis on highly trained and empowered staff*." | CMH Mobile Integrated Healthcare Mission: "*Provide exceptional, compassionate, and patient-centered care by a mobile collaborative team to improve patient experience, improve quality outcomes, and reduce healthcare costs*." | |
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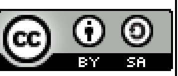


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# Guideline 1-800-50 - Quality Improvement: Just Culture Investigation

**CMH EMS & MIH Protocols**

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Date of incident:

Date of investigation:

EMS incident number:

List of persons involved in investigation (this form should be completed with input from field staff involved in the incident).

What happened?

What normally happens?

What do policies and/or protocols require?

Why did the incident happen? Repeat this question as necessary to identify all the root causes.

## Expand the appropriate algorithm(s) below and highlight the paths followed:

If an employee breeched the **duty to avoid risk**, complete the RISK ALGORITHM. Record result below:

Click to display the RISK ALGORITHM:

| No problems | System problems | Employee problems |
|---|---|---|
| • ☐ NOT APPLICABLE<br>• ☐ Do not consider employee action<br>• ☐ Support employee in decision | | • ☐ AT-RISK BEHAVIOR: Coach employee and conduct at-risk behavior investigation -> Complete the BEHAVIORS ALGORITHM<br>• ☐ Consider punitive action<br>• ☐ HUMAN ERROR: Console employee and conduct human error investigation -> Complete the ERRORS ALGORITHM<br>• ☐ RECKLESS BEHAVIOR: Consider punitive action -> Complete the BEHAVIORS ALGORITHM |

If an employee breeched the **duty to follow a procedural rule**, complete the RULE ALGORITHM. Record result below:

Click to display the RULE ALGORITHM:

| No problems | System problems | Employee problems |
| --- | --- | --- |
| • ☐ NOT APPLICABLE<br>• ☐ Support employee in decision to violate rule | • ☐ Investigate circumstances leading to failure to know of duty<br>• ☐ Investigate circumstances leading to impossibility | • ☐ AT-RISK BEHAVIOR: Coach employee and conduct at-risk behavior investigation -> Complete the BEHAVIORS ALGORITHM<br>• ☐ HUMAN ERROR: Console employee and conduct human error investigation -> Complete the ERRORS ALGORITHM><br>• ☐ RECKLESS BEHAVIOR: Consider punitive action -> Complete the BEHAVIORS ALGORITHM |

If an employee breeched the **duty to produce an outcome**, complete the OUTCOME ALGORITHM. Record result below:

Click to display the OUTCOME ALGORITHM:

| No problems | System problems | Employee problems |
|---|---|---|
| • ☐ NOT APPLICABLE<br>• ☐ Accept outcome<br>• ☐ Support employee in decision | • ☐ Investigate circumstances leading to failure to know of duty<br>• ☐ Investigate circumstances leading to impossibility | • ☐ Assist employee in producing better outcomes or consider punitive action |

If there are **repetative human errors**, complete the ERRORS ALGORITHM. Record result below:

Click to display the ERRORS ALGORITHM:

| No problems | System problems | Employee problems |
|---|---|---|
| • ☐ NOT APPLICABLE | • ☐ Consider system redesign | • ☐ Consider punitive action<br>• ☐ Consider reassignment or termination<br>• ☐ Employee to make better choices<br>• ☐ Employee to remedy personal performance shaping factors |

If there are **repetative at-risk behaviors**, complete the BEHAVIORS ALGORITHM. Record result below:

Click to display the BEHAVIORS ALGORITHM:

| No problems | System problems | Employee problems |
| --- | --- | --- |
| • ☐ NOT APPLICABLE | • ☐ Consider system redesign | • ☐ Consider punitive action<br>• ☐ Employee to remedy personal performance shaping factors |

What system performance shaping factors can be improved (i.e. reducing the likelihood of human error or behaviroal drift)?

What employee improvements will be made?

Targeted chart reviews of the past 60 days are required to identify trends. What specific calls are going to be reviewed and by whom?

## Change Log:

| Date | Link to previous version | Description of change |
| --- | --- | --- |
| 10/20/20 | | Added this guideline. |
| 06/06/21 | pdf | Added expandable images instead of links to different pages. Moved to emsprotocols.online |

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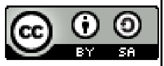
| CMH Pre-Hospital Services Mission: "*Provide safe, exceptional, and compassionate care to our communities with an emphasis on highly trained and empowered staff.*" | CMH Mobile Integrated Healthcare Mission: "*Provide exceptional, compassionate, and patient-centered care by a mobile collaborative team to improve patient experience, improve quality outcomes, and reduce healthcare costs.*" | |
| --- | --- | --- |

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# Guideline 1-800-66 - Quality Improvement: Employee Remediation

**CMH EMS & MIH Protocols**

## Scope:

| License | Volunteer | Career | CMH |
|---|---|---|---|
| **EMD** | NA | Yes | NA |
| **EMR** | Yes | Yes | NA |
| **EMT** | Yes | Yes | Yes |
| **AEMT** | Yes | Yes | Yes |
| **RN** | Yes | Yes | Yes |
| **Medic** | Yes | Yes | Yes |
| **CP** | Yes | Yes | Yes |

## Guideline:

Emergency medical staff shall maintain high levels of competence and when those levels drop below acceptable standards, procedures must be followed to identify causes, improve staff competence, and reduce future occurances.

## Purpose:

The purpose of this guideline is to establish procedures to identify causes of low clinical performance and suggest methods of improving performance.

## Procedure:

Triggers for this guideline to be used include but not limited to:

- A "poor" rating is given during a clinical chart review (see Guideline 1-800-33 - Clinical Reviewer Reference Sheet).
- Recommendation by Manager or Chief.

Step 1: Identify the cause.

- Utilize Just Culture Investigation Form to determine cause.

Step 2: Improve staff competence.

- "Support employee in decision" or "Investigate system cause" recommended from Just Culture Investigation:
  1. Develop a plan for follow-up and deadlines.
  2. Consider discussion with the Medical Director.
  3. Consider an agenda item in the next Manager Meeting.
  4. Consider an agenda item in the next Equipment Committee Meeting.
  5. Consider an agenda item in the next Protocol Committee Meeting.
- "Consider punitive action" or "Consider reassignment or termination" recommended from Just Culture Investigation:
  1. Consider progressive discipline to include coaching, DESK, written warning, or other actions with Human Resources Department.
  2. Consider assigning self-educational task such as research and recommendations for protocol or staff education. Establish a deadline for completion.
  3. Consider assigning a repeat of initial education (i.e. full 16-hour ACLS class). Establish a deadline for completion.
  4. Consider remediation shifts with FTOs, Crew Leaders, and/or Managers. Remediation shifts could be on the ambulance, in the ER, or other locations. Establish a deadline for completion.
  5. Consider scheduling one or more high-fidelity simulation labs to improve critical thinking and/or skills.
  6. Consider scheduling a review meeting with the Medical Director.
  7. Consider other items not included on this list.

Step 3: Reduce future occurances.

- Consider adding additional surveillance or clinical review rules to monitor future occurances.

## Change Log:

| Date | Link to previous version | Description of change |
|---|---|---|
| 10/19/20 | | Created this guideline. |
| 06/06/21 | pdf | Moved to emsprotocols.online |

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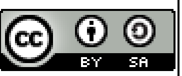
|---|---|---|



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# Guideline 1-850 - Rescue Task Force

**CMH EMS & MIH Protocols**

## Scope:

| License | Volunteer | Career | CMH |
|---|---|---|---|
| EMD | NA | Yes | NA |
| EMR | Yes | Yes | NA |
| EMT | Yes | Yes | Yes |
| AEMT | Yes | Yes | Yes |
| RN | Yes | Yes | Yes |
| Medic | Yes | Yes | Yes |
| CP | Yes | Yes | Yes |

## Guideline:

## Purpose:

## Procedure:

## EMD:

- **Tier one incident (threat of MCI)**: Dispatch primary agency and notify secondary agency Supervisors.
- **Tier two incident (incident with less than six casualties)**: Dispatch all in-county on-duty agency resources and notify all Supervisors.
- **Tier three incident (MCI with six or more casualties)**: Dispatch on-duty agency resources, notify Supervisors, and follow mutual aid protocols.

## EMR:

- Responders do not have an obligation to put themselves in danger. It is the discretion of the crew to enter an unsafe scene in coordination with unified command. Available information, resources, situational awareness, and a risk-vs-benefit analysis should determine actions.
- Wear high-visibility and retro-reflective apparel when appropriate.
- **PREPARATION**:

  - Assemble Rescue Task Force (RTF). Minimum of one (1) Threat Elimination Specialist (TES) assigned to EMS, but four is preferable.
  - Gather the bare minimum equipment to perform lifesaving medical interventions and personal protective equipment.
  - Medical functions of the RTF shall conduct radio communications on **VTAC12**.
- **DIRECT THREAT CARE** (Hot zone - Immediate threat may exist):
  - Instruct responsive TES to continue advancing toward eliminating the active threat and to provide self-aid.
  - Instruct ambulatory casualties to move to cover and provide self-aid.
  - Control massive hemorrhage with Tourniquet.
  - Consider moving unresponsive to cover and position to maintain airway.
- **INDIRECT THREAT CARE** (Warm zone - Secondary threats may exist):
  - All weapons on the casualty should be rendered safe and secure.
  - Establish casualty collection point(s) and perform hasty triage.
  - Conduct abbreviated patient assessment and perform interventions to stabilize patient for extrication. Do not delay extraction for non-life-threatening interventions.
  - **MARCH**:
    - **Major hemorrhage control**: Consider Tourniquet and/or Hemostatic Agent.
    - **Airway management**: Positioning, NPA
    - **Respirations**: Consider vented occlusive dressing.
    - **Circulation**.
    - **Head/Hypothermia**: Treat life-threatening Head Trauma and prevent Hypothermia.
- **EVACUATION**:
- Reassess all patients and initiate transports as appropriate.

# EMT:

- Ensure completion of applicable EMR items above.

# AEMT:

- Ensure completion of applicable EMT items above.
- Consider IV LR fluid bolus after addressing active bleeding.

# RN

# Medic:

- Ensure completion of all applicable BLS items above.
- **MARCH**:
  - **Major hemorrhage control**.
  - **Airway management**: Consider Intubation.
  - **Respirations**: Consider Decompression Needle.

- **Circulation**:
  - Consider IO LR fluid bolus after addressing active bleeding.
  - Consider TXA 1 g in 100 ml LR over 10 min if major injury AND signs of shock.
- **Head/Hypothermia**: Treat life-threatening Head Trauma and prevent Hypothermia.
- **If it will not delay extraction**: Refer to Protocol 2-660 - Pain Control.

## Change Log:

| Date | Link to previous version | Description of change |
|---|---|---|
| 12/29/14 | pdf | Added placeholder for this protocol. |
| 04/14/15 | | Renamed this protocol from Tactical Response to High-Threat Response. |
| 05/31/15 | | Re-worded indications for TXA for better clarity. |
| 08/06/15 | | Changed law enforcement officer to threat elimination specialist to encompass other threats such as hazmat. |
| 12/02/15 | pdf | Added comment that crews should enter high-threat situations in coordination with incident command. |
| 07/20/16 | pdf | Added comment to operate on VTAC12. Added EMD section for dispatching according to tiers. Added comment to integrate with unified command. Reduced minimum TES assigned to RTF from two to one. |
| 09/22/17 | pdf | Clarify tier two dispatching for notifiying all supervisors. |
| 10/16/17 | | Added comment to wear reflective apparel. Removed E from MARCHE. Added comment to stop all active bleeding before LR bolus. |
| 04/04/20 | pdf | Added content (without substantive modification) from old Protocol 6-085 - High-Threat Response. |
| 10/07/20 | | Renamed all policies to guidelines. |
| 06/06/21 | pdf | Moved to emsprotocols.online |
| 12/01/21 | | Updated link to TXA. |
| 03/19/23 | | Changed links for LR. |

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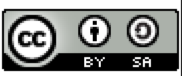
| CMH Pre-Hospital Services Mission: "*Provide safe, exceptional, and compassionate care to our communities with an emphasis on highly trained and empowered staff*." | CMH Mobile Integrated Healthcare Mission: "*Provide exceptional, compassionate, and patient-centered care by a mobile collaborative team to improve patient experience, improve quality outcomes, and reduce healthcare costs*." | |
|---|---|---|

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# Guideline 1-850-25 - Mass Casualty

**CMH EMS & MIH Protocols**

## Scope:

| License | Volunteer | Career | CMH |
|---|---|---|---|
| **EMD** | NA | Yes | NA |
| **EMR** | Yes | Yes | NA |
| **EMT** | Yes | Yes | Yes |
| **AEMT** | Yes | Yes | Yes |
| **RN** | Yes | Yes | Yes |
| **Medic** | Yes | Yes | Yes |
| **CP** | Yes | Yes | Yes |

## Guideline:

A mass casualty incident is defined as an incident with six (6) or more patients or an incident that exceeds the resources available.

## Purpose:

To allow resources to be attained and coordinated at a mass casualty incident.

## Procedure:

I. A mass casualtiy incident is defined as greater than five (5) patients.
II. EMS responders should follow National Incident Management System (NIMS) guidelines and coordinate with Incident Command (IC) or participate with Unified Command (UC).
III. EMS scene communications should be conducted on **VTAC12**.
IV. Upon arrival and/or when determination that a mass casualty incident has occurred, EMS staff shall ensure potential receiving Emergency Rooms (ER) will be notified of potential patient surge.
V. Ambulance personnel should prioritize transporting patients to the ER and returning to the scene. On-scene and at-destination activities such as triage and treatment should be limited or eliminated.
   A. Ambulance staffing and ambulances should always be moving while patients remain on the scene. Only take an ambulance out of service for on-scene activities as a last resort.

B. Consider not getting out of the ambulance. Patients should be directed and assisted into the ambulance quickly. Once the ambulance is full, initiate transport.

VI. If appropriate, medical officers may be established. However, transport of mass casualty patients to the appropriate facilities should be a priority.
   A. A medical command officer (sector chief) may be established to organize EMS response and interface with UC.
   B. A triage officer may be established to prioritize patient treatment, transport, transport methods, and destination.
   C. A transport officer may be established to facilitate and coordinate incoming and outgoing ground and air ambulances.
   D. In the absence of one or more established officers, the following tasks should be completed by on-scene EMS staff:
      1. Establish command, if none exists.
      2. Size up the scene noting hazards and number of patients.
      3. Ensure mitigation of hazards that might include power lines, hazardous materials, violent subjects, etc.
      4. Communicate appropriate sizup information to incoming units and destination facilities.
      5. If appropriate, utilize SALT triage method to sort patients into those needing treatment and transport first.
      6. If appropriate, establish casualty collection points.
      7. Facilitate rapid flow of patients from injury site to destination facilities.
      8. Coordinate incoming and outgoing ground and air ambulances.
      9. Attempt to document patient information (number, severity, treatments, and destination).

VII. Ambulances sitting on the scene not being used as transport should be limited as much as possible. Consider loading ambulances with multiple patients with less emphasis on triaging on the scene to facilitate transporting more patient quickly to appropriate facilities. Patients waiting on transport by ambulance will likely find their own transport methods to destinations not capable to handle their needs.

## Change Log:

| Date | Link to previous version | Description of change |
|---|---|---|
| 06/06/21 | pdf | Moved to emsprotocols.online |
| 09/29/21 | pdf | Moved contents of Policy PHS01-32 and PHS01-34 to this guideline. |
| 04/28/23 | pdf | Moved some content out of Protocol 2-924 (Universal Patient Care) that addresses mass casualties. Further clarified that ambulances should always be moving and should not be stationary at the scene while patients remain that require transport. |

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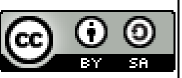


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# Part 2-000 - Emergency Protocols

**CMH EMS & MIH Protocols**

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## Contents:


- 2-022 - Abdominal Pain
- 2-044 - Airway: RSI
  - 2-044-33 - RSI Checklist
  - 2-044-66 - Airway Equipment Sizes
- 2-066 - Allergic Reaction
- 2-077 - Altered Mental Status
- 2-110 - Behavioral
- 2-132 - Bites and Envenomations
- 2-154 - Bradycardia
- 2-176 - Burns
  - 2-176-50 - Rule of Nines
- 2-198 - Cardiac Arrest
  - 2-198-50 - Peri-Arrest Comfort Measures
- 2-220 - Chest Pain / Suspected Cardiac Event
  - 2-220-50 - STEMI Destination Matrix
- 2-242 - Childbirth / Labor
- 2-286 - Drowning / Near Drowning
- 2-330 - Exposure-Biological/Infectious
- 2-352 - Exposure-Cyanide
- 2-374 - Exposure-Nerve Agents
- 2-396 - Extremity Trauma
- 2-418 - Eye Trauma
- 2-440 - Fever / Sepsis
- 2-451 - General Trauma Management
  - 2-451-50 - TRAUMA Destination Matrix
- 2-462 - Gynecologic Emergencies
- 2-484 - Head Trauma
- 2-506 - Hyperglycemia
- 2-528 - Hypertension
- 2-550 - Hyperthermia
  - 2-550-50 - Heat Index Chart
- 2-572 - Hypoglycemia
- 2-583 - Hypotension / Shock
- 2-594 - Hypothermia
- 2-616 - Newly Born
  - 2-616-33 - APGAR Scoring System

    - 2-616-66 - Targeted Pre-Ductal SpO2
- 2-638 - Overdose / Toxic Ingestion
- 2-660 - Pain Control
- 2-682 - Patient Refusal
- 2-704 - Post Resuscitation
- 2-726 - Pulmonary Edema
- 2-748 - Pulseless Electrical Activity
- 2-770 - Respiratory Distress
- 2-792 - Seizure
- 2-814 - Spinal Cord Trauma
- 2-836 - Spinal Immobilization Clearance
- 2-858 - Supraventricular Tachycardia
- 2-880 - Suspected Stroke
    - 2-880-24 - STROKE Assessment Tool
    - 2-880-48 - STROKE EMS Information Form
    - 2-880-72 - STROKE Destination Matrix
- 2-902 - Trauma Arrest
- 2-924 - Universal Patient Care
    - 2-924-24 - Normal Vital Signs
    - 2-924-48 - Glasgow Coma Scale (GCS)
- 2-946 - Ventricular Tachycardia
- 2-968 - V-Fib / Pulseless V-Tach
- 2-990 - Vomiting

## Change Log:

| Date | Link to previous version | Description of change |
|---|---|---|
| 03/30/15 | | Added sections for EMR and changed BLS/ALS to EMT/Paramedic. |
| 03/31/15 | | Added QR codes and links to research articles. |
| 03/31/15 | | Added QR codes and links to research articles. |
| 04/14/15 | | Changed < to less than, > to greater than, and MFR to EMR throughout document to reduce confusion and align with national terminology. |
| 03/01/19 | | Changed target SBP from 8090 to 100 due to version 9 PHTLS guidelines. APPROVED BY DR. CARTER ON 4/5/19. |
| 04/05/19 | | Changed all fluid bolus from NS to LR except crush injry. APPROVED BY DR. CARTER 4/5/19. |
| 07/23/19 | | Removed NEMSIS standardized protocol references. Changed all references to glucose as a measurement (not medication) to blood sugar. |
| 02/18/21 | pdf | Changed 2-880-01 to 2-880-24. |
| 02/18/21 | | Change 2-880-02 to 2-880-72. |
| 02/18/21 | | Added placeholder for 2-880-48 - STROKE EMS Information Form |
| 06/06/21 | pdf | Moved to emsprotocols.online |
| 10/14/21 | pdf | Renumbered 2-044-01 airway equipment to 2-044-66. Added 2-044-33 checklist. |
| 10/14/21 | | Changed 2-176-01 to 2-176-50 rule of nines. |
| 10/14/21 | | Changed 2-198-01 to 2-198-50 periarrest. |
| 10/14/21 | | Changed 2-220-01 to 2-220-50 stemi destination |
| 11/05/21 | pdf | Changed 2-924-03 to 2-451-50 trauma destination matrix |
| 11/29/21 | | Clarified these are the EMERGENCY protocols to differentiate from the MIH protocols. |
| 03/15/23 | pdf | Removed link to 2-264 Diving Emergencies because that protocol is still not developed. |
| 04/28/23 | pdf | Added link for new protocol: 2-077 Altered Mental Status. |

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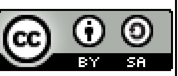
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# Protocol 2-022 - Abdominal Pain

**CMH EMS & MIH Protocols**

## EMD:

- No specific protocol.

## EMR:

- **Trauma cause**: Consider Oxygen 100%.
- **Medical cause**: Consider Oxygen if SpO2 is less than 88%.
- Apply Cardiac Monitor limb leads.
- **Identify possible causes**:
    - **Emesis present**: Inspect for blood.
    - **Female**: Determine last menstrual cycle.
- Monitor and treat for shock.
- **Evisceration**: Moist, sterile dressings.
- **Abdominal crush injury**: Immediate release and rapid transport.

## EMT:

- Ensure completion of applicable items above.
- Transport in position of comfort.

## AEMT:

- Ensure completion of applicable items above.
- Strongly assume abdominal discomfort may have cardiac causes. Consider 12-Lead ECG.
- Consider IV NS/LR in AC (left is preferred) with pigtail extension with 18 ga or greater.

## RN:

- Ensure completion of applicable items above.
- Consider IO LR.
- Refer to Protocol 2-660 - Pain Control.
    - **Severe pain**: Consider Phenergan 12.5 mg IV/IO to potentiate narcotics.
- **Nausea**: Refer to Protocol 2-990 - Vomiting.
- **Bowel obstruction**: Consider stomach decompression.

# Medic:

- Ensure completion of applicable items above.

# CP:

- Ensure completion of all applicable items above.
- Refer to MIH Protocol 4-083 - Chronic Gastrointestinal Disease Management.

# Change Log:

| Date | Link to previous version | Description of change |
|---|---|---|
| 12/12/14 | pdf | Changed Fentanyl over 65 yr to weight-based dose. Clarified pediatric Zofran and Phenergan dosages. |
| 12/12/14 | pdf | Made Intubation a DELIBERATE ACTION. Added Fentanyl for greater than 65 yr to be weight-based. |
| 12/26/14 | pdf | Added TXA. |
| 03/02/15 | | Removed DELIBERATE ACTION. |
| 05/31/15 | | Re-worded indications for TXA for better clarity. |
| 09/16/15 | | Added by request of Dr. Merk to TXA indications that signs of shock must still be present after 1 L fluid bolus. |
| 02/03/16 | pdf | Added comment that IV preferred location is in left AC and to use pigtail extension. |
| 11/11/17 | pdf | Added comment that TXA could be used before fluid bolus if obvious life-threatening hemorrhage. |
| 07/03/18 | pdf | Significantly added to this protocol from paramedic class discussions. |
| 03/01/19 | pdf | Changed targeted SBP from 80 to 100 based on PHTLS ver 9 recommendation. |
| 07/23/19 | | Added link to new hemorrhage protocolremoved TXA. |
| 04/09/20 | pdf | Added content (without substantive modification) from old Protocol 5-020 - Abdominal Trauma. |
| 04/09/20 | | Added content (without substantive modification) from old Protocol 4-010 - Abdominal Pain. |
| 06/03/20 | pdf | Added comment to consider removing Glucagon for esophageal obstruction. |
| 06/06/21 | pdf | Moved to emsprotocols.online |
| 10/14/21 | pdf | Removed consider glucagon for esophageal obstruction. Approved by Dr. Nicholes 6/8/21. Evidence for removal here https://www.ncbi.nlm.nih.gov/pubmed/9828271 and https://academic.oup.com/ajhp/article-abstract/69/7/573/5112101?redirectedFrom=fulltext |
| 10/15/21 | pdf | Moved trauma and hypotension section to newly created hypotension protocol (2-583). |
| 02/28/22 | | Updated link to Phenergan. |
| 03/14/23 | pdf | Added provision for CP. |
| 03/17/23 | | Changed link to NS. |
| 03/19/23 | | Changed link for LR. |
| 05/26/23 | pdf | Added link to 4-083. |

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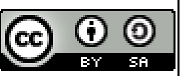
|---|---|---|



|  | Polk, Hickory, Cedar, & St Clair County EMS Protocols by Theron Becker is licensed under a Creative Commons Attribution-ShareAlike 4.0 International License. |
|---|---|

# Protocol 2-044 - Airway: RSI

**CMH EMS & MIH Protocols**

## EMD:

- No specific protocol.

## EMR:

- Maintain airway and ventilate with 100% Oxygen for 5 minutes, if possible.
  - Attempt to maintain SpO2 above 90% at all times.
  - Consider nasal cannula at 15 LPM after sedation.
  - Avoid BVM prior to Intubation if SpO2 above 90% to reduce gastric inflation.
- Attach Cardiac Monitor.

## EMT:

- Ensure completion of applicable items above.
- Request a second ALS ambulance or supervisor, if possible.
- Assist ALS with Capnography.
- Ventilate rate and volume to maintain Capnography, if able:
  - **Head Trauma**: 35-45 mmHg
  - **No Head Trauma**: 35-40 mmHg
- **Review RSI CONTRAINDICATIONS**:
  - Unable to ventilate with BVM.
  - Severe facial or neck trauma.
  - Possibility of failure of backup airways.
  - Cricothyrotomy would be difficult or impossible.
  - Acute epiglottitis.
- Press "PRINT" on the Cardiac Monitor after Intubation and at transfer to ER or LZ to record Capnography waveform.
- Maintain warmth of the paralyzed patient.

## AEMT:

- Ensure completion of applicable items above.
- IV NS/LR.
  - Consider LR 250 ml bolus.
  - Consider second vascular access.

# RN:

- Ensure completion of applicable items above.
- RSI is indicated for all patients with a pulse needing Intubation.
- Consult BLS crew members to ensure absence of contraindications.
- Consider IO NS/LR 250 ml bolus.
- Assign duties.

---

- **PREMEDICATE**:
  - **Seizing**: Refer to Protocol 2-792 - Seizure. Remember, paralysis will mask seizure activity.
  - | Adult: | Pediatric: |
    |---|---|
    | ▪ **Bradycardic**: Atropine 0.5 mg IV/IO.<br>▪ **Pain and/or Tachycardia**: Consider Fentanyl 3 mcg/kg IV/IO/IN (max 300 mcg).<br>  ▪ Click "calculate" to get dose. | ▪ Consider Atropine 0.02 mg/kg IV/IO (min 0.1 mg) (max 0.5 mg).<br>  ▪ Click "calculate" to get dose.<br>▪ Consider Fentanyl 1-2 mcg/kg IV/IO/IN (max 150 mcg).<br>  ▪ Click "calculate" to get dose. |

---

- **SEDATE**:
  - Ketamine 1-2 mg/kg IV/IO (60 second onset and 10 minute duration).
    - Click "calculate" to get dose.
    - OR Etomidate 0.3 mg/kg IV/IO (30 second onset and 3 minute duration).
      - Click "calculate" to get dose.

---

- **PARALIZE**: Consider delayed paralysis to allow pre-oxygenation.
  - **Delayed**: Rocuronium 0.1 mg/kg *[ideal body weight]* IV/IO (2 minute onset and 10 minute duration).
    - Click "calculate" to get dose.
    - Enter height and click "calculate" to get dose based on IDEAL weight.
  - **Rapid**: Rocuronium 1.2 mg/kg *[ideal body weight]* IV/IO (1 minute onset and 30 minute duration).
    - Click "calculate" to get dose.
    - Enter height and click "calculate" to get dose based on IDEAL weight.

---

- **CONTINUED SEDATION**:
  - Consider Ketamine 1 mg/kg IV/IO.
    - Click "calculate" to get dose.
  - | Adult: | Pediatric: |
    |---|---|
    | ▪ Consider Versed 2.5-5 mg IV/IO every 5 minutes as needed maintaining SBP greater than 100. | ▪ **Over 12 years old**: Consider Versed same dose as adult.<br>▪ **2 months to 12 years old**: Consider Versed 0.15 mg/kg IV/IO. May repeat |

| | |
|---|---|
| - Consider Fentanyl 5-100 mcg IV/IO/IN (max 300 mcg). | every 5 minutes.<br>- Click "calculate" to get dose.<br>- Consider Fentanyl 1-2 mcg/kg IV/IO/IN (max 150 mcg).<br>- Click "calculate" to get dose. |

- **CONTINUED PARALYSIS**:
  - **Signs of patient movement AFTER fully sedated**: Rocuronium 0.1 mg/kg *ideal body wight* IV/IO.
    - Click "calculate" to get dose.
    - Enter height and click "calculate" to get dose based on IDEAL weight.

# Medic:

- Ensure completion of applicable items above.

---

- **INTUBATE**:
  - Elevate head of Cot.
  - Consider Suction.
  - Consider Bougie.
  - Click "calculate" to get equipment sizes.
  - Maximum of three attempts, then Supraglottic Airway should be used.
  - Confirm with Waveform Capnography.
  - Consider Ventilator.
  - Consider gastric tube.

# CP:

- Ensure completion of applicable items above.

# Change Log:

| Date | Link to previous version | Description of change |
|---|---|---|
| 01/29/14 | pdf | Added request second unit if possible. |
| 02/22/14 | pdf | Removed Ketamine contraindication to Head injury. |
| 12/15/14 | | Added O2 for 5 min if possible. |
| 12/29/14 | | Removed call for orders from title and moved it into the top of the ALS instructions for clarity. |
| 04/03/15 | | Added Consider Bougie and Consider Suction. Moved all instances of Gastric Tube when identified with Intubation to this protocol. |
| 04/28/15 | pdf | Added 15 lpm O2 via NC. Added avoid BVM if SpO2 above 90%. Added maintain warmth. Added indication for RSI. Added 250 ml fluid bolus. Added Fentanyl as premedication. Added Ketamine onset and duration. Added Etomidate contraindicated in sepsis. Increase Rocuronium dose from 1 to 1.5 mg/kg. Added elevate head of cot. Moved continued paralysis under continued sedation. Added option for Ketamine continued sedation. |
| 04/28/15 | | Created Section 6-111 - RSI Dosing Sheet for quick reference sheet. |
| 05/08/15 | | Replaced specific seizure control meds and dosages with reference to seizure protocol. |
| 06/08/15 | | Updated shading and other factors for better readibility. |
| 08/06/15 | | Added comment to delay paralysis to allow preoxygenation if appropriate. |
| 09/16/15 | | Modified initial paralyzation doses per Dr. Merk request. Changes rapid dose from 1.5 mg/kg to 0.6 mg/kg. Changed continued paralyzation to only be indicated when patient is moving. |
| 09/16/15 | | Updated chart to reflect new Rocuronium doses and concentrations from pharmacy. |
| 11/17/15 | | Made prophylactic atropine administration to pediatric a consideration due to 2015 AHA reccomendations removed atropine from routine administration prior to intubation. |
| 01/26/16 | pdf | Added comment that EMH is not authorized for RSI. |
| 07/24/16 | pdf | Split into two pages due to text getting too small to read. |
| 07/25/16 | | Removed specific list of Succinylcholine contraindications and replaced with reference to the medication section. |
| 02/02/17 | pdf | Changed name to Rapid/Delayed. Moved delayed Rocuronium to preferred. |
| 02/02/17 | pdf | Added comment to use ideal body weight. |
| 08/24/17 | | Added comment to consult EMT for contraindications. Increased sedation dose of Ketamine from 1 to 1-2 mg/kg. Increased parayzation dose of Rocuronium from 0.6 to 1.2 mg/kg. Removed Ativan, Succinylcholine, and Vecuronium. |
| 09/22/17 | | Modified pediatric Versed dosages. |
| 11/11/17 | pdf | Removed Lidocaine for head injury prior to intubation. Added comment that continued paralysis is if patient movement even after sedation. |
| 11/29/17 | pdf | Updated quick reference chart to new dosages. |
| 12/13/17 | pdf | Per Dr. Carter, removed upper airway obstruction as an RSI contraindication. |
| 12/18/18 | pdf | Removed contraindication of sepsis for Etomidate. |

| | | |
|---|---|---|
| 07/23/19 | | Added note to use ideal body weight for paralytic dosing. |
| 07/23/19 | pdf | Added tidal volumes for ventilation based on weight. Made adjustments for paralytics to be dosed by ideal body weight. |
| 04/11/20 | | Added content from old Section 6-111 - RSI Dosing Sheet. Spent a lot of time getting all the code to work on this protocol for the weight-based doses (actualideal). Also built a tool that returns equipment sizes based on the weight entered. Hope people like it. |
| 04/11/20 | pdf | Added content (without substantive modification) from old Protocol 6-110 - Rapid/Delayed Sequence Intubation (RSI). |
| 04/14/20 | | At the request of the EMS directorEMS operations chief, removed the requirement to contact MEDICAL CONTROL prior to starting RSI. Will run this past Dr. Nicholes. |
| 06/06/21 | pdf | Moved to emsprotocols.online |
| 10/14/21 | pdf | Added comment to maintain etco2 between 35-45 or 35-40. Requested by Brice 2/25/21. Approved by protocol committee 5/26/21. Approved by Dr. Nicholes 6/8/21. |
| 12/01/21 | | Updated link to Versed. |
| 02/25/22 | pdf | Added consider ventilator after intubation. |
| 02/28/22 | | Updated links for Rocuronium. |
| 03/17/23 | | Changed link to NS. |
| 03/19/23 | | Changed link for LR. |
| 03/20/23 | | Changed link for Ketamine. |
| 03/20/23 | | Changed link for Etomidate. |
| 03/20/23 | | Changed link for Atropine. |

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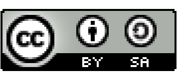
|  | Polk, Hickory, Cedar, & St Clair County EMS Protocols by Theron Becker is licensed under a Creative Commons Attribution-ShareAlike 4.0 International License. |
|---|---|

# Protocol 2-044-33 - Airway: RSI - Checklist

**CMH EMS & MIH Protocols**

| Patient Preparation | Considerations | Setup | Post-Intubation |
|---|---|---|---|
| ☐ Preoxygenate<br>• NRB<br>• CPAP<br>• BVM | ☐ Hemodynamics<br>• Risk for hypotension<br>• Shock severity | ☐ Laryngoscope(s) | ☐ Confirm placement<br>• Waveform EtCO2<br>• Lung sounds<br>• Epigastric sounds |
| ☐ Hemodynamics<br>• IV fluids<br>• Vasopressors | ☐ Oxygenation<br>• Risk for desaturation<br>• Set SpO2 lower limit | ☐ ETT(s) & syringe | ☐ Secure ETT |
| ☐ Positioning<br>• Ear to sternal notch<br>• Ramp / 30 degrees<br>• Open collar | ☐ LEMON check<br>• Look externally (feel cricothyroid membrane)<br>• Evaluate 3-3-2 (3 fingers between upper and lower teeth,<br>3 fingers between mandible and neck,<br>2 fingers between mandible and thyroid)<br>• Mallampati<br>• Obstruction or Obese<br>• Neck mobility | ☐ Bougie | ☐ Analgesic |
| ☐ Apneic oxygenation<br>• NC 15 lpm | ☐ pH<br>• Metabolic considerations | ☐ Stylette | ☐ Sedation |
| ☐ Monitoring<br>• SpO2 on opposite side of BP<br>• ECG<br>• BP q 5 min<br>• EtCO2 | ☐ Verbalize airway plan | ☐ Suction(s) | ☐ Consider ventilator |
| | ☐ Designate roles | ☐ BVM with PEEP | ☐ Consider paralysis |
| | | ☐ EtCO2 | ☐ OG/NG tube |
| | | ☐ Supraglottic | ☐ Consider sit patient up |
| | | ☐ Surgical airway | ☐ Reassess<br>• DOPE<br>• Vitals<br>• Pain |
| | | ☐ Medications<br>• Premedication<br>• Induction<br>• Paralytic<br>• Post-intubation<br>• Fluids<br>• Pressors | |

## Change Log:

| Date | Link to previous version | Description of change |
|---|---|---|
| 10/14/21 | | New attachment as an optional tool. Created by Brice Flynn. Approved by protocol committee 5/26/21. Approved by Dr. Nicholes 6/8/21. |
| 02/25/22 | pdf | Added ventilator in post-intubation. |

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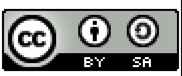
|---|---|---|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# Protocol 2-044-66 - Airway: RSI - Airway Equipment Sizes

**CMH EMS & MIH Protocols**

Refer to Equipment 8-936 - Ventilator for Tidal Volume based on patient sizes.

| Age | Weight | Broslow / Handtevy | Laryngoscope | ET Size (age/4 + 4) | ET Depth (weight/2 + 8) or (age/2 + 13) | King Size | LMA Size | I-Gel Size |
|---|---|---|---|---|---|---|---|---|
| Preemie | 2 kg | Grey | 1 | 3.0 | 9.0 cm | 0 | 1 | 1 (pink) |
| Newborn | 4 kg | Grey | 1 | 3.5 | 10.0 cm | 1 (white) | 1 | 1 (pink) |
| 4 mo | 6 kg | Pink | 1 | 3.5 | 11.0 cm | 1 (white) | 1.5 | 1.5 (light blue) |
| 6 mo | 8 kg | Red | 1 | 3.5 | 12.0 cm | 1 (white) | 1.5 | 1.5 (light blue) |
| 1 yr | 10 kg | Purple | 1 | 4.0 | 13.0 cm | 1 (white) | 2 | 1.5 (light blue) |
| 2 yr | 12 kg | Yellow | 2 | 4.5 | 14.0 cm | 2 (green) | 2 | 2 (grey) |
| 3 yr | 15 kg | White | 2 | 5.0 | 14.5 cm | 2 (green) | 2 | 2 (grey) |
| 4 yr | 17 kg | White | 2 | 5.0 | 15.0 cm | 2 (green) | 2.5 | 2 (grey) |
| 5 yr | 20 kg | Blue | 2 | 5.0 | 15.5 cm | 2 (green) | 2.5 | 2 (grey) |
| 6 yr | 22 kg | Blue | 2 | 5.5 | 16.0 cm | 2 (green) | 2.5 | 2 (grey) |
| 7 yr | 25 kg | Orange | 2 | 6.0 | 16.5 cm | 2.5 (orange) | 2.5 | 2.5 (white) |
| 8 yr | 27 kg | Orange | 2 | 6.0 | 17.0 cm | 2.5 (orange) | 2.5 | 2.5 (white) |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 9 yr | 30 kg | Green | 3 | | 6.0 | 17.5 cm | 2.5 (orange) | 3 | 2.5 (white) |
| 10 yr | 35 kg | Green | 3 | | 6.5 | 18.0 cm | 3 (yellow) | 3 | 3 (yellow) |
| 11 yr | 40 kg | Green | 3 | | 7.0 | 18.5 cm | 3 (yellow) | 3 | 3 (yellow) |
| 12 yr | 50 kg | Green | 3 | | 7.0 | 19.0 cm | 3 (yellow) | 4 | 3 (yellow) |
| 13 yr | 60 kg | Green | 3 | | 7.0 | 19.5 cm | 4 (red) | 4 | 4 (green) |
| Small Adult | 75 kg | Light Blue | 4 | | 7.5 | 20.0-21.5 cm | 4 (red) | 5 | 4 (green) |
| Large Adult | 100 kg | Light Blue | 4 | | 8.0 | 21.5-23.0 cm | 5 (purple) | 5 | 5 (orange) |

## Change Log:

| Date | Link to previous version | Description of change |
|---|---|---|
| 07/05/20 | pdf | Moved this section from 2-044created a new page. |
| 06/06/21 | pdf | Moved to emsprotocols.online |
| 10/14/21 | pdf | Renumbered from 2-044-01 to 2-044-66. |
| 08/09/22 | pdf | Corrected broken link to ventilator equipment. |

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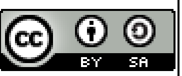
|---|---|---|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# Protocol 2-066 - Allergic Reaction

**CMH EMS & MIH Protocols**

## EMD:

- No specific protocol.

## EMR:

- Identify and remove allergen, if possible.
- Oxygen to maintain SpO2 at 100%.
- Consider applying Cardiac Monitor limb leads.

## EMT:

- Ensure completion of applicable items above.
- Assist ALS with Capnography.
- **If ALS unavailable and dyspnea, dysphagia, or hypotension**:
  - Consider Epinephrine Auto-Injector.
  - ALS unit should be en route and/or immediate transport to the closest ER.

## AEMT:

- Ensure completion of applicable items above.
- Consider IV NS/LR.
-

| Adult: | Pediatric: |
|---|---|
| **Uncompensated shock**: Epinephrine 1:1,000 0.3-0.5 mg IM/SQ. Repeat every 15 minutes as needed. | **Uncompensated shock**: Epinephrine 1:1,000 0.01 mg/kg IM/SQ (max 0.3/dose). Repeat every 15 minutes as needed.<br>Click "calculate" to get dose. |

- **Wheezing or obstructed ETCO2 waveform**: Refer to Protocol 2-770 - Respiratory Distress.

## RN:

- Ensure completion of all applicable items above.
- Consider IO LR.
-

| Adult: | Pediatric: |
|---|---|

| | |
|---|---|
| ◦ **Uncompensated shock**: Consider Epinephrine 1:10,000 0.1 mg IV/IO. Repeat every 15 minutes as needed.<br>◦ Consider Benadryl 25-50 mg IV/IO/IM.<br>◦ Consider Solu-Medrol 125 mg IV/IO/IM. | ◦ Consider Benadryl 1 mg/kg IV/IO/IM (max 50 mg).<br>▪ Click "calculate" to get dose.<br>◦ Consider Solu-Medrol 1-2 mg/kg IV/IO/IM (max 125 mg).<br>▪ Click "calculate" to get dose. |

# Medic:

- Ensure completion of all applicable items above.

# CP:

- Ensure completion of all applicable items above.

## Change Log:

| Date | Link to previous version | Description of change |
|---|---|---|
| 01/29/14 | pdf | Coordinated protocol with CMH policies. |
| 02/22/14 | pdf | Changed Oxygen dose to maintain 100%. |
| 04/14/15 | | Added consider to limb leads. |
| 11/17/15 | pdf | Reduced Epi 1:10,000 adult dose from 0.3 mg to 0.1 mg IV. Reduced pediatric Benadryl dose from 1.25 mg/kg to 1 mg/kg. Altered pediatric brochodialator treatments to Albuterol unless over 6 yr old, then Duoneb. |
| 07/22/16 | pdf | Moved Epi IM and bronchodialators Neb to AEMT section. |
| 08/24/17 | pdf | Removed Ipratropium and clarified doses of Duoneb. |
| 07/23/19 | pdf | Added per dose max Epi 1:1k pediatric. |
| 04/10/20 | pdf | Added content (without substantive modification) from old Protocol 4-020 - Anaphylaxis. |
| 06/06/21 | pdf | Moved to emsprotocols.online |
| 02/28/22 | | Updated link for SoluMedrol. |
| 03/15/23 | pdf | Clarified RN and medic roles. Added CP. |
| 03/17/23 | | Updated link to NS. |
| 03/19/23 | | Changed link for LR. |
| 03/20/23 | | Changed link for Epi. |
| 03/20/23 | | Changed link for Benadryl. |

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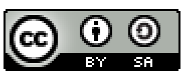
|---|---|---|



|  | Polk, Hickory, Cedar, & St Clair County EMS Protocols by Theron Becker is licensed under a Creative Commons Attribution-ShareAlike 4.0 International License. |
|---|---|

# Protocol 2-077 - Altered Mental Status

**CMH EMS & MIH Protocols**

## EMD:

- No specific protocol.

## EMR:

- Consider and correct treatable causes:
- **Blood glucose symptoms**: Refer to Protocol 2-506 - Hyperglycemia or Protocol 2-572 - Hypoglycemia.
- **Cardiac symptoms**: Refer to Protocol 2-220 - Chest Pain / Suspected Cardiac Event.
- **Cold or heat symptoms**: Refer to Protocol 2-594 - Hypothermia or Protocol 2-550 - Hyperthermia.
- **Dizziness, headache, or stroke symptoms**: Refer to Protocol 2-880 - Suspected Stroke.
- **Hypoxia or respiratory symptoms**: Refer to Protocol 2-770 - Respiratory Distress,
- **Poisoning, overdose, or toxins symptoms**: Refer to Protocol 2-638 - Overdose / Toxic Ingestion,
- **Trauma or hypovolemia symptoms**: Refer to Protocol 2-451 - General Trauma Management.

## EMT:

- Ensure completion of applicable items above.

## AEMT:

- Ensure completion of applicable items above.

## RN:

- Ensure completion of all applicable items above.

## Medic:

- Ensure completion of all applicable items above.

# CP:

- Ensure completion of all applicable items above.

## Change Log:

| Date | Link to previous version | Description of change |
| --- | --- | --- |
| 04/28/23 | | Created this protocol from content found in 2-924 (Universal Patient Care) at the request of Dr. Butvilas on 3/24/23. Dizziness is specifically listed as an indication to refer to Stroke assessment and treatment. |

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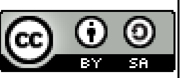
|---|---|---|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# Protocol 2-110 - Behavioral

**CMH EMS & MIH Protocols**

---

## EMD:

- No specific protocol.

## EMR:

- Ensure scene safety and consider law enforcement for Physical Restraint, if necessary.
- Verbal de-escalation. Stay calm and calm the patient.
- Identify possible causes. Obtain history of current event, crisis, Toxic Exposure, Drugs, ETOH, suicidal, or homicidal.
- Provide emotional support:
    - Help meet basic needs.
    - Provide simple, clear, and accurate information.
    - Listen with compassion.
    - Be friendly and calm.
    - Provide support and "presence."

## EMT:

- Ensure completion of applicable items above.
- Consider performing Blood Glucometry Check.
- **Patient is in any form of restraints**:
    - Vitals shall be documented at least every 15 minutes.
    - Mandatory ALS patient.

## AEMT:

- Ensure completion of applicable items above.

## RN:

- Ensure completion of all applicable items above.

---

- **Mild behavioral emergency (responds to verbal de-escalation)**:
    - Consider Versed 1 mg IV/IM.
    - Transport in position of COMFORT.

- **Moderate to severe behavioral emergency (requires Restraint for crew and/or patient safety)**:
  - 

| Adult: | Pediatric: |
| --- | --- |
| ▪ Physical Restraint:<br>  ▪ Restraints include BOTH chemical AND Physical Restraints; not one or the other.<br>    ▪ **Utilize the least restrictive option appropriate for the situation**: Manual Restraint or Four-Point Soft Restraint<br>    ▪ **If handcuffed**: Law enforcement must be present throughout the entire transport.<br>▪ Consider Versed 5 mg IV/IM/IN.<br>▪ Consider Benadryl 50 mg IV/IM.<br>▪ Consider Ketamine 1-2 mg/kg IV/IO.<br>  ▪ Click "calculate" to get dose.<br>  ▪ **Greater than 65 years old**: Half the dose.<br>    ▪ Click "calculate" to get dose.<br>▪ Consider Ketamine 4-5 mg/kg IM.<br>  ▪ Click "calculate" to get dose.<br>  ▪ **Greater than 65 years old**: Half the dose.<br>    ▪ Click "calculate" to get dose. | ▪ Consider Versed 0.05-0.1 mg/kg IV.<br>  ▪ Click "calculate" to get dose.<br>▪ Consider Versed 0.1-0.15 mg/kg IM.<br>  ▪ Click "calculate" to get dose.<br>▪ Consider Versed 0.3 mg/kg IN.<br>  ▪ Click "calculate" to get dose.<br>▪ Consider Benadryl 1 mg/kg IV/IM.<br>  ▪ Click "calculate" to get dose.<br>▪ Consider Ketamine 1 mg/kg IV.<br>  ▪ Click "calculate" to get dose.<br>▪ Consider Ketamine 3 mg/kg IM.<br>  ▪ Click "calculate" to get dose. |

  - Monitor Waveform Capnography.
  - Transport in position of SAFETY.

# Medic:

- Ensure completion of all applicable items above.

# CP:

- Ensure completion of all applicable items above.
- Refer to MIH Protocol 4-250 - Chronic Mental Health Management.

## Change Log:

| Date | Link to previous version | Description of change |
|---|---|---|
| 11/11/13 | pdf | Removed Versed and replaced with Valium. |
| 01/29/14 | | Added types of Restraint allowed by policy. Added handcuff comment from policy. |
| 02/22/14 | pdf | Added Ketamine after medical control for severe. |
| 12/15/14 | | Added greater than 65 Ketamine dose. |
| 01/20/15 | pdf | Added emotional first aid steps. |
| 11/17/15 | | Modified severe adult Haldol dose from 5 mg to 2-5 mg. |
| 08/24/17 | pdf | Removed need for medical control for mild anxiety and agitation medication. Removed Ativan. Added Versed. Added comment that restraints include BOTH physical and chemical. |
| 09/22/17 | | Moved medical control to top of list under severe behavioral. Modified versed dosages to align with NASEMSO. Added pediatric dosages of versed, haldol, ketamine, and benadryl. Added comment to require waveform capnography after sedation. Removed Valium. |
| 12/18/18 | pdf | Re-worded when to call for med control after sedation when patient is risk based on Dr. Carter recommendations. |
| 12/03/19 | pdf | Added comment for q15m vitals signs if restrained per Dr. Cauchi. |
| 04/10/20 | pdf | Added content (without substantive modification) from old Protocol 4-040 - Behavioral. |
| 06/06/21 | pdf | Moved to emsprotocols.online |
| 10/14/21 | pdf | Fixed spelling error (possible). |
| 12/01/21 | | Updated links to Versed. |
| 03/15/23 | pdf | Clarified RN and medic roles. Added CP. |
| 03/20/23 | | Changed link for Ketamine. |
| 03/20/23 | | Changed link for Haldol. |
| 03/20/23 | | Changed link for Benadryl. |
| 05/25/23 | pdf | The requirement to contact medical control for moderate or severe behavioral emergencies has been completely removed. Dr Butvilas and protocol committee agreed on 5/17/23 that even contacting medical control AFTER chemical and/or physical restraints was not necessary. Also, Haldol has been completely removed from this protocol. This is the only protocol that included Haldol, so Haldol can be removed from ambulances and no longer stocked or ordered. |
| 05/26/23 | pdf | Added link to 4-250. |

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| CMH Pre-Hospital Services Mission: "*Provide safe, exceptional, and compassionate care to our communities with an emphasis on highly trained and empowered staff*." | CMH Mobile Integrated Healthcare Mission: "*Provide exceptional, compassionate, and patient-centered care by a mobile collaborative team to improve patient experience, improve quality outcomes, and reduce healthcare costs*." | |
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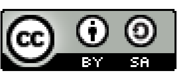

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# Protocol 2-132 - Bites and Envenomations

**CMH EMS & MIH Protocols**

## EMD:

- No specific protocol.

## EMR:

- Open and maintain the airway.
- **Systemic Anaphylactic Reaction**: Refer to Protocol 2-066 - Allergic Reaction.
- Remove clothin and jewelry from affected area.
- Consider applying Cardiac Monitor limb leads and/or combo pads.
- Mark leading edge of swelling and tenderness every 15 minutes.
- Immobilize (splint and compression wrap) and elevate extremity. Encourage patient not to move the extremity.
- **DO NOT attempt to capture the animal or insect**. If possible to do from a safe distance, take a photograph.

## EMT:

- Ensure completion of applicable items above.
- Consider assisting ALS with Capnography .
- **Snakebite with systemic signs or symptoms (i.e. hypotension, GI problems, bleeding disorder, neurological problems)**: Transport to Level I Trauma Center. Refer to Protocol 2-451 - TRAUMA destination matrix.

## AEMT:

- Ensure completion of applicable items above.
- Consider IV NS/LR.

## RN:

- Ensure completion of all applicable items above.
  Consider contacting MEDICAL CONTROL and/or POISON CONTROL at 888-268-4195.
- **Pain**: Refer to Protocol 2-660 - Pain Control.
- **Nausea**: Refer to Protocol 2-990 - Vomiting.

# Medic:

- Ensure completion of all applicable items above.

# CP:

- Ensure completion of all applicable items above.

# Change Log:

| Date | Link to previous version | Description of change |
|---|---|---|
| 11/27/19 | | Added this protocol to address specific snake bite treatments. |
| 04/08/20 | pdf | Added content (without substantive modification) from old Protocol 3-015 - Envenomation. |
| 06/06/21 | pdf | Moved to emsprotocols.online |
| 11/05/21 | pdf | Changed link from 2-924 to 2-451-50 for trauma destination matrix. |
| 03/15/23 | pdf | Clarified RN and medic roles. Added CP. |
| 03/17/23 | | Updated link to NS. |
| 03/19/23 | | Changed link for LR. |

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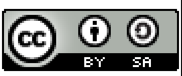
| CMH Pre-Hospital Services Mission: "*Provide safe, exceptional, and compassionate care to our communities with an emphasis on highly trained and empowered staff*." | CMH Mobile Integrated Healthcare Mission: "*Provide exceptional, compassionate, and patient-centered care by a mobile collaborative team to improve patient experience, improve quality outcomes, and reduce healthcare costs*." | |
|---|---|---|



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# Protocol 2-154 - Bradycardia

**CMH EMS & MIH Protocols**

## EMD:

- No specific protocol.

## EMR:

- Calm and reassure patient. Ensure patient does not exert themselves.
- Oxygen to maintain SpO2 between 94-99%.
- Apply Cardiac Monitor limb leads.
-

| Adult: | Pediatric: |
|---|---|
| ◦ **HR less than 60**: Apply Combo Pads anterior/posterior. | ◦ **HR less than 80**: Apply Combo Pads anterior/posterior.<br>◦ **HR less than 50**: Ventilate, then initiate chest compressions if ventilation does not raise HR above 60. |

## EMT:

- Ensure completion of applicable items above.
- Consider assisting ALS with Capnography .

## AEMT:

- Ensure completion of applicable items above.
- IV NS/LR.

# RN:

- Ensure completion of all applicable items above.
- Obtain 12-Lead ECG.
- Consider IO NS/LR. Do not delay for IV/IO if symptomatic.

Contact MEDICAL CONTROL if Hypothermia patient.

<table>
<tr><th>Adult: Rate less than 50 and symptomatic:</th><th>Pediatric: Rate less than 60 and symptomatic:</th></tr>
<tr><td>

- **Unstable**:
  - Consider Pacing
  - Consider Pain Control
- **Stable**:
  - Atropine 1 mg IV/IO. Repeat every 3-5 min (max 3 mg).
- Consider Epinephrine 1:10,000 0.02-0.2 mcg/kg/min titrated to MAP greater than 65.
  - Click "calculate" to get dose.
- Consider Dopamine 5-20 mcg/kg/min IV/IO.
  - Click "calculate" to get dose.
- Consider Epinephrine 1:10,000 2-10 mcg/min IV/IO:
  - Mix 1 mg in 100 ml NS/LR.
  - 2 mcg/min = 12 ml/hr.
  - 10 mcg/min = 60 ml/hr.

</td><td>

- Consider Epinephrine 1:10,000 0.01 mg/kg IV/IO repeat every 3-5 min.
  - Click "calculate" to get dose.
- Consider Atropine 0.02 mg/kg IV/IO may repeat once (min 0.1 mg) (max 0.5 mg).
  - Click "calculate" to get dose.
- **Consider Pacing at age appropriate rate**:

| 0-1 yr old: | 2-3 yr old: | 4-5 yr old: | 6-9 yr old: | 10-16 yr old: |
| --- | --- | --- | --- | --- |
| 135 BPM | 130 BPM | 105 BPM | 90 BPM | 80 BPM |

  - Consider Pain Control

</td></tr>
</table>

- Consider and correct treatable causes: Hypovolemia, hypoxia, hypo/hyperkalemia, hypothermia, hypoglycemia, acidosis, tension pneumothorax, toxins, thrombosis, and cardiac tamponade.

# Medic:

- Ensure completion of all applicable items above.

# CP:

- Ensure completion of all applicable items above.

## Change Log:

| Date | Link to previous version | Description of change |
|---|---|---|
| 10/04/13 | pdf | Added rates to BLS Combo Pads. Added unstable to Pacing. Added stable to Atropine. |
| 12/12/14 | pdf | Added contact medical control for Pacing Hypothermia patient. Added weight-based Fentanyl dose for greater than 65 yr. |
| 12/15/14 | | Added do not delay for IV. |
| 11/17/15 | pdf | Reduced adult heart rate treatment threshold from 60 to 50. |
| 08/24/17 | pdf | Removed Ativan. |
| 09/20/17 | | Added option for Epi drip before Dopamine. Modified pediatric Versed dosages. |
| 11/11/17 | pdf | Replaced Versed and Fentanyl with reference to Protocol 6-050 - Control of Pain for pre-cardioversion. |
| 07/23/19 | pdf | Fixed the math for Epi drip. |
| 04/04/20 | pdf | Added content (without substantive modification) from old Protocol 2-040 - Bradycardia. |
| 02/19/21 | pdf | AHA 2020 updates to this protocol include all Atropine doses are now 1 mg repeat q 3-5 min and removed medical control for epi drip. |
| 06/06/21 | pdf | Moved to emsprotocols.online |
| 10/14/21 | | No change, just noting the express approval from Dr. Nicholes on 6/8/21 of the previous change in atropine dose. |
| 11/30/21 | | Updated link for Albuterol. |
| 02/28/22 | | Updated link for Sodium Bicarb. |
| 03/15/23 | pdf | Clarified RN and medic roles. Added CP. |
| 03/17/23 | | Updated links to NS. |
| 03/19/23 | | Changed links for LR. |
| 03/20/23 | | Changed link for Epi. |
| 03/20/23 | | Changed link for Dopamine. |
| 03/20/23 | | Changed link for Atropine. |

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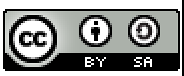
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# Protocol 2-176 - Burns

**CMH EMS & MIH Protocols**

## EMD:

- **Dispatch a non-dedicated standby ambulance to the following incident types**:
  - 1st alarm commercial structure fire,
  - 2nd alarm residential structure fire,
  - 2nd alarm natural cover fire, OR
  - 2nd alarm vehicle fire.
  - **Alarm definitions**:
    - 1st alarm = Initial dispatch.
    - 2nd alarm = Mutual aid dispatched.

## EMR:

- **Hazardous atmosphere standby**: Refer to Guideline 1-300 - Ambulance Operations.
- Stop the burning process.
- **Chemical burn**:
  - Decontaminate the patient according to Protocol 2-924 - Universal Patient Care. Contact MEDICAL CONTROL and/or POISON CONTROL (888-268-4195).
  - **Fluorine or Hydrofluoric Acid contact**: Calcium Chloride and KY Jelly Mixture applied to exposed contact area.
- Assist Ventilations as needed.
- Consider Oxygen 100%.
- Consider Saran Wrap (or similar) to prevent heat loss.
- Consider applying Cardiac Monitor limb leads.
- Remove all jewelry.
- Keep patient warm.

## EMT:

- Ensure completion of applicable items above.
- Consider assisting ALS with Capnography .
- Consider direct transport to a Burn Unit.

# AEMT:

- Ensure completion of applicable items above.
- Refer to Protocol 2-176-50 - Burns - Rule of Nines.
- Consider IV LR fluid bolus:
  - **Greater than 20% BSA of 2nd° & 3rd°**:
    - **Modified Parkland Formula (first 8 hours)**: (2 ml/kg) * (% BSA).
      - Click "calculate" to get dose.
      - Goal is for the calculated volume to be administered within 8 hours of the burn.
  - **Less than 20% BSA of 2nd° & 3rd°**:
    - 

| Adult: | Pediatric: |
|---|---|
| 500 ml/hr. | **6-13 yr old**: 250 ml/hr.<br>**0-6 yr old**: 125 ml/hr. |

# RN:

- Ensure completion of all applicable items above.
- Consider IO LR.
- **Smoke inhalation with altered mental status**: Refer to Protocol 2-352 - Exposure: Cyanide.
- **Pain**: Refer to Protocol 2-660 - Pain Control.

# Medic:

- Ensure completion of all applicable items above.
- **Consider Protocol 2-044 - Airway: RSI if any of the following:**
  - Brassy cough,
  - Carbonaceous sputum,
  - Deep facial burns,
  - Hoarse voice, OR
  - Rhonchi / rales / crackles.

# CP:

- Ensure completion of all applicable items above.

# Change Log:

| Date | Link to previous version | Description of change |
|---|---|---|
| 01/29/14 | pdf | Added consider saran wrap. Replaced Parkland formulas with new ABLS fluid guidelines. Added consider direct transport to burn center guidelines. Added contraindication for King Airway and 7.5 ET tube desired. |
| 12/12/14 | pdf | Made Intubation and RSI DELIBERATE ACTIONS. Added indications for RSI. |
| 12/12/14 | pdf | Added stop the burning process. Added remove all jewelry. Added keep patient warm. Detailed fluid bolus dose for pediatrics greater than 6 yr and less than 6 yr. Added weight-based dose for greater than 65yr for Fentanyl. Added reference to Poisoning for smoke inhalation. |
| 03/02/15 | | Removed DELIBERATE ACTIONS. |
| 04/14/15 | | Added consider to limb leads. |
| 02/03/16 | pdf | Added EMD section. |
| 07/22/16 | pdf | Moved fluid bolus to AEMT section. |
| 09/22/17 | pdf | Removed medical control for calcium chloride jelly for HF exposure. |
| 08/24/18 | | Per Dr. Kramer, added bolded DECON to every step and every level. Added comment that any Fluorine exposure can be treated as HF exposure. |
| 08/24/18 | pdf | Added link to poisoning protocol. Removed comment to titrate LR to SBP. Added rule of nine graphic. |
| 07/23/19 | | Added link to new hemorrhage protocol. |
| 04/12/20 | pdf | Added HF acid content (without substantive modification) from old Protocol 4-140 - PoisoningOverdose. Added content (without substantive modification) from old Protocol 5-030 - Burns. Added link to Protocol 1-300 - Ambulance Operations for hazardous atmosphere standby. |
| 11/13/20 | pdf | Added modified Parkland formula based on new recommendations from PHTLS version 9. |
| 06/06/21 | pdf | Moved to emsprotocols.online |
| 10/14/21 | pdf | Changed 2-176-01 to 2-176-50 link. |
| 03/15/23 | pdf | Clarified RN and medic roles. Added CP. |
| 03/19/23 | | Changed links for LR. |
| 03/20/23 | | Changed link for Calcium |

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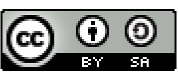
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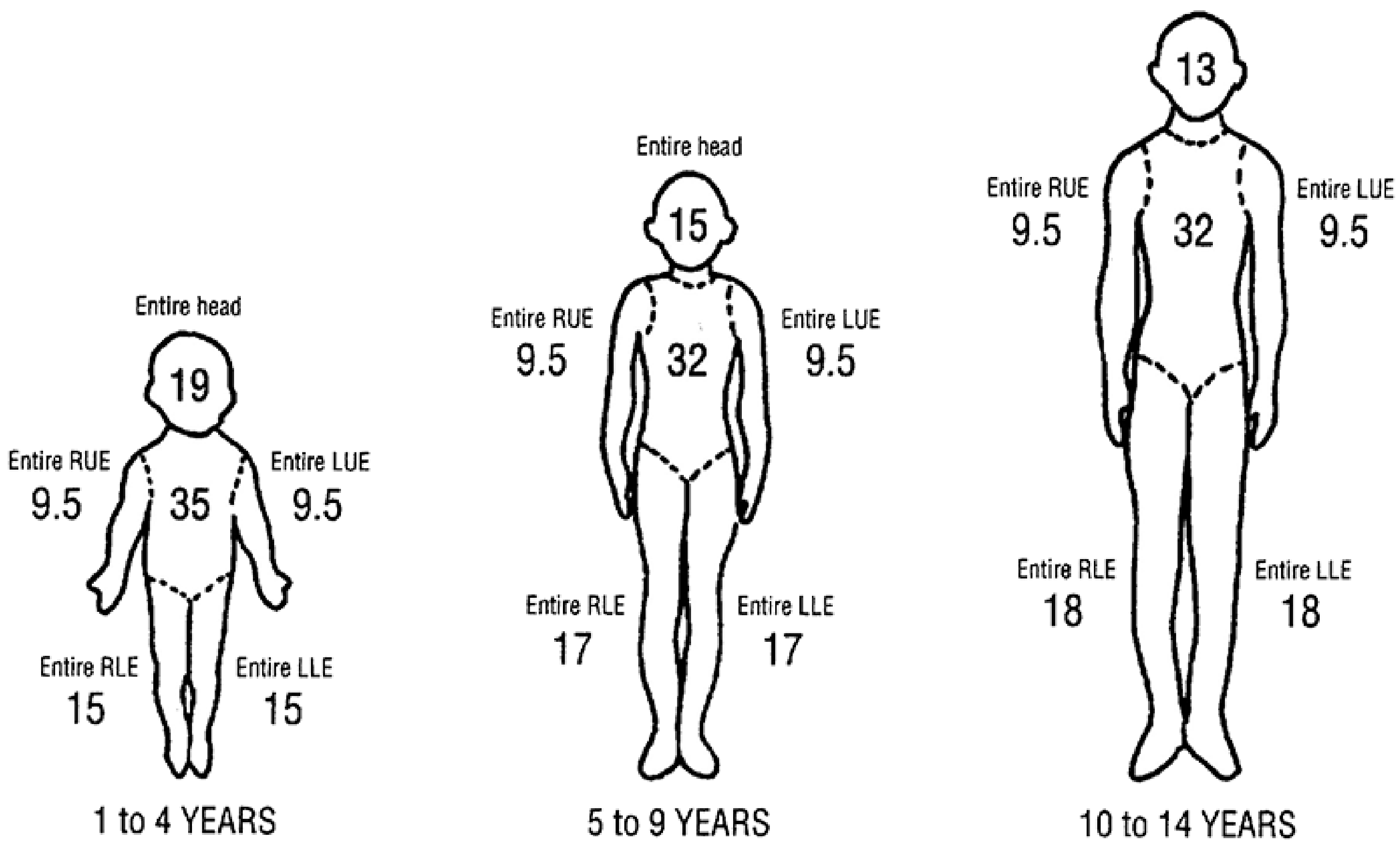
# Protocol 2-176-50 - Burns - Rule of Nines

**CMH EMS & MIH Protocols**



## Change Log:

| Date | Link to previous version | Description of change |
|---|---|---|
| 07/05/20 | | Moved this section from 2-176created a new page. |
| 06/06/21 | pdf | Moved to emsprotocols.online |
| 10/14/21 | pdf | Changed number from 2-176-01 to 2-176-50. |

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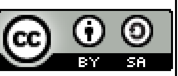
| CMH Pre-Hospital Services Mission: "*Provide safe, exceptional, and compassionate care to our communities with an emphasis on highly trained and empowered staff*." | CMH Mobile Integrated Healthcare Mission: "*Provide exceptional, compassionate, and patient-centered care by a mobile collaborative team to improve patient experience, improve quality outcomes, and reduce healthcare costs*." | |
|---|---|---|



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# Protocol 2-198 - Cardiac Arrest

**CMH EMS & MIH Protocols**

## COMMUNITY RESPONDER:

- Call or have someone call 9-1-1. Follow the instructions given by the dispatcher.
- Ensure the scene is safe and protect yourself from body substances.
- **If the patient is unresponsive and not breathing (or only gasping)**:
  - Get or have someone get the AED. Follow the instructions given by the AED once it arrives.
  - Lay the patient flat on his/her back on the ground and remove any pillows.
  - Place the heel of your hand on the breastbone and put your other hand on top of that hand.
  - Pump the chest hard and fast at a rate of about 110 compressions per minute. Compressions should be about 2 inches deep on an adult or 1/3 the depth of the chest on a child.
  - Rotate compressors (if possible) after 200 compressions (about 2 minutes).
  - Continue compressing at a rate of about 110 per minute until emergency responders relieve you.
- **As soon as the AED is available**:
  - Put the AED on the ground next to the patient's head on the side closest to you.
  - Undo or remove any clothing from his/her chest. If the chest is wet, dry it off.
  - Open the AED (if necessary) and press the "ON" button (if there is one).
  - Open the pads package and plug them into the machine.
  - Peel off the pad backing and apply them to his/her bare chest as shown on the pads.
  - Follow the AED's instructions.
- Refer to Equipment 8-018 - Automated External Defibrillator for AED accessibility, supplies, maintenance, and instructions after use

## EMD:

- **MPDS Protocol 9 (Cardiac Arrest) - Cardiac arrest pathway**: Continuous compressions instructions provided to callers until responder arrival is the treatment preference for adult arrest with suspected cardiac origin
- **MPDS Protocol 9 (Cardiac Arrest) - Obvious death**: The following conditions indicate obvious death:
  - Decapitation,
  - Decomposition,
  - Putrefaction, OR
  - Incineration.

- **MPDS Protocol 9 (Cardiac Arrest) - Expected death**: The following conditions indicate expected death:
  - DNR order, OR
  - Hospice care.

# EMR:

- Ensure completion of applicable items above.
- Resuscitation should not be started if:
  - Decapitation,
  - Rigor mortis,
  - Tissue decomposition,
  - Extreme dependent lividity,
  - Obvious mortal injury,
  - Properly documented DNR order, OR
  - Properly documented advance directive.
- Request ALS support if not already en route.
- Confirm pulselessness and apnea.
- Consider AED or Cardiac Monitor in AED mode
- Perform Compressions.
  - Consider Chest Compressor.
  - Minimize interruptions.
  - Use CPR metronome set at 110/min, if available or count out loud.
  - Rotate human compressors every 2 minutes.
  - Continuous Compressions at 110/min with Oxygen 15 LPM via BVM or tube.
- Attach Cardiac Monitor combo pads and limb leads.
- Attempt to determine down-time, history, and DNR status.
  - The documented wishes of patients not wanting to be resuscitated shall be honored. DNR Documentation must contain both the patient's and physician's signature. If any doubt exists regarding the validity of the documentation, immediate resuscitation should be initiated.
  - All therapeutic care and vigorous support (IVs, medications, etc.) shall be given until the point of cardiac respiratory arrest.
  - If a valid DNR form is present, it may be honored without contacting medical control. If a valid DNR is presented after resuscitation has been initiated, it can also be honored without contacting medical control and resuscitation may be terminated.

# EMT:

- Ensure completion of applicable items above.
- Prepare IV/IO supplies and any requested medications from ALS.
- Consider insterting an NPA, King, or LMA airway.
- Attach Capnography even if only using BVM and no airway device.
- Check blood sugar.
- **Pregnant**: Oxygenation and airway should be prioritized. Fetal monitoring should not be done during resuscitation.
- Prepare for termination or transport.

# AEMT:

- Ensure completion of applicable items above.
- Start IV with LR fluid bolus.
- Consider Narcan 2 mg IN for possible overdose.

# RN:

- Ensure completion of all applicable items above.
- Consider IO with LR fluid bolus. IV is preferred and should be attempted first.
- Epinephrine IV/IO every 3-5 min or drip over 5 min.
    - | Adult: | Pediatric: |
      |---|---|
      | 1 mg. | 0.01 mg/kg.<br>▪ Click "calculate" to get dose. |
- **Pulseless Electrical Activity (PEA)**: Refer to Protocol 2-748 - Pulseless Electrical Activity.
- **Ventricular fibrillation, ventricular tachycardia, ventricular ectopy, or Torsades de Pointes**: Refer to Protocol 2-968 - V-Fib / Pulseless V-Tach.
- Consider Atropine 1 mg IV/IO for Bradycardia every 3-5 min.
- Consider Narcan 2 mg IV/IO for possible overdose.
- Consider Sodium Bicarbonate 1 mEq/kg IV/IO for acidosis.
    - Click "calculate" to get dose.
- Consider Pacing.
- Consider Dextrose 25 g IV/IO for Hypoglycemia.

**Dialysis Patient or Known Hyperkalemia**: Consider contacting MEDICAL CONTROL for Calcium Chloride 1 g IV/IO.

- Perform Physical Exam.
- **Consider and correct treatable causes**: Hypovolemia, hypoxia, hypo/hyperkalemia, hypothermia, hypoglycemia, acidosis, tension pneumothorax, toxins, thrombosis, and cardiac tamponade.
- Begin termination/transportation conversation.
    - **Conditions for consideration of termination**:
        - Full ACLS efforts have been attempted for 20 minutes, AND
        - Patient is an adult, AND
        - Suspected cause of arrest is NOT Poisonings, overdose, drowning, hypothermia, or pregnant with a fetus greater than 24 weeks gestation, AND
        - Capnography has been less than 10 for at least 10 minutes, AND
        - Cardiac rhythm is asystole.

        In all cases where termination of resuscitation is considered, MEDICAL CONTROL shall be consulted.
    - **Conditions where termination of resuscition should NOT be considered**:
        - Patient is pediatric, OR
        - Suspected cause of arrest is Poisonings, overdose, drowning, hypothermia, or pregnant with a fetus greater than 24 weeks gestation OR
        - If airway cannot be maintained OR
        - IV/IO cannot be accessed.
- When considering termination, RN/Paramedic/CP should consult with the family. If family believes the patient would wish continued resuscitative efforts, resuscitation will continue and the patient shall be transported to closest appropriate facility.

In the event there is no clear evidence to withhold CPR, however patient has a terminal condition and the patient’s wishes have been conveyed by the family, contact MEDICAL

CONTROL to withhold resuscitation.
Field termination may be requested from MEDICAL CONTROL for victims of trauma with no signs of life regardless of how long ACLS efforts have been underway.

- After resuscitation has been terminated, contact local law enforcement and remain on scene until at least law enforcement or coroner arrival on the scene. If at healthcare facility, scene may be cleared prior to body retrieval.
- **Peri-arrest patient requiring comfort measures (Hospice, TPOPP, MOLST, or POLST)**: Refer to Protocol 2-198-50 - Peri-Arrest Comfort Measures.

# Medic:

- Ensure completion of all applicable items above.
- Consider Intubation without interruption of Compressions to facilitate continuous Compressions.

# CP:

- Ensure completion of all applicable items above.

## Change Log:

| Date | Link to previous version | Description of change |
|---|---|---|
| 10/04/13 | pdf | Specified faxing ePCR only to non-CMH facilities. |
| 01/29/14 | | Added if at healthcare facility, scene may be cleared. Coordinated with CMH policies. |
| 12/12/14 | pdf | Created cardio cerebral resuscitation protocol. |
| 12/12/14 | pdf | Added comment that adults should receive 20 min of CPR before movement. |
| 12/14/14 | pdf | Replace CPR with CCR. |
| 12/26/14 | | Added Atropine, sodium bicarb, Amiodarone, Pacing, pediatric dosages. |
| 03/31/15 | | Reverted to CPR per medical director. |
| 04/03/15 | pdf | Moved Gastric Tube to Protocol 6-110 - Rapid/Delayed Sequence Intubation (RSI). |
| 05/31/15 | | Added comment to refer to... |
| 11/17/15 | | Added comment to perform continuous compressions with passive oxygen and basic airway for 3 cycles on witness arrest with a shockable rhythm based on 2015 AHA reccomendations. Added comment to consider biphasic energy doses. Added option for NPA in addition to OPA. |
| 11/17/15 | | Added clarification for EMH vs CMH faxing ePCR after termination. |
| 02/03/16 | pdf | Added EMD section for MPDS medical direction. |
| 02/03/16 | pdf | Added EMD section for MPDS medical direction. |
| 02/06/16 | pdf | Added section for community responders. The intent of this addition is to provide standing protocols for community agencies and organizations to utilize for the use of their AEDs. |
| 02/06/16 | | Added reference to AED protocol. |
| 07/22/16 | pdf | Moved Narcan to AEMT section. |
| 07/01/17 | pdf | Modified compression rate from 100 to 110. |
| 07/26/17 | pdf | Changed title from section to protocol. |
| 09/20/17 | | Corrected typo where one location still indicated compression rate of 100 instead of 110. |
| 09/22/17 | pdf | Added calcium chloride for dialysis patient. |
| 09/22/17 | pdf | Added putrefaction as a sign of obvious death for EMD. Added prgnancy with fetus > 24 weeks as contraindication for field termination. |
| 12/26/17 | pdf | Per Dr. Carter, removed requirement for DNR to be dated within 365 days. |
| 08/24/18 | pdf | Added option to drip Epi over five min. |
| 07/23/19 | pdf | Fixed typo. |
| 03/31/20 | pdf | Added content (without substantive modification)t from old Protocol 6-140 - Termination of Resuscitation. |
| 03/31/20 | | Added content (without substantive modification) from old Protocol 6-060 - Do Not Resuscitate (DNR). |
| 03/31/20 | pdf | Added content from old Protocol 6-025 - Cardiopulmonary Resuscitation (CPR). Added pediatric dose of Amiodarone. |

| | | |
|---|---|---|
| 03/31/20 | pdf | Added content (without substantive modification) from old Protocol 2-030 - Automated External Defibrillation. |
| 02/19/21 | pdf | AHA 2020 updates to this protocol include no more 30:2 compression:ventilation ratio. All CPR is asynchromous at 110 per minute regardless of advanced airway placement. Capnography is indicated and required even if no airway is in place. IV is specifically called out as preferable to IO. Some clarification on cardiac arrest in pregnant patients that oxygenation and airway should be prioritized and fetal monitoring should not be done. |
| 03/25/21 | pdf | Moved administration of epinephrine above links to PEA and VFib protocols. |
| 06/06/21 | pdf | Moved to emsprotocols.online |
| 10/14/21 | pdf | Changed link from 2-198-01 to 2-198-50. |
| 11/30/21 | | Updated link to Albuterol. |
| 02/28/22 | | Updated link for Sodium Bicarb. |
| 03/15/23 | pdf | Clarified conditions for termination of resuscitation per 5/25/22 protocol committee approval and Dr. Nicholes approval. Added capnography and asystole. Clarified RN and medic roles. Added CP. |
| 03/19/23 | | Changed link for Narcan. |
| 03/20/23 | | Changed link for Epi. |
| 03/20/23 | | Changed link for Dextrose. |
| 03/20/23 | | Changed link for Calcium. |
| 03/20/23 | | Changed link for Atropine. |
| 04/27/23 | pdf | Corrected two typos where POISONING was repeated. |

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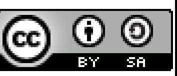
|---|---|---|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# Protocol 2-198-50 - Cardiac Arrest - Peri-Arrest Comfort Measures

**CMH EMS & MIH Protocols**

## RN:

- **Peri-arrest patient requiring comfort measures (Hospice, TPOPP, MOLST, or POLST)**: Use these guidelines for comfort interventions during transport or when providing interim comfort care on site. Medications contained within the patient's comfort kit may be used as indicated below. Do not give Narcan to comfort measures patients. If patient dies during transport, continue on to destination
  - If additional comfort measure orders are specified on the form, contact MEDICAL CONTROL.
  - **Anxiety, agitated delirium, or hallucinations**:
    - Consider Ativan 0.5-2 mg PO.
    - Consider Haldol 2-5 mg PO.
    - Consider trial of Versed 1-3 mg IV/IN in increasing doses (max 3 mg). Watch for worsening of agitation.
  - **Dehydration**: Consider LR 10-20 ml/kg IV.
    - Click "calculate" to get dose.
  - **Fever**:
    - Consider Acetaminophen 325-650 mg PO/suppository.
    - Cool cloth to forehead, neck, and/or underarms.
  - **Nausea**:
    - Consider Zofran 4-8 mg PO/IV.
    - Consider Ativan 0.5-2 mg PO.
  - **Pain management**:
    - Consider Morphine 1-5 mg PO/IV every 10 minutes PRN.
    - Consider Fentanyl 25-50 mcg IV/IN every 10 minutes PRN.
  - **Work of breathing**: Tachypnea, accessory muscle use, or hypoxia with agitation (Low SpO2 alone does not indicate work of breathing).
    - Consider Oxygen NC max 10 LPM.
    - Alert patient with history of CPAP use: Consider CPAP. Do not BVM.
    - Consider Fentanyl 25 mcg with 2 ml NS Nebulized.
    - Consider Versed 2-5 mg IV.

## Medic:

- Ensure completion of all applicable items above.

- Ensure completion of all applicable items above.

## Change Log:

| Date | Link to previous version | Description of change |
|---|---|---|
| 02/03/16 | pdf | Added TPOPP comfort measures. |
| 09/22/17 | pdf | Added dehydration fluid bolus for AEMT. Added POLST and MOLST. Added Versed and Fentanyl options to work of breathing. Added Haldol option to Anxiety. |
| 07/12/20 | pdf | Moved this section from 2-198created a new page. |
| 06/06/21 | pdf | Moved to emsprotocols.online |
| 10/14/21 | pdf | Changed from 2-198-01 to 2-198-50. |
| 11/30/21 | | Updated link to Acetaminophen. |
| 12/01/21 | | Updated link for Zofran. |
| 12/01/21 | | Updated links to Versed. |
| 02/28/22 | | Updated link to Ativan. |
| 03/15/23 | pdf | Clarified RN and medic roles. Added CP. |
| 03/17/23 | | Updated link to NS. |
| 03/19/23 | | Changed link for Narcan. |
| 03/19/23 | | Changed link for Morphine. |
| 03/19/23 | | Changed link to LR. |
| 03/20/23 | | Changed link for Haldol. |
| 03/20/23 | | Changed links for Fent. |

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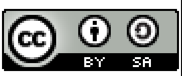
| CMH Pre-Hospital Services Mission: "*Provide safe, exceptional, and compassionate care to our communities with an emphasis on highly trained and empowered staff*." | CMH Mobile Integrated Healthcare Mission: "*Provide exceptional, compassionate, and patient-centered care by a mobile collaborative team to improve patient experience, improve quality outcomes, and reduce healthcare costs*." | |
|---|---|---|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# Protocol 2-220 - Chest Pain / Suspected Cardiac Event

**CMH EMS & MIH Protocols**

## EMD:

- **MPDS Aspirin Diagnostic**: EMDs are NOT authorized to suggest self-administration of Aspirin.

## EMR:

- Calm and reassure patient. Ensure patient does not exert themselves.
- Oxygen to maintain SpO2 between 94-99%.
- Apply Cardiac Monitor limb leads.
- **STEMI** verified by ALS or physician:
  - Consider Combo Pads anterior / posterior
  - Remove clothing and place patient in gown.

## EMT:

- Ensure completion of applicable items above.
- Obtain 12-Lead ECG within 10 minutes of patient contact.
- If ALS is unavailable, transmit to closest ER or CMH ER and contact ER by phone to obtain interpretation.
-

| Adult: | Pediatric: |
|---|---|
| ◦ **No trauma**: Aspirin 324 mg (4 chewable tablets - 81 mg each) within 5 minutes of patient contact. Unless contraindicated, healthcare-provider Aspirin administration must be completed and documented in ePCR for all cardiac chest pain patients. | ◦ NA. |

- Consider assisting ALS with Capnography.
- **STEMI** verified by ALS or physician:
  - Transport according to Protocol 2-220-50 - STEMI Destination Matrix.

## AEMT:

- Ensure completion of applicable items above.

- IV NS/LR in AC (left is preferred) with pigtail extension with 18 ga or greater. Consider second 18 ga IV in right AC.
-

| Adult: | Pediatric: |
|---|---|
| ◦ **No trauma and SBP greater than 100**: Nitroglycerin 0.4 mg SL (1 spray or 1 tablet). Every 5 min until no Pain or SBP less than 90. Ensure IV access prior to Nitroglycerin administration, if possible. Contraindicated if phosphodiesterase inhibitor (i.e., Viagra) within 48 hours. | ◦ NA. |

# RN:

- Ensure completion of all applicable items above.
- Consider IO NS/LR.
- Interpret 12-Lead ECG within 10 minutes of patient contact. Refer to Protocol 8-108-01 - ECG Interpretation Guide.
  - 15-Lead ECG indicated when: normal ECG, inferior MI, ST depression in V-leads.
  - **Cath Lab Activation**:
    - Contact ER to activate Cath Lab as early as possible via encrypted radio (CMH ER) or CMH ER Charge Nurse at 417-328-6923.
    - Transmit ECG to receiving facility ER (if possible).
- Consider serial 12-Lead ECGs.
- **Pulmonary edema**: Refer to Protocol 2-726 - Pulmonary Edema.
-

| **Adult:** | **Pediatric:** |
| --- | --- |
| ◦ **No trauma**:<br>▪ **Right-sided MI (ST elevation in V4R)**: LR 1-2 L followed by Nitroglycerin 5+ mcg/min IV/IO.<br>▪ **SBP less than 100**: Consider Nitroglycerin 10+ mcg/min IV/IO titrated to blood pressure and Pain.<br>▪ **Continued discomfort or Pain**:<br>▪ Consider Morphine 2 mg IV/IO (max 10 mg). Maintain SBP greater than 100.<br>▪ Consider Fentanyl 50-100 mcg every 5-20 min (max 300 mcg) IV/IO/IN.<br>▪ **Over 65 yr old**: 0.5-2 mcg/kg.<br>▪ Click "calculate" to get dose.<br>Consider contacting MEDICAL CONTROL for Heparin 4,000 u. | ◦ NA. |

- **Nausea or vomiting**: Refer to Protocol 2-990 - Vomiting.

# Medic:

- Ensure completion of all applicable items above.

# CP:

- Ensure completion of all applicable items above.

## Change Log:

| Date | Link to previous version | Description of change |
|---|---|---|
| 10/04/13 | pdf | Indented BLS CPAP under Flail Chest. |
| 10/07/13 | pdf | Clarified image for 12- and 15-Lead placement. |
| 11/11/13 | | Added quote from MO Statues on transporting TCD STEMI. |
| 12/13/13 | | Removed CPAP as BLS skill, now is assist ALS. |
| 12/20/13 | | Added CMH Cath Lab activation procedure. |
| 01/29/14 | | Added preferred IV locations, Combo Pads. Changed ER contact phone number. Changed EKG email address. Coordinated protocol with CMH policies. |
| 02/02/14 | | Changed EKG email address again. |
| 12/12/14 | pdf | Removed Blood Draw. Added Fentanyl if nitro and Morphine contraindicated. |
| 12/12/14 | pdf | Made Intubation a DELIBERATE ACTION. Made Chest Decompression a DELIBERATE ACTION. Added weight-based dose for greater than 65 yr for Fentanyl. |
| 12/15/14 | | Added within 5 min for ASA administration. |
| 12/26/14 | pdf | Added TXA. |
| 03/02/15 | | Removed DELIBERATE ACTION. |
| 03/30/15 | | Added STEMI destination determination flowchart. |
| 04/03/15 | | Added Use Tablet for STEMI transmission. |
| 04/14/15 | | Added consider to occlusive dressing. |
| 05/31/15 | | Re-worded indications for TXA for better clarity. |
| 08/06/15 | pdf | Moved Aspirin administration from EMT section to EMR section. |
| 09/16/15 | | Added by request of Dr. Merk to TXA indications that signs of shock must still be present after 1 L fluid bolus. |
| 10/21/15 | | Removed need to contact medical control for inferior MI. Added 1-2 L fluid bolus for right-sided MI. Clarified option for Fentanyl or Morphine for additional pain control. |
| 11/17/15 | | Added tension pneumothorax as indication for decompression. |
| 02/03/16 | pdf | Added EMD section for MPDS medical direction. |
| 06/27/16 | pdf | Added note that IV access must be in an AC space (left is preferred). |
| 07/05/16 | | Added comments to BLS side to put the patient in a gown with combo pads if STEMI. |
| 07/22/16 | | Moved Nitro SL to AEMT section. |
| 07/24/16 | | Moved 12-lead acquisition and transmission to BLS side with note about interpretation by ER physician if no ALS is available. |
| 07/25/16 | | At the request of Dr. Merk, added the comment to ensure IV access prior to nitro administration. |
| 07/28/16 | | At the request of Morrisville Fire, specified four 81 mg aspirin tablets. |
| 07/28/16 | pdf | At the request of Polk EMS Manager, added BVM as an EMT option for stabilizing flail chest. |

| | | |
|---|---|---|
| 08/02/16 | | At request of Dr. Kramer, changed transmitting 12-lead for BLS to closest ER for interpretation instead of CMH. |
| 08/24/17 | pdf | Added comment to consider 2nd IV in R AC. |
| 09/20/17 | | Added comment that Nitro spray is contraindicated if phosphodiesterase inhibitor within 48 hours. Added comment to consider serial 12-lead EKGs. Added target scene time of 10 minutes. |
| 11/11/17 | pdf | Added reference to encrypted radio for patient reports. |
| 11/11/17 | pdf | Added comment that TXA could be used before fluid bolus if obvious life-threatening hemorrhage. |
| 12/19/17 | pdf | Added comment to consider pelvic binder if absent or decreased pulses. |
| 05/03/18 | pdf | Added comment to ensure accurate weight upon arrival at ER. |
| 03/01/19 | pdf | Changed targeted SBP from 80 to 100 based on PHTLS ver 9 recommendation. Added needle decompression sites with a preference being 5th intercostal midaxillary also based on PHTLS ver 9. |
| 07/23/19 | pdf | Added link to performance graph for 12-lead time. |
| 07/23/19 | | Added link to new hemorrhage protocolremoved TXA. |
| 11/27/19 | pdf | Moved ASA to EMT section to comply with national scope of practice. Moved STEMI definitions to interpretation guide. |
| 04/04/20 | pdf | Added content (without substantive modification) from old Protocol 5-040 - Chest Trauma. Would rather have another place to put flail chesttension pneumo treatments, but there is not a chest injury/trauma NEMSIS protocol. |
| 04/04/20 | | Added content (without substantive modification) from old Section 2-052 - STEMI Destination Matrix. |
| 04/04/20 | pdf | Added content (without substantive modification) from old Protocol 2-050 - Chest Discomfort. |
| 02/19/21 | pdf | AHA 2020 changes to this protocol include specifying aspirin administration MUST be done by a healthcare professional. Patient self-administration or administration by rescue does not count. Ambulance personnel must administer a full dose after confirming absence of contraindications. This is due to changes to STEMI registry, request by STEMI committee on 11/10/20 and critical care committee on 1/28/21. |
| 06/06/21 | pdf | Moved to emsprotocols.online |
| 10/14/21 | pdf | After STEMI accreditation change requiring healthcare provider given ASA, the protocol committee recommended on 5/26/21 to reduce the ASA dose given by EMD, EMR, or fire dept EMTs to 81 mg. Conversation with Dr. Nicholes on 6/8/21, he indicated to remove pre-EMS ASA administration to limit overdosing aspirin. |
| 10/14/21 | | Changed 2-220-01 to 2-220-50 link. |
| 11/05/21 | pdf | Moved chest trauma information to the new General Trauma Protocol 2-451. |
| 11/30/21 | | Updated link to Aspirin. |
| 03/15/23 | pdf | Moved flail chest treatment from cardiac chest pain protocol to general trauma protocol. This was missed when the general trauma protocol was created a few years ago. Clarified RN and medic roles. Added CP. |
| 03/19/23 | | Changed link for Nitro. |
| 03/19/23 | | Changed link for Morphine. |
| 03/20/23 | | Changed link for Heparin. |
| 03/20/23 | | Changed link for Fent. |

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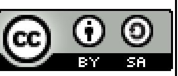


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# Protocol 2-220-50 - Chest Pain - STEMI Destination Matrix

**CMH EMS & MIH Protocols**

This matrix was developed using geographical analysis of designated facilities and historical ambulance transport statistics. It also follows Missouri regulations found in 19 CSR 30-40.790 (Transport protocol for trauma, stroke, and STEMI patients).

- These are guidelines only. Scene or patient conditions may influence an alternate destination determination.
- Patients have the right to refuse transport to the recommended destination. If the patient refuses recommended destination, document "transport / refused care" and have patient sign refusal.
- When initial transport from the scene would be prolonged, the patient may be transported to the nearest appropriate facility.

## Refer to ECG Interpretation Guide.

## Consider transporting to the closest STEMI center for any one the following criteria:

- ST elevation of one or more mm (1 mm) in two leads in the following areas:
  - Anterior (V3 and V4),
  - Inferior (II, III, and/or aVF),
  - Lateral Left (I, aVL, V5, and/or V6), OR
  - Septal (V1 and V2).
- ST elevation of ½ or more mm (0.5 mm) in the following areas:
  - Lateral Right (V4R), OR
  - Posterior (V8 and V9)
- New onset LBBB,
- Sgarbossa criteria,
- DeWinters syndrome, OR
- Wellens syndrome.

| Location | Destination | STEMI Designation | Notes |
|---|---|---|---|
| Bolivar | Citizens Memorial | Level II | **If cardiogenic shock**: Transport to Level I STEMI center |
| Osage Beach | Lake Regional | Level II | |

## Consider transporting to the closest Level I STEMI center for any one the following criteria:

- Any criteria above, and/or
- Any of the following:
  - Cardiogenic shock OR
  - Three Vessel Disease.

| Location | Destination | STEMI Designation | Notes |
|---|---|---|---|
| Aircraft | Aircraft crew determination | NA | **If over 45 min drive time**: Utilize aircraft |
| Springfield | Cox South | Level I | |
| | Mercy | Level I | |
| Kansas City | Research | Level I | |
| | St. Luke's | Level I | |

# Change Log:

| Date | Link to previous version | Description of change |
|---|---|---|
| 11/17/15 | pdf | Added northern destinations that might be closer to Ellett's response area. Modified quickest transportation mode definition to 35 minutes. |
| 07/22/16 | pdf | Added comment than BLS truck with ALS patient shall transport to closest ER or CMH. |
| 08/24/17 | pdf | Streamlined flowchart with a comment to follow aircraft protocol when flying patient. |
| 07/23/19 | pdf | Verified designated STEMI centers with BEMS website. |
| 11/27/19 | pdf | Changed format from flowchart to something more easily utilized. |
| 07/12/20 | pdf | Moved this section from 2-220created a new page. |
| 06/06/21 | pdf | Moved to emsprotocols.online |
| 10/14/21 | pdf | Renumbered from 2-220-01 to 2-220-50. |
| 10/14/21 | | Added link to 1-100 aircraft. |
| 11/05/21 | | Fixed typo where table indicated TRAUMA destination but should have been STEMI destination. |

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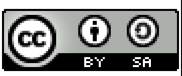

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# Protocol 2-242 - Childbirth / Labor

**CMH EMS & MIH Protocols**

In general, this protocol's scope covers management of delivering a baby up to the point of cutting the umbilical cord. After cutting the cord:

- Care for mom following appropriate protocol(s) (i.e., Protocol 2-462 - Gynecologic Emergencies).
- Care for baby/babies following Protocol 2-616 - Newly Born.

## EMD:

- **MPDS Protocol 24 (Pregnancy) - High risk complications**: The following conditions indicate a high-risk pregnancy or childbirth.
  - Premature birth, multiple birth, bleeding disorder, placenta abruption, placenta previa, breech, prolapsed cord, OR unknown/ignored pregnancy.

## EMR:

- Consider Oxygen if SpO2 less than 88%.
- Inspect for active bleeding/crowning. Determine amount of blood loss.
- Consider applying Cardiac Monitor limb leads.
- **Crowning**: Stop transport and DELIVER infant. Both crew members should be available during delivery.
  - Consider cleaning vaginal area prior to birth.
  - **Prolapsed cord**:
    - Place mother on hands and knees.
    - Do not handle cord. Cover it with moist dressing.
    - Protect cord from compression with fingers.
    - Rapid transport to nearest hospital with OB department.
  - **Breech**: Deliver as best you can (see below).
  - **No complications**:
    - Provide peritoneal pressure during delivery to prevent tearing.
    - Check for cord around neck as soon as head is delivered and slip it over the head if found.
    - Guide head down to facilitate delivery of anterior shoulder and then up to facilitate delivery of posterior shoulder.
    - Only Suction airway if infant is in distress.
    - Dry, warm, and stimulate. Do not routinely Suction.
    - Place infant skin-to-skin with mother while she breastfeeds, if possible.

- Clamp and cut cord halfway between mother and infant after 1-3 min. Only clamp cord if full-term gestation baby.
    - **If resuscitation is needed**: Clamp and cut cord as soon as possible.
- Expect placenta within 5-15 min and transport it with patients.
- Perform fundal massage.

- **Once delivered**: Refer to Protocol 2-616 - Newly Born

# EMT:

- Ensure completion of applicable items above.
- **NOT crowning**:
  - Consider orthostatic vital signs.
  - Consider transport in left lateral recumbent position to reduce risk of Vena Cava compression.

# AEMT:

- Ensure completion of applicable items above.
- IV LR 500-1,000 ml bolus.

# RN:

- Ensure completion of all applicable items above.
- Consider IO LR titrated to blood pressure.
- **Pain**: Consider avoiding narcartic administration.

# Medic:

- Ensure completion of all applicable items above.

# CP:

- Ensure completion of all applicable items above.
- Refer to MIH Protocol 4-333 - Chronic OB/GYN Management.

## Change Log:

| Date | Link to previous version | Description of change |
|---|---|---|
| 10/04/13 | pdf | Added consider to orthostatic. |
| 10/04/13 | pdf | Added consider to orthostatic. |
| 12/12/14 | pdf | Added detailed delivery instructions for normal, breech, and prolapsed cord. Added comments to only Suction if infant is in distress. |
| 04/14/15 | | Added comment to only clamp the cord if full-term delivery. |
| 11/17/15 | pdf | Added comment that patient should be transported to a hospital with an OB department. |
| 02/03/16 | pdf | Added EMD section for MPDS medical direction. |
| 07/22/16 | pdf | Moved NS fluid bolus to AEMT section. |
| 09/22/17 | pdf | Added comment to avoid routine suctioning. Added comment to check and fix cord around neck. Added comment for posterior and anterior pressure to deliver shoulders. Added comment to clamp and cut cord after 1-3 minutes if no distress and immediately if resuscitation and referenced NRP protocol. |
| 11/11/17 | pdf | Added unknown or ignored pregnancy to the list of high-risk pregnancy conditions. |
| 12/21/17 | pdf | Added comment to consider limb leads. |
| 08/24/18 | pdf | Changed fluid from NS to LR. |
| 04/16/20 | pdf | Added content (without substantive modification) from old Protocol 4-160 - Pre-Term Labor. |
| 04/16/20 | pdf | Added content (without substantive modification) from old Protocol 4-090 - Childbirth. |
| 06/06/21 | pdf | Moved to emsprotocols.online |
| 03/15/23 | pdf | Clarified RN and medic roles. Added CP. |
| 03/19/23 | | Changed links for LR. |
| 05/26/23 | pdf | Added link to 4-333. |

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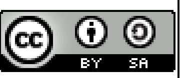


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# Protocol 2-286 - Drowning / Near Drowning

**CMH EMS & MIH Protocols**

## EMD:

- **MPDS Protocol 14 (Drowning) - Obvious death**: Submersion time does not indicate obvious death.

## EMR:

- Remove from water.
- Open and maintain airway. Be prepared to Suction.
- **Pulseless**: Refer to Protocol 2-198 - Cardiac Arrest.
- **Pulmonary edema suspected**: Consider assiting ventilation with BVM.
- Dry and warm the patient.
- Obtain core body Temperature, if able.
- Consider applying Cardiac Monitor limb leads and/or combo pads.
- Attempt to determine down-time and history.

## EMT:

- Ensure completion of applicable items above.
-

| Adult: | Pediatric: |
|---|---|
| ◦ Consider assisting ALS with CPAP. | ◦ NA. |

- Consider assisting ALS with Capnography.

## AEMT:

- Ensure completion of applicable items above.
- IV warm NS/LR.

## RN:

- Ensure completion of all applicable items above.
- Consider IO warm NS/LR.
- **Pulseless**:
  - **Shockable ryhthm**: Refer to Protocol 2-968 - V-Fib / Pulseless V-Tach, however, only shock once.

    - **Core Temperature greater than 86° F**: Remember patients require longer intervals between drug administrations due to slower absorption and metabolism.
    - **Core Temperature less than 86° F**: Compressions only.
- Consider Protocol 2-044 - Airway: RSI.
- Treat cardiac dysrhythmias per specific protocol.

# Medic:

- Ensure completion of all applicable items above.

# CP:

- Ensure completion of all applicable items above.

## Change Log:

| Date | Link to previous version | Description of change |
|---|---|---|
| 10/04/13 | pdf | Added consider Combo Pads. |
| 12/13/13 | | Removed CPAP as BLS skill, now is assist ALS. |
| 12/14/14 | pdf | Replaced CPR with CCR. |
| 03/31/15 | | Reverted to CPR per medical director. |
| 04/03/15 | df | Moved Gastric Tube to Protocol 6-110 - Rapid/Delayed Sequence Intubation (RSI). |
| 04/14/15 | | Added consider to limb leads. |
| 05/31/15 | | Replaced BLS (pulseless) sections with refer to Protocol 6-025 - Cardiopulmonary Resuscitation (CPR). |
| 11/17/15 | | Added comment to consider biphasic energy doses. |
| 02/03/16 | pdf | Added EMD section for MPDS medical direction. |
| 04/08/20 | pdf | Added content (without substantive modification) from old Protocol 3-010 - Drowning. |
| 06/06/21 | pdf | Moved to emsprotocols.online |
| 10/14/21 | pdf | Added comment for EMR and above to consider BVM if pulmonary edema. Recommended by Brice on 7/28/20. Approved by protocol committee on 5/26/21. Approved by Dr. Nicholes on 6/8/21. |
| 03/15/23 | pdf | Clarified RN and medic roles. Added CP. |
| 03/17/23 | | Updated links to NS. |
| 03/19/23 | | Changed links for LR. |

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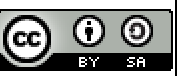
| CMH Pre-Hospital Services Mission: "*Provide safe, exceptional, and compassionate care to our communities with an emphasis on highly trained and empowered staff*." | CMH Mobile Integrated Healthcare Mission: "*Provide exceptional, compassionate, and patient-centered care by a mobile collaborative team to improve patient experience, improve quality outcomes, and reduce healthcare costs*." | |
|---|---|---|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# Protocol 2-330 - Exposure: Biological / Infectious

**CMH EMS & MIH Protocols**

## EMD:

- **Situations where a biological or infectious agent may be present**, ask the following questions and advise responding units of the responses:
  - Has anyone in the home had flu-like symptoms, breathing problems, coughing, headache, fever, or other illness in the last 14 days?
  - Has anyone in the home traveled outside of the state in the last 14 days?
  - Has anyone in the home been evaluated for the illness?
  - Is anyone in the home currently under a quarantine?

## EMR:

- Limit contact to only essential personel.
- **Situations where a biological or infectious agent may be present**, re-evaluate persons at the scene with the questions listed in the EMD section above.
- Perform as many of the assessments and treatments in well ventilated areas as possible.
- Maintain minimum distance of six (6) feet from all possibly infected patients.
- **If close contact is required**, responders should wear appropriate PPE (in order of most important to least):
  - Full-face respirator with N95 or equivalent cartridge,
  - N95 (minimum of a surgical mask),
  - Face shield (minimum of eye protection),
  - Gloves, and
  - Fluid-impermeable suit.
- **Large outbreak or pandemic scenario**:
  - If you are within six (6) feet of another person, wear a surgical mask.
  - If a patient is present, regardless of social distancing, place a sugical mask on the patient and all responders should wear surgical masks and eye protection.
  - If the patient is possibly infected, symptomatic, or high-risk procedure is being preformed, all responders should wear N95 masks and eye protection (full-face respirators is preferred).
  - If entering a facility with at-risk patients, limit responders to absolute minimum, and wear N95 and eye protection. Full-face respirators should not be worn due to exhalation valves are not filtered.
- **Fever or respiratory distress**:

  - Place the patient on a NRB at 15 LPM Oxygen and
  - Place a surgical mask over the exhaust ports of the mask.
- **Unresponsive or respiratory arrest**:
  - **If airway management and ventilation is mandatory**, insert an OPA and place a NRB over it with Oxygen 15 LPM. Limit or eliminate (preferred to eliminate) BVM and **strongly** recommended to NOT use the facemask portion of the BVM.
  - **If CPR is needed**, only provide chest compressions with the NRB and surgical mask described above.
- Before and after all patient contact, fully disinfect and clean equipment, uniform, PPE, and your hands.

# EMT:

- Ensure completion of applicable items above.
- **Unresponsive or respiratory arrest**:
  - **If airway management and ventilation is mandatory**, insert an NPA or supraglottic airway (NPA is preferred) with inline exhalation filter to bag. Limit or eliminate (preferred to eliminate) BVM and **strongly** recommended to NOT use the facemask portion of the BVM.
  - Place high-volume Suction in or near the patient's mouth.
    - Note: Ensure suction exhaust is not blowing contamination in the vacinity of responders by bystanders. CMH ambulance on-board suction exhaust is discharged under the vehicle.
- **During transport**:
  - Driver should remove gown and gloves, but retain respiratory protection.
  - Close pass-through between driver and passenger compartment.
  - Keep all windows down in the ambulance.
  - Limit occupants to minimum required.
  - All personnel in the back should continue to wear full PPE.

# AEMT:

- Ensure completion of applicable items above.
- **Fever or respiratory distress**:
  - Nebulizer treatements are STRONGLY discouraged. **Consider alternatives**:
    - Meter-dosed inhaler,
    - Epinephrine 1:1,000 IM in severe patients under 50 yrs old and no cardiac history, OR

| Adult | Pediatric |
|---|---|
| 0.3 mg | 0.01 mg/kg (max 0.25 mg)<br>▪ Click "calculate" to get dose. |

    - Epinephrine 1:100,000 (push-dose) IV every 10 min in severe patients under 50 yrs old and no cardiac history.

| Adult | Pediatric |
|---|---|
| 10 mcg | 0.1 mcg/kg<br>▪ Click "calculate" to get dose. |

# RN:

- Ensure completion of all applicable items above.
- **Fever or respiratory distress**:
  - Do NOT perform CPAP or BiPAP.
- Notify receiving hospital as soon as possible to allow for preparation for your arrival.

# Medic:

- Ensure completion of all applicable items above.
- **Unresponsive or respiratory arrest**:
  - Endotracheal intubation is STRONGLY discouraged. **If required**, use a cuffed tube, filtered exhalation, induce deep paralysis, avoid nasotracheal, and stop CPR during intubation attempt.

# CP:

- Ensure completion of all applicable items above.

## Change Log:

| Date | Link to previous version | Description of change |
|---|---|---|
| 03/29/20 | | Created this protocol from COVID-19 guidanceregional medical director protocols. |
| 04/03/20 | | Added comments about not providing BVM to any patient. This is per Dr. Cauchi email. |
| 07/17/20 | | Updated EMR section: Pandemic PPE requirements based on current CMHCDC policies on COVID PPE. |
| 07/21/20 | | Clarified BVM instructionsstrongly discouraging using the facemask after some staff questions. |
| 06/06/21 | pdf | Moved to emsprotocols.online |
| 03/15/23 | pdf | Clarified RN and medic roles. Added CP. |
| 03/20/23 | | Changed link for Epi. |

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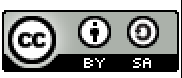
|  | Polk, Hickory, Cedar, & St Clair County EMS Protocols by Theron Becker is licensed under a Creative Commons Attribution-ShareAlike 4.0 International License. |
|---|---|

# Protocol 2-352 - Exposure: Cyanide

**CMH EMS & MIH Protocols**

## EMD:

- Dispatch a non-dedicated standby ambulance to all hazmat releases where emergency response is required by other agencies.

## EMR:

- Consider hazmat and DECON. Refer to Protocol 2-924 - Universal Patient Care for decontamination protocols.
- Identify possible causes and substance(s) involved.
- Consider Oxygen 100%.
- Consider applying Cardiac Monitor limb leads.

## EMT:

- Ensure completion of applicable items above.
- Perform Blood Sugar Check.
- Consider assisting ALS with Capnography.

## AEMT:

- Ensure completion of applicable items above.
- Consider IV NS/LR.

## RN:

- Ensure completion of all applicable items above.
  Contact POISON CONTROL at 888-268-4195.
- Consider IO NS/LR.

## Medic:

- Ensure completion of all applicable items above.
- Consider Protocol 2-044 - Airway: RSI.

## CP:

- Ensure completion of all applicable items above.

## Change Log:

| Date | Link to previous version | Description of change |
|---|---|---|
| 08/24/17 | pdf | Removed Cyanokit. |
| 08/24/18 | | Per Dr. Kramer, added bolded DECON to every step and every level. |
| 04/17/20 | pdf | Added content (without substantive modification) from old Protocol 4-140 - PoisoningOverdose. |
| 06/06/21 | pdf | Moved to emsprotocols.online |
| 03/15/23 | pdf | Clarified RN and medic roles. Added CP. |
| 03/17/23 | | Updated link to NS. |

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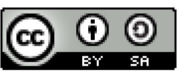


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# Protocol 2-374 - Exposure: Nerve Agents

**CMH EMS & MIH Protocols**

## EMD:

- Dispatch a non-dedicated standby ambulance to all hazmat releases where emergency response is required by other agencies.

## EMR:

- Consider hazmat and DECON. Refer to Protocol 2-924 - Universal Patient Care for decontamination protocols.
- Identify possible causes and substance(s) involved.
- Consider Oxygen 100%.
  - **Paraquat poisoning**: Only administer Oxygen if SpO2 is less than 88%.
- Consider applying Cardiac Monitor limb leads.

## EMT:

- Ensure completion of applicable items above.
- Perform Blood Sugar Check.
- Consider assisting ALS with Capnography.

## AEMT:

- Ensure completion of applicable items above.
- Consider IV NS/LR.

## RN:

- Ensure completion of all applicable items above.
  Contact POISON CONTROL at 888-268-4195.
- Consider IO NS/LR.
- Consider Atropine repeated until dry secretions. Likely to exceed 20 mg and may be as much as 2,000 mg.
-

| Adult: | Pediatric: |
|---|---|
| ◦ 1-2+ mg IV/IO.<br>◦ **If intubation needed**: 6 mg IV/IO. | ◦ 0.02-0.05 mg/kg IV/IO<br>▪ Click "calculate" to get dose. |

- **Seizing**: Refer to Protocol 2-792 - Seizure.

# Medic:

- Ensure completion of all applicable items above.
- Consider Protocol 2-044 - Airway: RSI.

# CP:

- Ensure completion of all applicable items above.

## Change Log:

| Date | Link to previous version | Description of change |
|---|---|---|
| 09/22/17 | pdf | Changed organophosphate poisoning to acetylcholinersterasse inhibitor exposure, Atropine dose up to 2,000 mg for acetylcholinesterase. |
| 08/24/18 | | Per Dr. Kramer, added bolded DECON to every step and every level. |
| 04/17/20 | pdf | Added content (without substantive modification) from old Protocol 4-140 - PoisoningOverdose. |
| 06/06/21 | pdf | Moved to emsprotocols.online |
| 03/15/23 | pdf | Clarified RN and medic roles. Added CP. |
| 03/17/23 | | Changed link to NS. |
| 03/19/23 | | Changed links for LR. |
| 03/20/23 | | Changed link for Atropine. |

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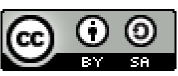
|  | Polk, Hickory, Cedar, & St Clair County EMS Protocols by Theron Becker is licensed under a Creative Commons Attribution-ShareAlike 4.0 International License. |
|---|---|

# Protocol 2-396 - Extremity Trauma

**CMH EMS & MIH Protocols**

## EMD:

- No specific protocol.

## EMR:

- Consider SMR.
- Consider Oxygen 100%.
- **Extremity crush injury**: Do not release until ALS direction.
- Elevate injured extremity.
- Assess distal neurovascular status.
- Consider cold pack.
- Consider Splinting.
- Consider applying Cardiac Monitor limb leads.

## EMT:

- Ensure completion of applicable items above.
- Consider Pelvic Binder.

## AEMT:

- Ensure completion of applicable items above.
- **Extremity crush injury** (suspected compartment and/or crush syndrome if extremity pinned for 15 minutes to 6 hours depending on weight and other factors):
  - IV NS (NOT LR). Two large bore IVs wide open.
- **No crush injury**: Consider IV LR titrated to SBP greater than 100 after all active bleeding has been addressed.

# RN:

- Ensure completion of all applicable items above.
- **Extremity crush injury**:
  - Consider IO NS (NOT LR). Two large bore vascular access points wide open.

    Contact MEDICAL CONTROL:
    - Consider Tourniquet.
    - Consider NS 2,000 ml IV/IO prior to release, then 500 ml/hr after.
    - Consider Sodium Bicarbonate 1 mEq/kg (max 100 mEq) IV/IO prior to release, then add 100 mEq to 1,000 ml NS and drip at 100 ml/hr.
      - Click "calculate" to get dose.
    - Consider Calcium Chloride 1 g IV/IO over 10-15 minutes. Do not mix with Sodium Bicarbonate.
    - Consider Albuterol 10-20 mg Neb.
    - Consider Dextrose IV/IO.

# Medic:

- Ensure completion of all applicable items above.

# CP:

- Ensure completion of all applicable items above.

## Change Log:

| Date | Link to previous version | Description of change |
|---|---|---|
| 11/29/13 | pdf | Added consider Tourniquet to BLS. |
| 01/29/14 | | Added cold pack and dressings from orthopedic injury CMH policy. |
| 12/12/14 | pdf | Made Intubation a DELIBERATE ACTION. Added weight-based dose for greater than 65 yr for Fentanyl. Considered making crush injury a separate protocol, but then decided against it. |
| 12/26/14 | pdf | Added TXA. |
| 04/14/15 | | Added consider to limb leads. |
| 05/31/15 | | Re-worded indications for TXA for better clarity. |
| 09/16/15 | | Added by request of Dr. Merk to TXA indications that signs of shock must still be present after 1 L fluid bolus. |
| 07/22/16 | pdf | Moved fluid bolus to AEMT section. |
| 07/29/16 | | Added comment under EMR to not release cursh injury until directed by ALS. |
| 06/15/17 | pdf | Added comment to consider giving pain meds to all possible fractures. |
| 09/22/17 | | Added locations for tourniquet placement. |
| 10/16/17 | | Added comment to stop all active bleeding before LR bolus. |
| 12/19/17 | pdf | Added comment to consider pelvic binder. |
| 03/01/19 | pdf | Changed targeted SBP from 80 to 100 based on PHTLS ver 9 recommendation. |
| 07/23/19 | | Added link to new hemorrhage protocolremoved tourniquetsTXA. |
| 04/17/20 | pdf | Added content (without substantive modification) from old Protocol 5-050 - Extremity Trauma. |
| 06/06/21 | pdf | Moved to emsprotocols.online |
| 11/30/21 | | Updated link to Albuterol. |
| 02/28/22 | | Updated link for Sodium Bicarb. |
| 03/15/23 | pdf | Clarified RN and medic roles. Added CP. |
| 03/17/23 | | Changed link to NS. |
| 03/19/23 | | Changed link for LR. |
| 03/20/23 | | Changed link for Dextrose. |
| 03/20/23 | | Changed link to Calcium. |

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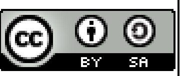
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# Protocol 2-418 - Eye Trauma

**CMH EMS & MIH Protocols**

## EMD:

- No specific protocol.

## EMR:

- Consider Oxygen if SpO2 less than 88%.
- Stabilize impaled objects as required.
- **Trauma**:
  - Cover injured eye with domed or cupped cover.
  - Do not apply pressure to eye.
- **Foreign substance without penetrating injury**: Flush eye with at least 1,000 ml LR over 20 minutes.

## EMT:

- Ensure completion of applicable items above.

## AEMT:

- Ensure completion of applicable items above.
- Consider IV.

## RN:

- Ensure completion of all applicable items above.
- **Foreign substance**:
  - Consider Tetracaine 1-2 drops in affected eye.
  - **Non-penetrating injury**: Consider Morgan Lens and flushing according to EMR section above.

## Medic:

- Ensure completion of all applicable items above.

# CP:

- Ensure completion of all applicable items above.

## Change Log:

| Date | Link to previous version | Description of change |
|---|---|---|
| 10/04/13 | pdf | Moved Morgan Lens from ALS to BLS. |
| 12/12/14 | pdf | Added consider IV/IO. Added weight-based dose for greater than 65 yr for Fentanyl. |
| 04/14/15 | | Added consider to limb leads. |
| 11/11/17 | pdf | Moved trauma eye covering from ALS to BLS. |
| 08/24/18 | pdf | Per Morgan Lens manufacturer, requested indication for Morgan Lens for all occupants of a vehicle with airbag deployment. Dr. Carter denied request. Per Morgan Lens manufacturer, changed eye flush solution from NS to LR. |
| 04/18/20 | pdf | Added content (without substantive modification) from old Protocol 5-060 - Eye Injury. |
| 06/06/21 | pdf | Moved to emsprotocols.online |
| 02/28/22 | | Changed link for Tetracaine. |
| 03/15/23 | pdf | Clarified RN and medic roles. Added CP. |
| 03/19/23 | | Changed link for LR. |

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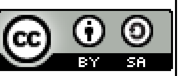
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# Protocol 2-440 - Fever / Sepsis

**CMH EMS & MIH Protocols**

## EMD:

- No specific protocol.

## EMR:

- Consider Oxygen to maintain SpO2 above 88%.
- Consider treating for shock.
- **Fever greater than 102° F**: Begin COOLING.
- **Assess for SEPSIS**:
    - **Adult**: Suspected infection AND two or more of the following:
        - Altered mental status,
        - Hypotension (SBP less than 100), OR
        - Tachypnea (respiratory rate greater than 22).
    - **Pediatric**: Suspected infection AND BOTH of the following:
        - One of the following:
            - Temperature greater than 101.3° F OR
            - Temperature less than than 96.8° F
        - One of the following:
            - Bradycardia for age OR
            - Tachycardia for age OR
            - Tachypnea for age
- Consider applying cardiac monitor limb leads.

## EMT:

- Ensure completion of applicable items above.
- Assist ALS with Capnography.
- Perform Blood Sugar Check.
    - **Blood sugar less than 60 mg/dl**: Refer to Protocol 2-572 - Hypoglycemia.

## AEMT:

- Ensure completion of applicable items above.
- Consider IV LR in AC (left is preferred) with pigtail extension with 18 ga or greater. Refer to Protocol 2-583 - Hypotension / Shock for LR dose.

# RN:

- Ensure completion of all applicable items above.
- Consider IO LR. Refer to Protocol 2-583 - Hypotension / Shock for LR dose.
- **Meets SEPSIS criteria**:
  - **If SBP less than 90 or MAP less than 70 after fluid bolus**:
    - Notify Emergency Room of incoming SEPTIC SHOCK patient.
    - Attempt to initiate two large-bore IVs.
    - Refer to Protocol 2-583 - Hypotension / Shock.
  - Consider Dextrose or Glucose administration according to Protocol 2-572 - Hypoglycemia to meet a target blood sugar level of 180 mg/dl.
  - Target scene time of 10 minutes.
  - Notify Emergency Room of incoming SEPTIC patient.
- **Fever greater than 102° F**:

| Adult: | Pediatric: |
|---|---|
| ▪ **Acetaminophen NOT given within 4 hours**: Consider Acetaminophen 325-650 mg PO.<br>▪ **Acetaminophen giving within 4 hours**: Consider Ibuprofen 200-400 mg PO. | ▪ **Acetaminophen NOT given within 4 hours**: Consider Acetaminophen Elixer 15 mg/kg PO.<br>  ▪ Click "calculate" to get dose.<br>▪ **Acetaminophen giving within 4 hours**: Consider Ibuprofen Elixer 10 mg/kg PO.<br>  ▪ Click "calculate" to get dose. |

# Medic:

- Ensure completion of all applicable items above.

# CP:

- Ensure completion of all applicable items above.
- Refer to MIH Protocol 4-500 - Chronic Sepsis Management.

# Change Log:

| Date | Link to previous version | Description of change |
|---|---|---|
| 11/11/13 | pdf | Added adult doses of Acetaminophen and Ibuprofen. |
| 12/12/14 | pdf | Removed Blood Draw. |
| 04/14/15 | | Added consider to limb leads. |
| 12/04/15 | | Created Protocol 4-175 - Sepsis. |
| 06/06/16 | pdf | Added requirement for at least 18 ga IV in AC space. |
| 08/24/17 | pdf | Added comment to weigh patient on arrival at ER. Added sepsis definition of EtCO2 less than 25. Added sepsis alert terminology to ER. |
| 09/22/17 | | Lowered glucose treatment threshold from 70 to 60. Added target scene time of 10 minutes. |
| 08/24/18 | pdf | Fixed typo to indicate AcetaminophenIbuprofen treatment is only if fever is greater than 102. |
| 08/24/18 | pdf | Changed SEPSIS definition from SIRS to QSOFA. Changed typo for MAP greater to MAP less. |
| 08/27/19 | pdf | Significant revisions to accommodate hospital-wide sepsis competency education. Added capnography as indicator of sepsis. Added pediatric dose of LR fluid bolus. Added Epi push-dose. |
| 04/13/20 | pdf | Added content (without substantive modification) from old Protocol 4-175 - Sepsis. |
| 04/13/20 | pdf | Added content (without substantive modification) from old Protocol 4-100 - Fever. |
| 06/06/21 | pdf | Moved to emsprotocols.online |
| 10/15/21 | pdf | Renamed protocol from Fever to Fever/Sepsis. Added pediatric sepsis criteria per Dr. Nicholes on 6/8/21.Moved LR fluid bolus details to new hypotension protocol (2-583). Levofed will also be added to hypotension protocol per Dr. Nicholes request on 6/8/21. Protocol committee approved creation and movement of hypotension stuff on 5/26/21 and Dr. Nicholes approved on 6/8/21. |
| 10/15/21 | | Moved push-dose Epi to newly created Hypotension protocol (2-583). |
| 11/30/21 | | Updated link to Acetaminophen. |
| 03/15/23 | pdf | Clarified RN and medic roles. Added CP. |
| 03/19/23 | | Changed links for LR. |
| 03/20/23 | | Changed links for Ibu. |
| 03/20/23 | | Changed link for Glucose. |
| 03/20/23 | | Changed link for Dextrose. |
| 05/26/23 | pdf | Added link to 4-500. |

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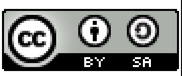
|  | Polk, Hickory, Cedar, & St Clair County EMS Protocols by Theron Becker is licensed under a Creative Commons Attribution-ShareAlike 4.0 International License. |
|---|---|

# Protocol 2-451 - General Trauma Management

**CMH EMS & MIH Protocols**

## EMD:

- No specific protocol.

## EMR:

- **Hemorrhage**:
  - Consider direct pressure.
  - Consider Oxygen 100%.
  - Consider Hemostatic Agent.
  - Consider bandage.
  - **Epistaxis**:
    - Squeeze nose for 10-15 min continuously.
    - **If unsuccessful**: Repeat for another 15 min.
    - Remind and assist patient to avoid swallowing blood.
  - **Post-partum**: Refer to Protocol 2-462 - Gynecologic Emergencies.
- **Chest trauma**:
  - Consider Oxygen 100%.
  - Consider occlusive dressing to open wounds.
  - **Chest crush injury**: Immediate release and rapid transport.
- Consider SMR
- Maintain patient Temperature between 91-99 °F. Consider active re-warming.
- Consider splint.
- Consider stabilizing impaled object.
- **Superficial penetration**: Small penetrating objects such as Taser probes and fish hooks may be removed on the scene...
  - If all of the following apply:
    - The object is embedded superficially below the nipple line (not the genital area),
    - Cooperative patient,
    - Little to no pain,
    - Isolated injury, AND
    - Not grossly contaminated.
  - To remove:
    - **Taser probe**: Stabilize skin and remove by hand with a single, quick motion.
    - **Fish hook**: Wrap or cut off sharp points and remove without causing further injury.
    - Wipe wound(s) with antiseptic wipe and apply a dressing.
    - Instruct patient to follow up with their primary physician or public health agency for tetanus vaccination and infection monitoring.

- Cardiac monitoring after Taser deployment is only required if the patient has an ALOC or cardiac symptoms.

- Refer to specific trauma protocols as appropriate:
  - Protocol 2-286 - Drowning / Near Drowning
  - Protocol 2-396 - Extremity Trauma
  - Protocol 2-418 - Eye Trauma
  - Protocol 2-484 - Head Trauma
  - Protocol 2-814 - Spinal Cord Trauma
  - Protocol 2-836 - Spinal Immobilization Clearance
  - Protocol 2-902 - Trauma Arrest

# EMT:

- Ensure completion of applicable items above.
- **Hemorrhage**:
  - **Upper extremity hemorrhage**: Consider Tourniquet on humerus until occlusion of distal pulse.
  - **Lower extremity hemorrhage**: Consider two Tourniquets side-by-side on femur until occlusion of distal pulse.
- **Chest trauma**:
  - **Flail chest**: Consider assisting respirations with positive pressure BVM or assisting ALS with CPAP.
- Ensure receiving facility/staff are aware if the patient is on a blood thinner. Common blood thinners include:
  - Aggrastat (Tirofiban)
  - Apixaban (Eliquis)
  - Arixtra (Fondaparinux)
  - Aspirin (if greater than 81 mg per day)
  - Brilinta (Ticagrelor)
  - Cilostazol (Pletal)
  - Clopidogrel (Plavix)
  - Coumadin (Warfarin, Jantoven)
  - Dabigatran (Pradaxa)
  - Dalteparin (Fragmin)
  - Dipyridamole (Persantine)
  - Edoxaban (Savaysa)
  - Effient (Prasugrel)
  - Eliquis (Apixaban)
  - Enoxaparin (Lovenox)
  - Eptifibatide (Integrilin)
  - Fondaparinux (Arixtra)
  - Fragmin (Dalteparin)
  - Heparin (Innohep)
  - Innohep (Heparin)
  - Integrilin (Eptifibatide)
  - Jantoven (Warfarin, Coumadin)
  - Lovenox (Enoxaparin)
  - Persantine (Dipyridamole)
  - Plavix (Clopidogrel)
  - Pletal (Cilostazol)
  - Pradaxa (Dabigatran)
  - Prasugrel (Effient)
  - Rivaroxaban (Xarelto)
  - Savaysa (Edoxaban)
  - Ticagrelor (Brilinta)
  - Tirofiban (Aggrastat)
  - Vorapaxar (Zontivity)
  - Warfarin (Coumadin, Jantoven)
  - Xarelto (Rivaroxaban)
  - Zontivity (Vorapaxar)

# AEMT:

- Ensure completion of applicable items above.
- Consider IV LR bolus to maintain SBP above 100.

# RN:

- Ensure completion of all applicable items above.
- **Chest trauma with dyspnea**: Suspect tension pneumothorax. Consider Decompression Needle.
    - 5th intercostal space, anterior axillary line OR
    - 2nd intercostal space, mid-clavicular line.
- **Major injury or hemorrhage with signs of shock**
    - Consider IO LR bolus to maintain MAP above 65 or SBP above 100 .

| Adult: | Pediatric: |
|---|---|
| Consider TXA 1 g in 100 ml NS/LR over 10 min. | |

- **Possible fracture**: Consider Protocol 2-660 - Pain Control.
- **Open long-bone fracture**:

| Adult: | Pediatric: |
|---|---|
| Consider Ancef 2 g over 5 min. | Consider Ancef 35 mg/kg (max 2 g) over 5 min.<br>Click "calculate" to get dose. |

- **Epistaxis that does not resolve with 15 minutes of pressure**: Consider Neo-Synephrine 2 sprays in each nare, then continued pinching of the nose for an additional 15 minutes.

# Medic:

- Ensure completion of all applicable items above.

# CP:

- Ensure completion of all applicable items above.
- Refer to MIH Protocol 4-666 - Chronic Wound Management.

# Change Log:

| Date | Link to previous version | Description of change |
|---|---|---|
| 11/05/21 | | This is a new protocol but no new information. This protocol has been built using 2-220 (chest pain) and 2-924 (universal patient care). On 5/26/21, the protocol committee recommended creating this protocol from existing protocols to help reduce confusion. Dr. Nicholes approved the change and creation of the new protocol on 6/8/21. |
| 11/05/21 | | On 5/26/21, protocol committee requested to add Ancef. On 6/8/21, Dr. Nicholes did NOT approve the request. |
| 11/30/21 | | Updated link to Aspirin. |
| 12/01/21 | | Updated link to TXA. |
| 03/15/23 | pdf | Added flail segment treatment from cardiac chest pain protocol. Clarified RN and medic roles. Added CP. Still need to add Ancef for open fractures, but that is a longer process. |
| 03/20/23 | | Changed link for Heparin. |
| 04/27/23 | pdf | Added dosing for Ancef for open fractures as approved by Dr. Butvilas and protocol committee on 1/25/23. |
| 05/26/23 | pdf | Added link to 4-666. |

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| CMH Pre-Hospital Services Mission: "*Provide safe, exceptional, and compassionate care to our communities with an emphasis on highly trained and empowered staff*." | CMH Mobile Integrated Healthcare Mission: "*Provide exceptional, compassionate, and patient-centered care by a mobile collaborative team to improve patient experience, improve quality outcomes, and reduce healthcare costs*." | |
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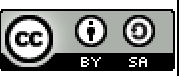

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# Protocol 2-451-50 - General Trauma Management - TRAUMA Destination Matrix

**CMH EMS & MIH Protocols**

This matrix was developed using geographical analysis of designated facilities and historical ambulance transport statistics. It also follows Missouri regulations found in 19 CSR 30-40.790 (Transport protocol for trauma, stroke, and STEMI patients).

- These are guidelines only. Scene or patient conditions may influence an alternate destination determination.
- Patients have the right to refuse transport to the recommended destination. If the patient refuses recommended destination, document "transport / refused care" and have patient sign refusal.
- When initial transport from the scene would be prolonged, the patient may be transported to the nearest appropriate facility.

## Consider transporting to the closest TRAUMA center for any one the following criteria:

- GCS less than 14,
- Shock,
- Respiratory distress, or
- Severe injury.

| Location | Destination | Trauma Designation | Notes |
|---|---|---|---|
| Bolivar | Citizens Memorial | Level III | **If possible head trauma**: Transport to Level I trauma center |
| Harrisonville | Cass Regional | Level III | |
| Osage Beach | Lake Regional | Level III | |

## Consider transporting to the closest Level I TRAUMA center for any one the following criteria:

- Any criteria above, and/or
- Possible head trauma.

| Location | Destination | Trauma Designation | Notes |
|---|---|---|---|
| Aircraft | Aircraft crew determination | NA | **If over 45 min drive time**: Utilize aircraft |
| Springfield | Cox South | Level I | |
| | Mercy | Level I | |
| Kansas City | Research | Level I | |
| | St. Luke's | Level I | |
| | Truman | Level I | |

# Change Log:

| Date | Link to previous version | Description of change |
|---|---|---|
| 09/16/15 | pdf | Added option to consider bypassing closest trauma center if stable patient or head trauma. Per Dr. Merk's specific request. |
| 11/17/15 | | Added northern destinations that might be closer to Ellett's response area. Modified quickest transportation mode definition to 35 minutes. |
| 07/22/16 | pdf | Added comment that BLS truck with ALS patient shall transport to closest ER or CMH. |
| 08/24/17 | pdf | Streamlined flowchart with a comment to follow aircraft protocol when flying patient. |
| 08/24/18 | pdf | Changed aircraft transportation mode from 35 min to 45 min. |
| 07/23/19 | pdf | erified designated trauma centers with BEMS website. |
| 11/18/19 | | Added comment to bypass CMH if suspected head traumaon CT divert by specific order of Dr. Cauchi. |
| 11/18/19 | pdf | Added comment to bypass CMH if suspected head traumaon CT divert by specific order of Dr. Cauchi. |
| 11/27/19 | | Changed format from flowchart to something more easily utilized. |
| 11/27/19 | | Changed format from flowchart to something more easily utilized. |
| 07/12/20 | pdf | Moved this section from 2-924created a new page. |
| 06/06/21 | pdf | Moved to emsprotocols.online |
| 11/05/21 | | Moved trauma destination matrix from 2-924-03 to 2-450-50. |

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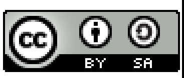
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# Protocol 2-462 - Gynecologic Emergencies

**CMH EMS & MIH Protocols**

## EMD:

- No specific protocol.

## EMR:

- Inspect for active bleeding / crowning.
- **Vaginal bleeding**: Consider Oxygen 100%.
- Determine amount of blood loss.
- Consider applying Cardiac Monitor limb leads.
- Consider treating for shock.
- **Post-partum hemorrhage**:
  - Massage the fundus.
  - Have mother breastfeed.
- Consider orthostatic vital signs.
- Consider transport in left lateral recumbent position to reduce risk of Vena Cava compression.

## EMT:

- Ensure completion of applicable items above.

## AEMT:

- Ensure completion of applicable items above.
- Consider IV LR titrated to SBP above 100.
- **Post-partum hemorrhage**: Rapidly infuse IV fluids.

## RN:

- Ensure completion of all applicable items above.
- Consider IO LR.
- **Post-partum hemorrhage**:

  Consider contacting MEDICAL CONTROL for Oxytocin 10-20 u in 1,000 ml LR. Run wide open.
- Consider Protocol 2-451 - General Trauma Management for TXA.

# Medic:

- Ensure completion of all applicable items above.

# CP:

- Ensure completion of all applicable items above.
- Refer to MIH Protocol 4-333 - Chronic OB/GYN Management.

## Change Log:

| Date | Link to previous version | Description of change |
|---|---|---|
| 10/04/13 | pdf | Added consider to orthostatic. |
| 11/11/13 | | Changed put baby to nurse to have mother breastfeed. |
| 12/29/14 | pdf | Added contents of Protocol 4-150 (Post Partum Hemorrhage) and removed 4-150. |
| 04/14/15 | | Added consider to limb leads. |
| 07/22/16 | pdf | Moved fluid bolus to AEMT section. |
| 11/11/17 | pdf | Changed NS to LR. Added consideration for medical control for TXA use. |
| 07/23/19 | pdf | Added link to new hemorrhage protocolremoved TXA. |
| 04/17/20 | pdf | Added content (without substantive modification) from old Protocol 4-180 - Vaginal Bleeding. |
| 06/06/21 | pdf | Moved to emsprotocols.online |
| 11/05/21 | pdf | Changed link from 2-924 to 2-451 for TXA reference. |
| 12/01/21 | | Updated link to TXA. |
| 02/28/22 | | Updated link for Oxytocin. |
| 03/15/23 | pdf | Clarified RN and medic roles. Added CP. |
| 03/19/23 | | Changed links for LR. |
| 05/26/23 | pdf | Added link to 4-333. |

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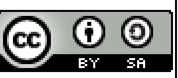
|  | Polk, Hickory, Cedar, & St Clair County EMS Protocols by Theron Becker is licensed under a Creative Commons Attribution-ShareAlike 4.0 International License. |
|---|---|

# Protocol 2-484 - Head Trauma

**CMH EMS & MIH Protocols**

## EMD:

- No specific protocol.

## EMR:

- Consider SMR. C-collar is contraindicated with penetrating neck trauma.
- Assist Ventilations as needed.
- Consider Oxygen 100%.
- Consider applying Cardiac Monitor limb leads.
- **Head crush injury**: Immediate release and rapid transport.
- Maintain body temperature between 91° and 99° F.
- Elevate head of Cot.
- **Avulsed tooth**: Do not touch root. Place in NS.

## EMT:

- Ensure completion of applicable items above.
- Consider assisting ALS with Capnography.
- **Severe head injury with Cushing's Triad**: Moderate hyperventilation to target EtCO2 of 30-35.
- **If destination facility is on CT divert**: Bypass that facility and transport to next closest appropriate facility taking into consideration the patient's wishes.

## AEMT:

- Ensure completion of applicable items above.
- Consider IV LR 20 ml/kg (max 40 ml/kg or 2,000 ml) titrated to maintain SBP according to age.
  - Click "calculate" to get dose.
  - Refer to Protocol 2-924 - Universal Patient Care and do not exceed the lower range of the SBP indicated in the Normal Vital Signs table.

# RN:

- Ensure completion of all applicable items above.
- Consider IO LR.
- **GCS less than 8 OR Cushing's Triad**: Consider Protocol 2-044 - Airway: RSI.
  - **Cushing's Triad**: Abnormal breathing AND Bradycardia AND Hypertension.
-

| Adult | Pediatric |
|---|---|
| ◦ Consider Fentanyl 50-100 mcg every 5-20 minutes (max 300 mcg) IV/IO/IN.<br>▪ **Over 65 years old**: 0.5-2 mcg/kg.<br>▪ Click "calculate" to get dose.<br>◦ **Nausea**: Consider Zofran 4 mg (max 8 mg) IV/IO/IN/IM. | ◦ **Less than 3 years old**: Atropine 0.02 mg/kg (min 0.1 mg) IV/IO.<br>▪ Click "calculate" to get dose.<br>◦ Consider Fentanyl 1-2 mcg/kg (max 150 mcg) IV/IO/IN. May repeat.<br>▪ Click "calculate" to get dose.<br>Consider contacting MEDICAL CONTROL. |

# Medic:

- Ensure completion of all applicable items above.

# CP:

- Ensure completion of all applicable items above.

## Change Log:

| Date | Link to previous version | Description of change |
|---|---|---|
| 11/19/13 | pdf | Changed SMR mandatory to SMR as required. |
| 12/12/14 | pdf | Added RSI indications. |
| 12/12/14 | pdf | Changed target ETCO2 from 30-35 to 40-45. Added comment to maintain patient temperature. Changed LR to NS. Added desired SBP table. Defined Cushing's Triad. Made Intubation and RSI DELIBERATE ACTIONS. Added weight-based dose for greater than 65 yr for Fentanyl. |
| 03/02/15 | | Removed DELIBERATE ACTIONS. |
| 11/17/15 | | Removed comment that Morphine is contraindicated in head trauma. |
| 07/22/16 | pdf | Moved fluid bolus to AEMT section. |
| 09/22/17 | pdf | Added contraindication for c-collar for penetrating neck trauma. Added avulsed tooth and epistaxis treatments to EMR. Added moderate hyperventilation for herniation syndrome. |
| 11/11/17 | pdf | Removed Lidocaine before intubation. |
| 07/23/19 | pdf | Added link to new hemorrhage protocolremoved epistaxis. |
| 11/18/19 | pdf | Added comment to bypass CMH if on CT divert by specific order of Dr. Cauchi. |
| 04/18/20 | pdf | Added content (without substantive modification) from old Protocol 5-070 - Head Trauma. |
| 06/06/21 | pdf | Moved to emsprotocols.online |
| 12/01/21 | | Updated link to Zofran. |
| 03/15/23 | pdf | Clarified RN and medic roles. Added CP. |
| 03/20/23 | | Changed links for Fent. |
| 03/20/23 | | Changed link for Atropine. |

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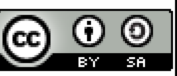

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# Protocol 2-506 - Hyperglycemia

**CMH EMS & MIH Protocols**

## EMD:

- No specific protocol.

## EMR:

- Identify possible causes.
- Consider Oxygen if SpO2 less than 88%.
- Consider applying Cardiac Monitor limb leads.

## EMT:

- Ensure completion of applicable items above.
- Perform Blood Sugar Check. Refer to Equipment 8-324 - Glucometer for blood sugar critical levels.

## AEMT:

- Ensure completion of applicable items above.
- Consider IV NS/LR.
- **Blood sugar greater than 250 mg/dl AND symptomatic**:

| Adult: | Pediatric: |
|---|---|
| LR 1,000 ml IV. | LR 10 ml/kg IV. May repeat up to 40 ml/kg after reassessment.<br>Click "calculate" to get dose. |

## RN:

- Ensure completion of all applicable items above.

## Medic:

- Ensure completion of all applicable items above.

# CP:

- Ensure completion of all applicable items above.
- Refer to MIH Protocol 4-042 - Chronic Diabetes Management.

# Change Log:

| Date | Link to previous version | Description of change |
|---|---|---|
| 12/12/14 | | Removed Blood Draw. |
| 04/14/15 | | Added consider to limb leads. |
| 08/24/17 | | Added this protocol. |
| 08/24/18 | pdf | Added comment to refer to glucometer ranges. |
| 04/17/20 | pdf | Added content (without substantive modification) from old Protocol 4-115 - Hyperglycemia. |
| 06/06/21 | pdf | Moved to emsprotocols.online |
| 03/15/23 | pdf | Clarified RN and medic roles. Added CP. |
| 03/17/23 | | Changed link to NS. |
| 03/19/23 | | Changed links for LR. |
| 05/26/23 | pdf | Added link to 4-042. |

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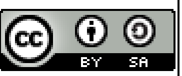

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# Protocol 2-528 - Hypertension

**CMH EMS & MIH Protocols**

## EMD:

- No specific protocol.

## EMR:

- Calm and reassure the patient.
- Identify possible causes.
- Consider Oxygen if SpO2 less than 88%.
- Apply Cardiac Monitor limb leads.
- Obtain and compare blood pressures in both arms.
- Dim lights. Avoid loud noises and rough transport.
- Transport with head slightly elevated.
- **Epistaxis**: Squeeze nose for 10-15 minutes continuously.

## EMT:

- Ensure completion of applicable items above.
- **Pregnant**: Consider transport in left lateral recumbent position to reduce risk of Vena Cava compression.
- **If destination hospital is on CT divert and patient is symptomatic**: Transport to the next closest appropriate facility with a CT machine and taking into consideration the patient's wishes.

## AEMT:

- Ensure completion of applicable items above.
- IV NS/LR.

# RN:

- Ensure completion of all applicable items above.
- Consider IO NS/LR.
- Do not reduce MAP lower than 20% of the original.

**DBP greater than 115 with nausea, ALOC, blurred vision, headache, or chest pain**:
Contact MEDICAL CONTROL for:

| Adult: | Pediatric: |
|---|---|
| ▪ Consider Labetalol 20 mg over 2 min IV/IO.<br>▪ Consider Hydralazine 10-20 mg IV/IO/IM.<br>▪ Consider Nitroglycerin 0.4 mg SL.<br>▪ Consider Nitroglycerin drip IV/IO. | ▪ Consider Labetalol 0.4-1 mg/kg/hr IV/IO.<br>  ▪ Click "calculate" to get dose.<br>▪ Consider Hydralazine 0.1-0.2 mg/kg (max 20 mg) IV/IO/IM.<br>  ▪ Click "calculate" to get dose. |

- **Pregnant** (20-weeks gestation through 4-weeks post-partum):
  - **Actively seizing**: Magnesium Sulfate 4 g IV/IO/IM (IV/IO in NS over 5 minutes). Refer to Protocol 2-792 - Seizure.

    Consider contacting MEDICAL CONTROL for:
    - Magnesium Sulfate 4-6 g IV/IO in NS over 20 minutes or 2 g/hr.
    - OR Labetalol 20 mg IV/IO over 2 mintues.
    - OR Hydralazine 5-20 mg IV/IO/IM.

# Medic:

- Ensure completion of all applicable items above.

# CP:

- Ensure completion of all applicable items above.
- Refer to MIH Protocol 4-167 - Chronic Hypertension Management.

# Change Log:

| Date | Link to previous version | Description of change |
|---|---|---|
| 12/15/14 | pdf | Added mean arterial pressure comment. |
| 09/22/17 | pdf | Added specification for pregnant seizing between 20 weeks gestation through 4 weeks post-partum. |
| 07/23/19 | pdf | Added reference to new hemorrhage protocol if epistaxis. |
| 11/18/19 | pdf | Added comment to bypass CMH if on CT divert by specific order of Dr. Cauchi. |
| 04/16/20 | pdf | Added content (without substantive modification) from old Protocol 4-110 - Hypertension. |
| 06/06/21 | pdf | Moved to emsprotocols.online |
| 10/15/21 | pdf | Specified mag sulfate to mixed with NS and dripped in. Approved by protocol committee 5/26/21 and Dr Nicholes 12/8/20. |
| 03/15/23 | pdf | Clarified RN and medic roles. Added CP. |
| 03/17/23 | | Changed links to NS. |
| 03/19/23 | | Changed link for Nitro. |
| 03/19/23 | | Changed link for MagSulfate. |
| 03/19/23 | | Changed links for LR. |
| 03/19/23 | | Changed links for Labetalol. |
| 03/20/23 | | Changed link for Hydraulazine |
| 05/26/23 | pdf | Added link to 4-167. |

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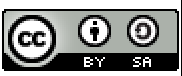

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# Protocol 2-550 - Hyperthermia

**CMH EMS & MIH Protocols**

## EMD:

- No specific protocol.

## EMR:

- Remove from exposure.
- Open and maintain airway.
- Attempt to determine down-time and history.
- Consider Oxygen if SpO2 less than 88%.
- Passively cool patient.
- Obtain core body Temperature, if able. If unable, consider patient with at least HEAT EXHAUSTION if Heat Index above 103° F.
- Consider applying Cardiac Monitor limb leads.
- **Altered mentation and/or Temperature greater than 104° F (HEAT STROKE)**: Active, rapid cooling is indicated using ice, evaporation, and/or cold packs. Attempt to cool to 102° F.
- **Normal mentation and Temperature less than 104° F (HEAT EXHAUSTION)**: Passive cooling. Treat specific complaints per protocol.

## EMT:

- Ensure completion of applicable items above.
- Assist ALS with Capnography.

## AEMT:

- Ensure completion of applicable items above.
- Consider IV cool NS/LR.
-

| Adult: | Pediatric: |
|---|---|
| ◦ 125 ml/hr. | ◦ 20 ml/kg (may repeat once).<br>▪ Click "calculate" to get dose. |

## RN:

- Ensure completion of all applicable items above.

- Consider IO cool NS/LR.
- Monitor closely for arrhythmias. Treat per protocol.

# Medic:

- Ensure completion of all applicable items above.

# CP:

- Ensure completion of all applicable items above.

## Change Log:

| Date | Link to previous version | Description of change |
|---|---|---|
| 12/29/14 | pdf | Changed name from Heat exhaustion / heat stroke to Hyperthermia. |
| 04/14/15 | | Added consider to limb leads. Moved heat exhaustion and heat stroke sections from ALS to EMR. |
| 07/22/16 | pdf | Moved fluid bolus to AEMT section. |
| 08/24/17 | pdf | Removed Ativan. |
| 09/20/17 | | Added temp less than 104 for normal mentation and passive cooling. Added temp greater than 104 for altered mentation and active cooling with ice, evaporation, and cold packs. Added consider to AEMS cool IV fluids. |
| 04/08/20 | pdf | Added content (without substantive modification) from old Protocol 3-020 - Hyperthermia. |
| 06/06/21 | pdf | Moved to emsprotocols.online |
| 10/15/21 | | Changed link for 2-550-01 to 2-550-50. |
| 03/15/23 | pdf | Clarified RN and medic roles. Added CP. |
| 03/17/23 | | Changed link to NS. |
| 03/19/23 | | Changed links for LR. |

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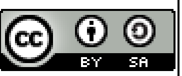
|  | Polk, Hickory, Cedar, & St Clair County EMS Protocols by Theron Becker is licensed under a Creative Commons Attribution-ShareAlike 4.0 International License. |
|---|---|

# Protocol 2-550-50 - Hyperthermia - Heat Index Chart

**CMH EMS & MIH Protocols**

**Note**: Heat exhaustion can occur in less than 30 minutes when heat index is above 103° F.

| | **Temperature** | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Relative Humidity** | **80° F** | **82° F** | **84° F** | **86° F** | **88° F** | **90° F** | **92° F** | **94° F** | **96° F** | **98° F** | **100° F** | **102° F** | **104° F** | **106° F** | **106° F** | **110° F** |
| **40%** | 80 | 81 | 83 | 85 | 88 | 91 | 94 | 97 | 101 | 105 | 109 | 114 | 119 | 124 | 130 | 136 |
| **45%** | 80 | 82 | 84 | 87 | 89 | 93 | 96 | 100 | 104 | 109 | 114 | 119 | 124 | 130 | 137 | |
| **50%** | 81 | 83 | 85 | 88 | 91 | 95 | 99 | 103 | 108 | 113 | 118 | 124 | 131 | 137 | | |
| **55%** | 81 | 84 | 86 | 89 | 93 | 97 | 101 | 106 | 112 | 117 | 124 | 130 | 137 | | | |
| **60%** | 82 | 84 | 88 | 91 | 95 | 100 | 105 | 110 | 116 | 123 | 129 | 137 | | | | |
| **65%** | 82 | 85 | 89 | 93 | 98 | 103 | 108 | 114 | 121 | 128 | 136 | | | | | |
| **70%** | 83 | 86 | 90 | 95 | 100 | 105 | 112 | 119 | 126 | 134 | | | | | | |
| **75%** | 84 | 88 | 92 | 97 | 103 | 109 | 116 | 124 | 132 | | | | | | | |
| **80%** | 84 | 89 | 94 | 100 | 106 | 113 | 121 | 129 | | | | | | | | |
| **85%** | 85 | 90 | 96 | 102 | 110 | 117 | 126 | 135 | | | | | | | | |
| **90%** | 86 | 91 | 98 | 105 | 113 | 122 | 131 | | | | | | | | | |
| **95%** | 86 | 93 | 100 | 108 | 117 | 127 | | | | | | | | | | |
| **100%** | 87 | 95 | 103 | 112 | 121 | 132 | | | | | | | | | | |

# Change Log:

| Date | Link to previous version | Description of change |
| --- | --- | --- |
| 07/12/20 | | Moved this section from 2-550created a new page. |
| 06/06/21 | pdf | Moved to emsprotocols.online |
| 10/15/21 | | Renumbered from 2-550-01 to 2-550-50. |

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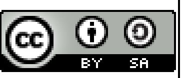


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# Protocol 2-572 - Hypoglycemia

**CMH EMS & MIH Protocols**

## EMD:

- No specific protocol.

## EMR:

- Identify possible causes.
- Consider Oxygen if SpO2 less than 88%.
- Consider applying Cardiac Monitor limb leads.

## EMT:

- Ensure completion of applicable items above.
- Perform Blood Sugar Check. Refer to Equipment 8-324 - Glucometer for blood sugar critical levels.
- **Blood sugar less than 60 mg/dl, conscious, AND able to swallow**: Glucose 15 g PO.
- **No transport**: Have patient eat after treatment.

## AEMT:

- Ensure completion of applicable items above.
- Consider IV NS/LR.
-

| Adult: | Pediatric: |
|---|---|
| ◦ **Blood sugar less than 60 mg/dl AND symptomatic**:<br>▪ Dextrose 25 g IV.<br>▪ **If unable to obtain IV**: Consider Glucagon 1 mg IM/SQ/IN. | ◦ **Blood sugar less than 30 mg/dl AND symptomatic**:<br>▪ Dextrose 0.5-1 g/kg IV. Repeat as needed.<br>▪ Click "calculate" to get dose.<br>◦ **If unable to obtain IV**:<br>▪ **Greater than 20 kg or 5 yr old**: Consider Glucagon 1 mg IM/SQ.<br>▪ **Less than 20 kg or 5 yr old**: Consider Glucagon 0.5 mg IM/SQ. |

# RN:

- Ensure completion of all applicable items above.
- Consider IO NS/LR. Refer to AEMT section above for Dextrose administration via IO.
-

| Adult: | Pediatric: |
|---|---|
| ◦ **Blood sugar less than 60 mg/dl AND symptomatic**: Consider Thiamine 100 mg IM/IO. If given IV, infuse in NS/LR over 30 minutes. | ◦ NA. |

Contact MEDICAL CONTROL prior to PRC if any of the following:
  - IV or IO access has been performed.
  - Oral hypoglycemic in patient medication list.
  - Long-acting insulin in patient medication list.
  - Treated with Glucagon.
  - Unknown cause of hypoglycemia.

# Medic:

- Ensure completion of all applicable items above.

# CP:

- Ensure completion of all applicable items above.
- Refer to MIH Protocol 4-042 - Chronic Diabetes Management.

## Change Log:

| Date | Link to previous version | Description of change |
|---|---|---|
| 10/04/13 | pdf | Removed (entire tube) from oral Glucose. |
| 11/17/15 | pdf | Added comment that medical control must be contacted if any ALS intervention has been performed prior to PRC. |
| 07/22/16 | pdf | Moved Dextrose and Glucagon to AEMT section. |
| 08/24/17 | pdf | Removed D50W and D25W. |
| 09/22/17 | | Reduced treatment threshold from 70 to 60. Removed ALS requirement if level below 40. Added requirement for medical control if no cause of hypoglycemia has been identified. Added more specific pediatric age/weight based dosages for Glucagon. |
| 07/23/19 | pdf | Added options to mix Thiamine with LRD10W for infusion. |
| 04/17/20 | pdf | Added content (without substantive modification) from old Protocol 4-120 - Hypoglycemia. |
| 10/28/20 | pdf | Fixed typo allowing intranasal Glucagon. |

| | | |
|---|---|---|
| 06/06/21 | pdf | Moved to emsprotocols.online |
| 02/25/22 | pdf | After discussion at protocol committee meeting and research, it was decided to leave the probable typo that indicated Glucagon could be given intranasal. https://pubmed.ncbi.nlm.nih.gov/22971130/ |
| 02/28/22 | | Changed link for Thiamine. |
| 03/15/23 | pdf | Clarified RN and medic roles. Added CP. |
| 03/17/23 | | Changed links to NS. |
| 03/19/23 | | Changed links for LR. |
| 03/20/23 | | Changed link for Glucose |
| 03/20/23 | | Changed link for Glucagon. |
| 03/20/23 | | Changed link for Dextrose. |
| 05/26/23 | pdf | Added link to 4-042. |

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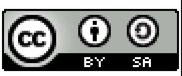
|---|---|---|

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# Protocol 2-583 - Hypotension / Shock

**CMH EMS & MIH Protocols**

## EMD:

- No specific protocol.

## EMR:

- Establish and maintain airway and ventilate, as needed, with Oxygen to maintain SpO2 as indicated by specific patient condition.

## EMT:

- Ensure completion of applicable items above.
- Assist ALS with Capnography.

## AEMT:

- Ensure completion of applicable items above.
- IV NS/LR.
-

| Adult: | Pediatric: |
|---|---|
| ◦ **Meets SEPSIS criteria**:<br>▪ LR bolus of 30 ml/kg. If BMI is suspected to be greater than 30, dose according to IDEAL weight.<br>▪ Click "calculate" to get dose.<br>▪ Enter height and click "calculate" to get dose based on IDEAL weight.<br>◦ **Not septic and clear lung sounds**: LR 250-500 ml IV bolus (may repeat) to maintain MAP greater than 65 and/or SBP greater than 100. | ◦ Consider LR 20 ml/kg IV bolus (may repeat) to maintain MAP greater than 65.<br>▪ Click "calculate" to get dose. |

# RN:

- Ensure completion of all applicable items above.
- Consider IO NS/LR.
-

| Adult: | Pediatric: |
|---|---|
| ◦ **Meets SEPSIS criteria and SBP less than 90 or MAP less than 65 after fluid bolus**:<br>▪ Consider Norepinephrine 0.01-0.05 mcg/kg/min (max 3 mcg/kg/min). May increase in increments not to exceed 0.05 mcg/kg/min to obtain MAP greater than 65.<br>▪ Click "calculate" to get dose.<br>◦ **Not septic**:<br>▪ Consider Epinephrine 1:100,000 (Push-Dose) 5-20 mcg every 2-5 min.<br>▪ Consider Dopamine 5-20 mcg/kg/min IV/IO to maintain MAP greater than 65 and/or SBP greater than 100.<br>▪ Click "calculate" to get dose.<br>▪ Consider fluid bolus in AEMT section. | **Meets SEPSIS criteria and SBP less than 90 or MAP less than 70 after fluid bolus**: Contact MEDICAL CONTROL for:<br>▪ Norepinephrine.<br>**Not septic**: Contact MEDICAL CONTROL for:<br>▪ Epinephrine 1:100,000 (Push-Dose) OR<br>▪ Dopamine 5-20 mcg/kg/min IV/IO.<br>▪ Click "calculate" to get dose.<br>◦ Consider fluid bolus in AEMT section. |

# Medic:

- Ensure completion of all applicable items above.

# CP:

- Ensure completion of all applicable items above.

## Change Log:

| Date | Link to previous version | Description of change |
|---|---|---|
| 10/15/21 | | New protocol approved by protocol committee on 5/26/21 and Dr. Nicholes on 6/8/21. This protocol was created from sepsis treatments found in 2-440 for push dose epi and LR and post resuscitation treatments found in 2-704 for dopamine. Additionally, levophed dosing was added per Dr. Nicholes on 6/8/21 as found in the Sepsis physician order set OS01-118. |
| 03/15/23 | pdf | Modified LR bolus in AEMT section to utilize ideal body weight if BMI over 30 per Dr. Butvilas and protocol committee on 1/25/23. Changed target MAP from 70 to 65 in RN section per Dr. Butvilas and protocol committee on 1/25/23. Clarified RN and medic roles. Added CP. |
| 03/17/23 | | Changed links to NS. |
| 03/19/23 | | Changed link for Norepi. |
| 03/19/23 | | Changed links for LR. |
| 03/20/23 | | Changed link to Epi. |
| 03/20/23 | | Changed link for Dopamine. |

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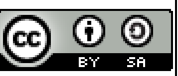

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# Protocol 2-594 - Hypothermia

**CMH EMS & MIH Protocols**

## EMD:

- No specific protocol.

## EMR:

- Remove from exposure.
- Open and maintain airway.
- Be prepared to Suction airway.
- **Pulseless**: Refer to Protocol 2-198 - Cardiac Arrest.
- **Drowning or near drowning**: Refer to Protocol 2-286 - Drowning / Near Drowning.
- Dry and warm patient.
- Remove constricting or wet clothing and jewelry.
- Cover effected tissue with loose, dry, sterile dressing.
- Obtain core body Temperature, if able.
- Consider applying Cardiac Monitor limb leads or combo pads.
- Attempt to determine down-time and history.

## EMT:

- Ensure completion of applicable items above.
- Assist ALS with Capnography.
- **Pulseless**:
  - Do not delay transport for rewarming.
  - Rapid transport to hospital.

## AEMT:

- Ensure completion of applicable items above.
- Consider IV warm NS/LR.

## RN:

- Ensure completion of all applicable items above.
- Consider IO warm NS/LR.
- **Pulseless**:

- **Shockable ryhthm**: Refer to Protocol 2-968 - V-Fib / Pulseless V-Tach, however, only shock once.
- **Core Temperature greater than 86° F**: Remember patients require longer intervals between drug administrations due to slower absorption and metabolism.
- **Core Temperature less than 86° F**: Compressions only.

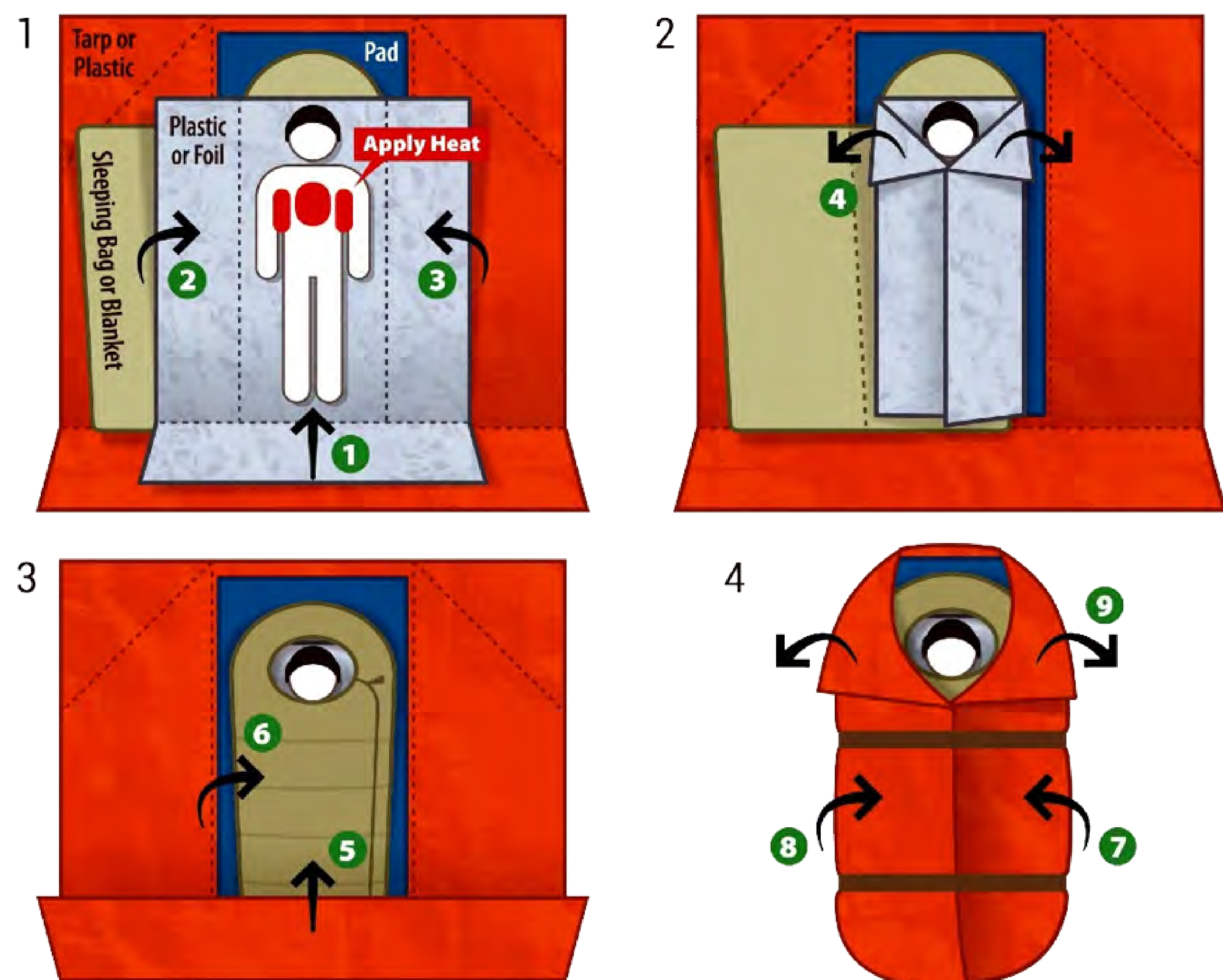
- **Pain**: Refer to Protocol 2-660 - Pain Control.
- **Nausea**: Refer to Protocol 2-990 - Vomiting.

# Medic:

- Ensure completion of all applicable items above.
- Consider Protocol 2-044 - Airway: RSI.

# CP:

- Ensure completion of all applicable items above.

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*Sources: BICOrescue.com; Zafren, Giesbrecht, Danzl et al. Wilderness Environ Med. 2014, 25:S66-85.*

## Change Log:

| Date | Link to previous version | Description of change |
|---|---|---|
| 10/04/13 | pdf | Added consider Combo Pads. |
| 01/29/14 | | Changed name from Hypothermia / frostbite to Hypothermia. |
| 12/12/14 | pdf | Changed Fentanyl over 65 yr to weight-based dose. |
| 12/15/14 | pdf | Replaced CPR with CCR. |
| 03/31/15 | | Reverted to CPR per medical director. |
| 04/03/15 | | Moved Gastric Tube to Protocol 6-110 - Rapid/Delayed Sequence Intubation (RSI). |
| 04/14/15 | | Added consider to limb leads. |
| 05/31/15 | | Replaced BLS (pulseless) sections with refer to Protocol 6-025 - Cardiopulmonary Resuscitation (CPR). |
| 05/31/15 | pdf | Combined Protocol 3-040 - Hypothermia Arrest and Protocol 3-030 - Hypothermia. |
| 11/17/15 | | Added comment to consider biphasic energy doses. |
| 07/22/16 | pdf | Moved rapid transport of pulseless patient under EMT section. |
| 08/24/17 | pdf | Added comment to follow AED instructions if no ALS available. |
| 09/20/17 | | Added consider to AEMS warm IV fluids. |
| 11/11/17 | pdf | Removed reference to Protocol 2-030 - Automated External Defibrillation (AED). |
| 07/23/19 | pdf | Added Burrito graphic. |
| 04/08/20 | pdf | Added content (without substantive modification) from old Protocol 3-030 - Hypothermia. |
| 06/06/21 | pdf | Moved to emsprotocols.online |
| 03/17/23 | | Changed links for NS. |
| 03/19/23 | | Changed links for LR. |

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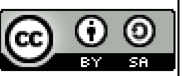
|---|---|---|



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# Protocol 2-616 - Newly Born

**CMH EMS & MIH Protocols**

In general, this protocol's scope covers management of the baby/babies after delivery and the point of cutting the umbilical cord. Before cutting the cord refer to Protocol 2-242 - Childbirth / Labor.

## EMD:

- No specific protocol.

## EMR:

- **Mother still in labor**: Refer to Protocol 2-242 - Childbirth / Labor.
- Confirm ABCs.
- **RESUSCITATION is required**:
  - Clamp and cut umbilical cord immediately.
  - Establish and maintain airway.
  - Suction thoroughly.
  - **HR less than 60**: Chest compressions at 120 per minute. Ratio of 3:1. Use BVM on room air unless you suspect hypoxic event.
  - **HR less than 100**: BVM with room air at 40-60 breaths per minute. Remember, newborn tidal volume may be 25 ml or less.
    - **If no improvement after 90 seconds**: BVM with 100% Oxygen.
  - Apply Cardiac Monitor limb leads.
- **Resuscitation is NOT required**:
  - Wait 1 minute to clamp and cord.
  - Consider Oxygen to maintain pre-ductal SpO2 according to chart found on Protocol 2-616-66 - Targeted Pre-Ductal SpO2.
- Maintain warmth of the infant.
- Suction mouth, then nose, with bulb syringe.
- Dry and STIMULATE with a clean towel.
- Obtain APGAR score at 1 minute and 5 minutes after delivery.
  - Refer to Protocol 2-616-33 - APGAR Scoring System.

## EMT:

- Ensure completion of applicable items above.
- **Blood sugar less than 30 mg/dl**: Refer to Protocol 2-572 - Hypoglycemia for treatment.

# AEMT:

- Ensure completion of applicable items above.
- **If RESUSCITATION is required**:
  - Consider IV NS/LR 10 ml/kg over 10 min.
    - Click "calculate" to get dose.
  - Consider Narcan 0.1 mg/kg IV/IN/IM/SQ/ET.
    - Click "calculate" to get dose.

# RN:

- Ensure completion of all applicable items above.
- **If RESUSCITATION is required**:
  - Consider IO NS/LR fluid bolus if IV in AEMT section unsuccessful.
  - **HR remains less than 80 despite BVM and chest compressions**:
    - Epinephrine 1:10,000 0.02 mg/kg IV/IO followed by 4 ml NS flush.
      - Click "calculate" to get dose.
    - **No response to first Epi**: Epinephrine 1:10,000 0.1 mg/kg (1 ml/kg) ET followed by 4 breaths.
      - Click "calculate" to get dose.

# Medic:

- Ensure completion of all applicable items above.
- **If RESUSCITATION is required**:
  - **Meconium present**: Laryngoscopy and Deep Suction trachea with ET Tube. After intubation, prolonged positive pressure ventilation at 40-60 breaths per minute.
  - **No response after stimulation, BVM, compressions, and deep suctioning**: INTUBATE.
    -

| Gestational age | ET Size | Depth |
|---|---|---|
| Less than 28 weeks | 2.5 | 6-7 cm |
| 28-34 weeks | 3.0 | 7-8 cm |
| 34-38 weeks | 3.5 | 8-9 cm |
| Greater than 38 weeks | 4.0 | 9-10 cm |

# CP:

- Ensure completion of all applicable items above.
- Refer to MIH Protocol 4-333 - Chronic OB/GYN Management.

## Change Log:

| Date | Link to previous version | Description of change |
|---|---|---|
| 12/12/14 | pdf | Added consider IV/IO/Umbilical access. Added only to Suction if infant is in distress. Added ET size and depth table. |
| 04/14/15 | | Added comment to BVM with room air unless hypoxia. |
| 07/22/16 | pdf | Removed umbilical vascular access as an option. Moved Narcan to AEMT section. |
| 09/22/17 | pdf | Moved chest compressions from ALS to EMR. Added clamping and cutting cord immediately. Added if HR less than 100, BVM with room air followed by 100% O2 if no improvement. Reduced glucose treatment threshold from 40 to 30. |
| 04/16/20 | | Added content (without substantive modification) from old Protocol 4-090 - Childbirth. |
| 04/16/20 | pdf | Added content (without substantive modification) from old Section 4-091 - Newborn Assessment. |
| 04/16/20 | pdf | Added content (without substantive modification) from old Protocol 4-130 - Neonatal Resuscitation. |
| 06/06/21 | pdf | Moved to emsprotocols.online |
| 03/16/23 | pdf | Tweaks to fluid bolus and epi doses per the 8th edition of NRP (10/11/2022): fluid bolus now 10ml/kg instead of 20 and Epi dose now 0.02 mg/kg instead of range 0.01-0.03. Clarified RN and medic roles. Added CP. |
| 03/17/23 | | Updated links for NS. |
| 03/19/23 | | Changed link for Narcan. |
| 03/19/23 | | Changed links for LR. |
| 03/20/23 | | Changed link to Epi. |
| 05/26/23 | pdf | Added link to 4-333. |

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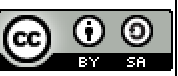

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# Protocol 2-616-33 - Newly Born - APGAR Scoring System

**CMH EMS & MIH Protocols**

## APGAR Scoring System

| | Question | Answer | Options |
|---|---|---|---|
| A | Appearance (skin color) | 2 - Completely pink | 2 - Completely pink<br>1 - Body pink, extremities blue<br>0 - Blue, pale |
| P | Pulse | 2 - Above 100 BPM | 2 - Above 100 BPM<br>1 - Below 100 BPM<br>0 - Absent |
| G | Grimace (reflex irritability) | 2 - Active motion (sneeze, cough, pull away | 2 - Active motion (sneeze, cough, pull away<br>1 - Some flexion of extremities<br>0 - Flaccid |
| A | Activity (muscle tone) | 2 - Active movement | 2 - Active movement<br>1 - Arms and legs flexed<br>0 - Absent |
| R | Respiration | 2 - Vigorous cry | 2 - Vigorous cry<br>1 - Slow, irregular<br>0 - Absent |

Calculate APGAR score

**APGAR score**:

# Click "calculate" to show APGAR score.

- **Less than 4** = Severely depressed.
- **4-6** = Moderately depressed.
- **Greater than 6** = Excellent condition.

## Change Log:

| Date | Link to previous version | Description of change |
|---|---|---|
| 07/23/16 | pdf | Renamed this section from APGAR to Newborn Assessment and included targeted pre-ductile SpO2. |
| 07/12/20 | | Moved this section from 2-616created a new page. |
| 06/06/21 | pdf | Moved to emsprotocols.online |
| 10/15/21 | | Renumbered from 2-616-01 to 2-616-33. |

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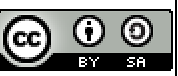
|---|---|---|



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# Protocol 2-616-66 - Newly Born - Targeted Pre-Ductal SpO2

## CMH EMS & MIH Protocols

| Time after Birth | Target SpO2 |
|---|---|
| 1 minute | 60-65% |
| 2 minutes | 65-70% |
| 3 minutes | 70-75% |
| 4 minutes | 75-80% |
| 5 minutes | 80-85% |
| 10 minutes | 85-90% |

## Change Log:

| Date | Link to previous version | Description of change |
|---|---|---|
| 07/23/16 | pdf | Renamed this section from APGAR to Newborn Assessment and included targeted pre-ductile SpO2. |
| 07/12/20 | | Moved this section from 2-616created a new page. |
| 06/06/21 | pdf | Moved to emsprotocols.online |
| 10/15/21 | | Renumbered from 2-616-02 to 2-616-66. |

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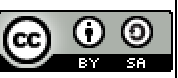


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# Protocol 2-638 - Overdose / Toxic Ingestion

**CMH EMS & MIH Protocols**

## EMD:

- Dispatch a non-dedicated standby ambulance to all hazmat releases where emergency response is required by other agencies.

## EMR:

- Consider hazmat and DECON. Refer to Protocol 2-924 - Universal Patient Care for decontamination protocols.
- **Caustic material or chemical burns**: Refer to Protocol 2-176 - Burns.
- **Excited delirium or anxiety due to recreational medication or overdose**: Refer to Protocol 2-110 - Behavioral.
- Identify possible causes and substance(s) involved.
- Consider Oxygen 100%.
  - **Paraquat poisoning**: Only administer Oxygen if SpO2 is less than 88%.
- Consider applying Cardiac Monitor limb leads.
- **Narcotic overdose with respiratory depression and unable to ventilate**:
  - Note: Narcan administration should be limited to "last resort" situations and only after risk/benefit has been assessed regarding potential violent patient after administration.
  -

| Adult: | Pediatric: |
|---|---|
| ▪ Narcan 0.2-0.4 mg IN. Repeat as necessary to maintain airway, SpO2, and ETCO2 | ▪ Narcan 0.1 mg/kg IN. Repeat as necessary to maintain airway, SpO2, and ETCO2<br>▪ Click "calculate" to get dose. |

## EMT:

- Ensure completion of applicable items above.
- Perform Blood Sugar Check.
- Consider assisting ALS with Capnography.

## AEMT:

- Ensure completion of applicable items above.
- Consider IV NS/LR.

- **Narcotic overdose with respiratory depression and unable to ventilate**: Narcan IV/IM/SQ same doses as EMT above.

# RN:

- Ensure completion of all applicable items above.
  Contact POISON CONTROL at 888-268-4195.
- Consider IO NS/LR.
- **If suspected intentional poisoning or overdose**: MANDATORY ALS patient and pre-hospital IV or IO access is REQUIRED.
- Consider Protocol 2-044 - Airway: RSI.
- **Beta-blocker overdose**:
  - Refer to Protocol 2-154 - Bradycardia.

    Consider contacting MEDICAL CONTROL for:

| Adult: | Pediatric: |
|---|---|
| Glucagon 2-5 mg IV/IO. Repeat at 10 mg if Bradycardia or hypotension occur. | **25-40 kg**: Glucagon 1 mg IV/IO (max 20 mg/kg or 1 g).<br>**Less than 25 kg**: Glucagon 0.5 mg IV/IO (max 20 mg/kg or 1 g). |

- **Calcium channel blocker overdose**:

  Consider contacting MEDICAL CONTROL for:

| Adult: | Pediatric: |
|---|---|
| Calcium Chloride 50 mg/min (max 1 g). | NA. |

- **Caustic substance ingestion**:

  Consider contacting MEDICAL CONTROL for water or milk ingestion within a few minutes immediately after ingestion.

| Adult: | Pediatric: |
|---|---|
| Max 8 oz. | Max 4 oz. |

- **Monoamine Oxidase Inhibitor (MAOI) overdose**:

  **Hyperthermia**: Contact MEDICAL CONTROL for Versed 0.1 mg/kg in 2 mg increments slow IV/IO (max 5 mg). Half dose if over 65 years old.
  - Click "calculate" to get dose.
  - Click "calculate" to get dose.
- **Narcotic overdose**:
  - Narcan IV/IO/IM/SQ same doses as EMR above.
- **Selective Serotonin Reuptake Inhibitor (SSRI) overdose**:
  - Aggressively control Hyperthermia with active cooling measures.
  - **Hypotension**: LR IV/IO 20 ml/kg.
    - Click "calculate" to get dose.

    Contact MEDICAL CONTROL.
- **Tricyclic Antidepressant overdose**:
  - **Hypotension**: LR IV/IO 20 ml/kg.
    - Click "calculate" to get dose.

**QRS greater than 100 ms**: Contact MEDICAL CONTROL for Sodium Bicarbonate 1-2 mEq/kg IV/IO. Repeat as necessary to narrow QRS and improve BP.

- Click "calculate" to get dose.

# Medic:

- Ensure completion of all applicable items above.

# CP:

- Ensure completion of all applicable items above.

## Change Log:

| Date | Link to previous version | Description of change |
|---|---|---|
| 01/09/14 | pdf | Corrected poison control number. |
| 01/29/14 | | Added consider hazmat decon. Added Hydrofluoric acid treatment. Coordinated with CMH policies. |
| 12/12/14 | pdf | Removed Blood Draw. Added Dr. Merk comment about mandatory IV access if intentional. Made Intubation a DELIBERATE ACTION. Added comment to see Behavioral protocol for excited delirium. |
| 03/02/15 | | Removed DELIBERATE ACTION. |
| 04/03/15 | | Moved Gastric Tube to Protocol 6-110 - Rapid/Delayed Sequence Intubation (RSI). |
| 11/17/15 | pdf | Modified adult Narcan administration to 0.2-0.4 mg with a max of 2 mg. |
| 07/20/16 | pdf | Added option for IN Narcan to EMT section if unable to ventilate with respiratory depression. |
| 07/22/16 | | Added option for IV/IM/SQ Narcan to AEMT section if unable to ventilate with respiratory depression. |
| 02/02/17 | pdf | Removed max dose of Narcan. |
| 09/22/17 | | Lowered glucose treatment threshold from 70 to 60. Significant additions to ALS sections including dosages for several medical control medications. Added trycyclic antidepressant overdose, added caustic substance ingestion, added MAOI overdose, added SSRI overdose. |
| 11/13/17 | pdf | Made this protocol two pages for easier reading. |
| 08/24/18 | pdf | Per Dr. Kramer, added bolded DECON to every step and every level. Moved Glucagon word to each dosage under beta-blocker for reader clarity. |
| 04/17/20 | pdf | Added content (without substantive modification) from old Protocol 4-140 - PoisoningOverdose. |
| 02/19/21 | pdf | Narcan administration has been added to the EMR scope of practice after some lengthy discussion several months ago between some fire chiefs and medical director. Some statements to pay attention to include pt must have respiratory depression, must have inability to ventilate, and must conduct risk benefit assessment regarding potential patient violence after administration. |
| 06/06/21 | pdf | Moved to emsprotocols.online |
| 11/30/21 | | Changed link to Activated Charcoal. |
| 12/01/21 | | Updated link to Versed. |
| 02/28/22 | | Updated link for Sodium Bicarb. |
| 03/16/23 | pdf | Clarified RN and medic roles. Added CP. |
| 03/17/23 | | Updated links to NS. |
| 03/19/23 | | Changed links for Narcan. |
| 03/19/23 | | Changed links for LR. |
| 03/20/23 | | Changed link for Glucagon. |
| 03/20/23 | | Changed link for Calcium. |
| 04/27/23 | pdf | Removed charcoal as per Dr. Butvilas on 3/24/23. |

| | | |
|---|---|---|
| 05/25/23 | pdf | Added indication for referral to protocol 2-110 (Behavioral) for patients with anxiety due to recreational medication or medication overdose. Protocols for sedation in those situations is found on 2-110, not here. |

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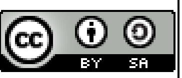
| CMH Pre-Hospital Services Mission: "*Provide safe, exceptional, and compassionate care to our communities with an emphasis on highly trained and empowered staff*." | CMH Mobile Integrated Healthcare Mission: "*Provide exceptional, compassionate, and patient-centered care by a mobile collaborative team to improve patient experience, improve quality outcomes, and reduce healthcare costs*." | |
|---|---|---|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# Protocol 2-660 - Pain Control

**CMH EMS & MIH Protocols**

## EMD:

- No specific protocol.

## EMR:

- Identify possible causes.
- Consider Oxygen if SpO2 is less than 88%.
- Consider applying Cardiac Monitor limb leads.
- **Consider BLS pain relief actions**:
  - Splinting or immobilizing.
  - Elevating.
  - Cold pack.
  - Verbal sedation.

## EMT:

- Ensure completion of applicable items above.
- Assume abdominal, back, and/or thoracic pain with unknown cause is a STEMI: Obtain a 12-Lead ECG within 10 minutes of patient contact.
- **If narcotic administered**: Consider assisting ALS with Capnography.

## AEMT:

- Ensure completion of applicable items above.
- Consider IV NS/LR.

## RN:

- Ensure completion of all applicable items above.
- Consider IO NS/LR.
- **Painful procedure of short duration** (i.e., cardioversion, external cardiac pacing, fracture manipulation, extrication, etc.):
  - Consider Etomidate 0.1 mg/kg IV/IO.
    - Click "calculate" to get dose.

  Consider contacting MEDICAL CONTROL for Ketamine (dissociative dose):

- 1-2 mg/kg IV/IO.
- 4-5 mg/kg IM.
- **Over 65 years old**: Half dose.
- Click "calculate" to get dose.
- Click "calculate" to get dose.
- Click "calculate" to get dose.
- Click "calculate" to get dose.

- **Severe pain**: Consider Ketamine (analgesic dose):
  - 0.1-0.5 mg/kg *[ideal body weight]* IV/IO.
  - 0.8-1 mg/kg *[ideal body weight]* IM.
  - **Over 65 years old**: Half dose.
  - Enter weight and height and click "calculate" to get dose based on IDEAL weight.
  - Enter weight and height and click "calculate" to get dose based on IDEAL weight.
  - Enter weight and height and click "calculate" to get dose based on IDEAL weight.
  - Enter weight and height and click "calculate" to get dose based on IDEAL weight.
- **Acute or chronic (acute exacerbation with autonomic signs and symptoms) pain**:

| Adult: | Pediatric: |
|---|---|
| ▪ Consider Fentanyl 12.5-100 mcg IV/IO/IM/IN. May repeat every 5 minutes.<br>  ▪ **Over 65 years old**: 12.5-50 mcg. May repeat every 5 minutes (max 150 mcg).<br>▪ Consider Morphine 2-5 mg IV/IO/IM (max 10 mg). Maintain SBP greater than 100.<br>  ▪ Consider Benadryl 25-50 mg IV/IO to potentiate Morphine and reduce hypotension.<br>▪ Consider Toradol 15 mg IV/IO or 15 mg IM.<br>  ▪ Contraindicated in pregnancy.<br>  ▪ **Over 65 years old**: 15 mg IV/IO or 15 mg IM. | ▪ Consider Fentanyl 1-2 mcg/kg IV/IO/IN. May repeat every 5 minutes.<br>  ▪ Click "calculate" to get dose.<br>▪ Consider Morphine 0.1-0.2 mg/kg IV/IO/IM. May repeat every 5 minutes.<br>  ▪ Click "calculate" to get dose.<br>  ▪ Consider Benadryl 1 mg/kg (max 50 mg) IV/IO to potentiate Morphine and reduce hypotension.<br>    ▪ Click "calculate" to get dose. |

- **Chronic pain without autonomic signs and symptoms**: Transport in position of comfort.
- Any patient receiving narcotics must be transported.

# Medic:

- Ensure completion of all applicable items above.

# CP:

- Ensure completion of all applicable items above.
- Refer to MIH Protocol - Chronic Pain Management.

## Change Log:

| Date | Link to previous version | Description of change |
|---|---|---|
| 02/22/14 | pdf | Added medical control for Ketamine. |
| 12/12/14 | | Added weight-based dosage for greater than 65 yr for Fentanyl. Added IM option for Morphine. Added option for Toradol. |
| 12/15/14 | | Added Dilaudid medication. |
| 05/05/15 | pdf | Modified Ketamine for chemical extrication (4 mg/kg IM and removed medical control). |
| 08/06/15 | | Added IM route for Fentanyl. Added IM route for Morphine. Added analgesic and disassociative doses of Ketamine. Added comment to half the dose of Ketamine if age over 65 yr. |
| 11/17/15 | | Modified over 65 yr old Fentanyl dose to 25-50 mcg with a max of 150 mcg. |
| 04/06/16 | pdf | Added the need for medical control to administer the dissasociative dose of Ketamine. This was at specific request of CMH medical director. |
| 06/29/16 | | Added consider Benadryl with all Morphine administrations. |
| 08/24/17 | pdf | Removed Ativan and Dilaudid. Added BLS pain control measures. |
| 09/22/17 | | Reduced all dosages for Toradol by 50% to align with NASEMSO. Increased Ketamine analgesic dose from 0.2 to 0.5. Removed hot pack under BLS pain control. Modified pediatric Versed dosages. |
| 11/14/17 | pdf | Changed minimum initial dosage of Fentanyl to 25 mcg to allow more flexibility. |
| 08/24/18 | pdf | Added comment to consider capnography if narcotic used. Added option for Etomidate for procedural sedation of cardioversion. Removed maximum Fentanyl dose. Changed minimum adult Fentanyl dose from 25 to 12.5 mcg. |
| 04/18/20 | pdf | Added content (without substantive modification) from old Protocol 6-050 - Control of Pain. |
| 02/19/21 | pdf | Corrected typo where Toradol can be administered both IM and IV to over 65 yr olds. |
| 06/06/21 | pdf | Moved to emsprotocols.online |
| 11/05/21 | pdf | Added requirement for analgesic dose of Ketamine to be dosed from IDEAL body weight. This is a result of multiple requests from Dr. Nicholes even after a request to keep actual dose from protocol committee. Final confirmation from Dr. Nicholes on 6/8/21. Calculators updated to only give dose after patient height has been entered to accurately calculate IDEAL weight like the RSI protocol does for paralytics. |
| 12/01/21 | | Fixed an error with a link to Fentanyl. |
| 02/28/22 | | Updated link to Toradol. |
| 03/15/23 | pdf | Changed Torodol dose from 30mg to 15mg per direct instruction of Dr. Butvilas. Also clarified RN vs Medic roles and added CP. |
| 03/19/23 | | Changed link for Morphine. |
| 03/19/23 | | Changed links for LR. |
| 03/20/23 | | Changed link for Ketamine. |
| 03/20/23 | | Changed link for Fent. |

| | | |
|---|---|---|
| 03/20/23 | | Changed link for Etomidate. |
| 03/20/23 | | Changed link for Benadryl. |
| 04/28/23 | pdf | Added instruction to perform 12-lead on unknown abdominal, back, or thoracic pain. Changed IM dose of Toradol from 30 to 15 mg. Added CP home pain control standing orders. |
| 05/25/23 | pdf | Added more examples to painful procedures of short duration. The list now includes pacing as it was not previously mentioned. Etomidate and Ketamine remain the only approved sedatives for cardioversion and pacing. Please note, versed is not in protocol for those procedures and has not been in protocol since 2018. Also moved the recently added community paramedic chronic pain treatments to protocol 4-416. |

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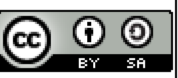


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# Protocol 2-682 - Patient Refusal

**CMH EMS & MIH Protocols**

---

## EMD:

- No specific protocol.

## EMR:

- A Patient Care Report (PCR) must be completed for every EMS response. An Electronic Patient Care Report (ePCR) is required for EMS transport agencies.
    - Every effort should be made to have the PCR shall be completed within 24 hours if volunteer responder (by end of shift if career employee) and be available to the Medical Director (or designee) within 24 hours of completion, if requested.
- **Always act in the best interest of the patient**:
    1. Treating and transporting is preferable to PRC.
    2. PRC is preferable to NCN.

---

- **Patient Refusal of Care** (PRC):
    - Providers should attempt to obtain a history and physical, in as much detail as is permitted by the patient.
    - Conduct three assessments:
        - **Legal competence**: Patient is at least 18 years old (or legal guardian is present to refuse care) AND legally competent to refuse care.
        - **Mental competence**: Patient is oriented to person, place, time, and purpose, not a danger to themselves or others, capable of understanding the risks of refusing care/transport, and no signs of mental incapacity (i.e. drug/alcohol intoxication, unsteady gait, slurred speech, etc.).
        - **Medical and situational competence**: Patient is not suffering from acute medical condition that would impair judgment (i.e. hypovolemia, hypoxia, head trauma, diabetic emergencies, hypo/hyperthermia, etc.).
    - If the patient refuses care and/or transport, patient should be informed of potential risks, and need for transport and comprehensive Physician evaluation. **Read the patient refusal statement below out loud to the patient.**
    - **No ambulance dispatched**: EMR or above may obtain a PRC.
      In the absences of an ALS assessment, BLS-only ambulance crew must contact MEDICAL CONTROL or on-duty EMS Supervisor prior to obtaining PRC.
        - Patients electing to go to walk-in clinic or ER via personal vehicle (and witnessed leaving with family or bystander) may be PRC'd by EMR or EMT without the need for ALS assessment or contacting medical control or supervisor.
        - **EMR or EMT may PRC a patient without ALS if the following are met**:

    - Minor mechanisms of injury (i.e. falls from standing or vehicle accidents with no passenger compartment damage).

  If any ALS intervention has been performed, MEDICAL CONTROL must be contacted prior to PRC.

  - Obtain signature of patient or guardian. If patient refuses to sign, document this fact.
  - Obtain signature of witness. Preferably law enforcement official or family member.

- **No Care Needed** (NCN):
    - After scene assessment, there may be no patients (i.e. false alarms). A PCR shall be completed including: situation description, number of individuals, and medical screening, if done.
    - If an individual exhibits any significant mechanism of injury, pain behaviors, indications of altered mental status, or the individual at any time requested medical treatment or ambulance transport: **Treatment and transport or PRC must be completed**.

# EMT:

- Ensure completion of applicable items above.
- As complete as an assessment as the patient will allow shall be completed and documented on all patient contacts.
- Referral to further medical care by a **physician** shall always be completed and documented on all patient refusals. Referrals may include:
    - Patient or caregiver driving via private vehicle to an Emergency Room or Walk-In / Urgent Care Clinic.
    - Patient or caregiver scheduling an appointment with their Primary Care Provider (PCP).
- Prior to obtaining refusal signatures, the Refusal Statement (found below) must be read out loud. Documentation of reading the Refusal Statement should also be completed.
    - Patient should be advised of the medical importance of their signs and symptoms, the potential for further illness or injury, and the need for transport and a more comprehensive evaluation by a physician.
    - Risks of not being treated and transported should be explained to the patient.
    - If a family member is present, explain the risk of the patient not being treated and transported and benefit of ambulance transport and document family member name and relationship.
    - The patient decision making capacity should be documented.
- Refer to Guideline 1-700-33 - Patient Care Documentation for documentation requirements.

# AEMT:

- Ensure completion of applicable items above.

# RN:

- Ensure completion of all applicable items above.
- If patient care would have met ALS criteria, PRC must be completed by the RN, Paramedic, or AEMT.

  **MEDICAL CONTROL and an ALS assessment is required before PRC for all of the following**:
    - Drug or alcohol intoxication,
    - Acute mental impairment, OR
    - Attempted suicide, verbalized suicidal intent, or EMS providers suspect Suicidal Intent.

# Medic:

- Ensure completion of all applicable items above.

# CP:

- Ensure completion of all applicable items above.
- A request for an ambulance or activation of 9-1-1, regardless of refusal status, must be a completely separate incident from an MIH visit. If a patient refuses ambulance transport after a 9-1-1 call but has needs MIH may fill, make an appointment for a return visit for enrollment in MIH.

# Refusal Statement (print and laminate cards)

## Patient Refusal Statement

**Updated: 5/27/2022**

By signing this refusal document, you are agreeing to the following:

- I understand that the EMS personnel are not physicians and are not qualified or authorized to make a diagnosis and that their care is not a substitute for that of a physician.
- I recognize that I may have a serious injury or illness which could get worse without medical attention even though I (or the patient on whose behalf I legally sign this document) may feel fine at the present time.
- I understand that I may change my mind and call 9-1-1 if treatment or assistance is needed later.
- I also understand that treatment is available at an emergency department 24 hours a day or from my physician.

Patient Refusal Statement
Updated: 5/27/2022

By signing this refusal document, you are agreeing to the following:

- I understand that the EMS personnel are not physicians and are not qualified or authorized to make a diagnosis and that their care is not a substitute for that of a physician.
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|---|---|
| document) may feel fine at the present time.<br>• I understand that I may change my mind and call 9-1-1 if treatment or assistance is needed later.<br>• I also understand that treatment is available at an emergency department 24 hours a day or from my physician. | document) may feel fine at the present time.<br>• I understand that I may change my mind and call 9-1-1 if treatment or assistance is needed later.<br>• I also understand that treatment is available at an emergency department 24 hours a day or from my physician. |

## Change Log:

| Date | Link to previous version | Description of change |
|---|---|---|
| 04/03/15 | pdf | Modified this section to reflect requirements for volunteers vs. career users of this protocol. |
| 04/14/15 | | Added ePCR is required by CMH EMS. |
| 11/17/15 | pdf | Added medical control order for PRC if BLS-only crew. Added medical control order for PRC if any ALS intervention has been performed. |
| 08/25/17 | pdf | Added clarification that an EMR or EMT can perform a PRC if an ambulance has not been dispatched. Removed the requirement for ePCR for first responder agencies. |
| 08/28/17 | | Added comment that EMR and EMT can PRC if the patient is transported POV without contacting medical control or supervisor. This is intended to assist fire departments that would otherwise have to wait for an ambulance, attempt to prevent the patient from transporting themselves, or electing for not getting a PRC. |
| 09/05/17 | | Added comment about BLS PRC for low MOI and all other requirements of NCN are met. |
| 09/22/17 | | Added comment transport is preferred to PRC and PRC is preferred to NCN. Added requirements for ALS or medical control prior to PRC for intoxication, mental impairment, or suidical intent. |
| 12/22/17 | pdf | Modified comment requiring PRC if individual at any time requested medical treatment. |
| 10/15/18 | | Added every effort will be made to complete PCR within 24 hours at the request of Bolivar Fire. |
| 04/18/20 | pdf | Added content (without substantive modification) from old Section 6-070 - Documentation. |
| 04/22/20 | | Moved general documentation notes to Protocol 1-700 - General Operations. |
| 06/06/21 | pdf | Moved to emsprotocols.online |
| 05/27/22 | pdf | Per Dr. Nicholes on 5/25/22 and the protocol committee, a standardized statement must be read to patients out loud prior to them signing the PRC form. The statement mirrors the document they already sign for CMH EMS as approved by CMH legal department and Page, Wolfberg, and Wirth EMS Law Firm. The text to read aloud is now included in this protocol in a format to allow printing and laminating. |
| 09/12/22 | pdf | Changed terminology from MIRANDA to STATEMENT. Also, added some terminology that was removed from Policy PHS01-04. |
| 03/16/23 | pdf | Added select contents of PWW document to include three assessments and language to read the refusal statement out loud to the patient. Clarified RN and medic roles. Added CP. |
| 04/28/23 | pdf | Modified statements to allow AEMTs to obtain a PRC. Also clarified phrases for rescue agencies to be able to obtain a PRC without ALS. Added to the CP section instructions to differentiate between an ambulance encounter and an MIH encounter: CPs must make a followup appointment for MIH instead of managing the patient on the scene where an ambulance or 9-1-1 were involved. This is meant to ensure EMTALA is not violated. |

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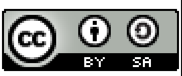


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# Protocol 2-704 - Post Resuscitation

**CMH EMS & MIH Protocols**

## EMD:

- No specific protocol.

## EMR:

- Establish and maintain airway and ventilate with Oxygen.
  - Avoid hyperventilation.
  - **Conscious**: Attempt to maintain SpO2 between 92-98%.
  - **Unconscious**: Attempt to maintain SpO2 between 88-92%
- Apply Cardiac Monitor Combo Pads and limb leads.

## EMT:

- Ensure completion of applicable items above.
- Assist ALS with Capnography.

## AEMT:

- Ensure completion of applicable items above.
- IV NS/LR. Refer to Protocol 2-583 - Hypotension / Shock for LR dose.

## RN:

- Ensure completion of all applicable items above.
- Obtain 12-Lead ECG.
- Treat rate and rhythm per protocol.
- Secure airway, if necessary.
- **Hypotensive**:
  - Consider IO NS/LR.
  - Refer to Protocol 2-583 - Hypotension / Shock.
- **Continued sedation**: Refer to continued sedation section of Protocol 2-044 - Airway: RSI.
- Consider remaining on scene for at least ten (10) minutes after ROSC to stabilize the patient before initiating transport.

# Medic:

- Ensure completion of all applicable items above.
- Consider RSI and targeted temperature management if ALL of the following:
    - No trauma, no purposeful movement, AND SBP greater than 90.
    - **Targeted temperature management**: If indicated as above, perform the following:
        - Expose the patient and apply cold packs to the following areas:
            - One in each armpit,
            - One in each femoral groin area (on top of legs),
            - One to each side of the neck, AND
            - on to the top of the head.
        - Monitor temperature via axillary probe with a target temperature between 91.4 and 96.8 ° F.
        - Replace cold packs if they thaw during transport.

# CP:

- Ensure completion of all applicable items above.

# Change Log:

| Date | Link to previous version | Description of change |
|---|---|---|
| 12/12/14 | pdf | Added consider RSI and cooling. |
| 07/22/16 | pdf | Moved NS fluid bolus if hypotension and clear lung sounds to AEMT section. |
| 08/24/17 | pdf | Removed Ativan. |
| 09/20/17 | | Modified pediatric Versed dosages. |
| 11/11/17 | pdf | Replaced Versed and Fentanyl with reference to Protocol 6-050 - Control of Pain for pre-cardioversion. |
| 08/24/18 | pdf | Added comment to consider remaining on scene to stabilize for ten minutes after ROSC. |
| 04/05/20 | pdf | Added content (without substantive modification) from old Protocol 2-060 - Post Resuscitative Care. |
| 02/19/21 | pdf | AHA 2020 changes to this protocol include a slight adjustment to targeted SpO2 on the conscious ROSC patient and comments indicating a target MAP of greater than 65 should be maintained on these patients. |
| 06/06/21 | pdf | Moved to emsprotocols.online |
| 10/15/21 | pdf | Moved fluid bolus and dopamine to new hypotension protocol (2-583). This was approved by protocol committee on 5/26/21. Additionally, protocol committee approved adding push dose epi to post resuscitation on 5/26/21. Dr. Nicholes approved push-dose epi on 6/8/21. Push dose epi was added to new hypotension protocol, not post resuscitation, but is available for those type of patients. |
| 02/25/22 | pdf | Adjusted targeted temperature management details (removed cold IV and added cold pack locations). Per research done by paramedic student Megan Sukovaty and presentation made on 12/9/21, cold IV fluids cause worse outcomes. Approved by protocol committee on 1/26/22 to conform to recommendations by Sukovaty. |
| 03/16/23 | pdf | Clarified RN and medic roles. Added CP. |
| 03/17/23 | | Updated links to NS. |
| 03/19/23 | | Changed links for LR. |

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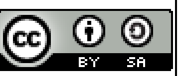
|  | Polk, Hickory, Cedar, & St Clair County EMS Protocols by Theron Becker is licensed under a Creative Commons Attribution-ShareAlike 4.0 International License. |
|---|---|

# Protocol 2-726 - Pulmonary Edema

**CMH EMS & MIH Protocols**

## EMD:

- No specific protocol.

## EMR:

- Oxygen to maintain SpO2 between 94-99%.
- Apply cardiac monitor limb leads.
- Elevate head of Cot.

## EMT:

- Ensure completion of applicable items above.
- Assist ALS with Capnography.
-

| Adult: | Pediatric: |
|---|---|
| ◦ Consider assisting ALS with CPAP. | ◦ |

## AEMT:

- Ensure completion of applicable items above.
- Consider IV lock in AC (left is preferred) with pigtail extension with 18 ga or greater.
- Consider Albuterol 2.5 mg in NS 3 ml Nebulized.
- **Wheezing or obstructed EtCO2 waveform**: Refer to Protocol 2-770 - Respiratory Distress, however, do NOT administer Epinephrine.

# RN:

- Ensure completion of all applicable items above.
- Consider Ventilator in CPAP mode with PSV (BiPAP).
- Consider IO lock.
- Obtain 12-Lead ECG. Consider 15-Lead ECG.
-

| Adult: | Pediatric: |
| --- | --- |
| ◦ **SBP less than 110:**<br>▪ Consider Captopril 12.5 mg SL.<br>▪ Consider Dopamine 5-10 mcg/kg/min IV/IO.<br>  ▪ Click "calculate" to get dose.<br>▪ Consider Nitroglycerine 60+ mcg/min IV/IO. Titrate to SBP greater than 90 and dyspnea.<br>◦ **SBP greater than 110**:<br>▪ Consider Captopril 25 mg SL.<br>▪ Consider Nitroglycerine 0.4-0.8 mg SL every 3-5 minutes until no dyspnea or SBP less than 90. | Consider contacting MEDICAL CONTROL. |

# Medic:

- Ensure completion of all applicable items above.
- Consider Protocol 2-044 - Airway: RSI.

# CP:

- Ensure completion of all applicable items above.
- Refer to MIH Protocol 4-125 - Chronic Heart Failure Management.

## Change Log:

| Date | Link to previous version | Description of change |
|---|---|---|
| 12/13/13 | pdf | Removed CPAP as BLS skill, now is assist ALS. |
| 12/12/14 | pdf | Added Capnography. Made Intubation a DELIBERATE ACTION. Increased nitro dose. |
| 03/02/15 | | Removed DELIBERATE ACTION. |
| 06/27/16 | pdf | Added note that IV access must be in an AC space (left is preferred). |
| 07/22/16 | | Moved bronchodialators to AEMT section. |
| 08/24/17 | pdf | Added Captopril. Removed Lasix. Removed Ipratropium and clarified doses of Duoneb. |
| 09/22/17 | | Added comment for Nitro contraindication if phosphodiesterase inhibitor within 48 hours. |
| 08/24/18 | pdf | Per Dr. Kramer, adjusted Nitro drip dose (from 50+ to 60+)target SBP (from 100 to 90). |
| 04/13/20 | pdf | Added content from old Protocol 4-070 - Congestive Heart Failure (CHF). Changed Dopamine dose from 5-15 to 5-10 mcg/kg/min due to wanting to concentrate on Beta effects instead of Alpha. |
| 06/06/21 | pdf | Moved to emsprotocols.online |
| 11/30/21 | | Updated link to Albuterol. |
| 03/16/23 | pdf | Clarified RN and medic roles. Added CP. |
| 03/19/23 | | Changed link for Nitro. |
| 03/20/23 | | Changed link for Epi. |
| 03/20/23 | | Changed link for Dopamine. |
| 03/20/23 | | Changed link to Captopril. |
| 05/26/23 | pdf | Added link to 4-125. |

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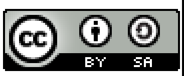

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# Protocol 2-748 - Pulseless Electrical Activity

**CMH EMS & MIH Protocols**

## EMD:

- No specific protocol.

## EMR:

- Refer to Protocol 2-198 - Cardiac Arrest.

## EMT:

- Ensure completion of applicable items above.

## AEMT:

- Ensure completion of applicable items above.

## RN:

- Ensure completion of all applicable items above.
- Until proven otherwise, PEA should be considered and treated as **PROFOUND SHOCK**.
-

| Adult: | Pediatric: |
| --- | --- |
| ◦ **Slow PEA rate**:<br>▪ Consider Atropine 1 mg IV/IO every 3-5 min (max 3 mg).<br>▪ Consider Pacing.<br>◦ **Suspected mechanical cardiac activity**:<br>▪ Consider large fluid bolus.<br>▪ Consider Dopamine 5-20 mcg/kg/min IV/IO.<br>▪ Click "calculate" to get dose. | ◦ |

- Narrow complex PEA should **NOT** be terminated in the field.

## Medic:

- Ensure completion of all applicable items above.

# CP:

- Ensure completion of all applicable items above.

# Change Log:

| Date | Link to previous version | Description of change |
|---|---|---|
| 12/12/14 | pdf | Added 20 min of CPR before movement. |
| 12/12/14 | pdf | Added consider Gastric Tube. |
| 12/15/14 | | Replaced CPR with CCR. |
| 03/31/15 | | Reverted to CPR per medical director. |
| 04/03/15 | | Moved Gastric Tube to Protocol 6-110 - Rapid/Delayed Sequence Intubation (RSI). |
| 05/31/15 | | Replaced BLS sections with refer to Protocol 6-025 - Cardiopulmonary Resuscitation (CPR). |
| 08/24/18 | pdf | Added option for Epi drip over five min. Added option to consider Dopamine if profound shock is suspected. |
| 03/01/19 | pdf | Added comment that narrow PEA trauma arrest should not be terminated in the field based on PHTLS version 9 recommendation. |
| 04/05/20 | pdf | Added content (without substantive modification) from old Protocol 2-070 - Pulseless Electrical Activity (PEA). |
| 06/06/21 | pdf | Moved to emsprocols.online |
| 03/16/23 | pdf | Clarified RN and medic roles. Added CP. |
| 03/20/23 | | Changed link for Dopamine. |
| 03/20/23 | | Changed link for Atropine. |

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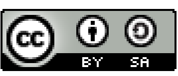
|---|---|---|

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# Protocol 2-770 - Respiratory Distress

**CMH EMS & MIH Protocols**

## EMD:

- No specific protocol.

## EMR:

- Oxygen to maintain SpO2 between 88-92%.
- Consider moving patient to a cold air environment.
- Apply cardiac monitor limb leads.

## EMT:

- Ensure completion of applicable items above.
- Assume respiratory distress with unknown cause is a STEMI: Obtain a 12-Lead ECG within 10 minutes of patient contact.
- Assist ALS with Capnography.
-

| Adult: | Pediatric: |
|---|---|
| ◦ Consider assisting ALS with a trial of CPAP. | ◦ NA |

## AEMT:

- Ensure completion of applicable items above.
- Consider IV NS/LR in AC (left is preferred) with pigtail extension with 18 ga or greater.
- Consider Albuterol 2.5 mg in NS 3 ml Nebulized.
-

| Adult: | Pediatric: |
|---|---|
| ◦ Consider Duoneb 3 ml Nebulized (max 1 dose).<br>◦ **HR greater than 110**: Consider Xopenex 0.63-1.25 mg Nebulized.<br>◦ Consider Epinephrine 1:1,000 0.3-0.5 mg IM/SQ. Caution when greater than 55 yr old with cardiac history. | ◦ Consider Duoneb 1.5 ml Nebulized (max 1 dose).<br>◦ **Greater than 6 yr old**: Consider Xopenex 0.31-0.63 mg Nebulized. |

# RN:

- Ensure completion of all applicable items above.
- Consider IO NS/LR.
- Consider 12-Lead ECG.
-

| Adult: | Pediatric: |
|---|---|
| ◦ Consider Decadron 16 mg Nebulized.<br>◦ Consider Solu-Medrol 125 mg IV/IO/IM.<br>◦ Consider Magnesium Sulfate 2 g IV/IO in NS over 15-20 min. | ◦ **Croup or epiglottitis**: Consider Racemic Epinephrine 0.5 ml with 3 ml NS Nebulized.<br>▪ In the absence of Racemic Epinephrine, Epinephrine 1:1,000 0.5 ml/kg (max 5 ml) may be Nebulized.<br>▪ Click "calculate" to get dose.<br>◦ Consider Decadron 4-8 mg Nebulized.<br>Consider contacting MEDICAL CONTROL:<br>▪ Consider Solu-Medrol 1-2 mg/kg IV/IO/IM.<br>▪ Click "calculate" to get dose.<br>▪ Consider Magnesium Sulfate 25-50 mg/kg IV/IO in NS over 15-20 min. |

- **CHF or pulmonary edema**: Refer to Protocol 2-726 - Pulmonary Edema.

# Medic:

- Ensure completion of all applicable items above.
- Consider Protocol 2-044 - Airway: RSI.

# CP:

- Ensure completion of all applicable items above.
- Refer to MIH Protocol 4-458 - Chronic Respiratory Disease Management.

## Change Log:

| Date | Link to previous version | Description of change |
|---|---|---|
| 10/04/13 | pdf | Added (max 1 dose) to Racemic. |
| 11/11/13 | | Added IV/IM/PO for Decadron and added Solu-Medrol. |
| 12/13/13 | pdf | Removed CPAP as BLS skill, now is assist ALS. |
| 12/12/14 | pdf | Made Intubation a DELIBERATE ACTION. |
| 12/12/14 | pdf | Made Intubation a DELIBERATE ACTION. |
| 12/12/14 | pdf | Removed IV/IM from Decadron. Added comment to be cautious administering any medication IV/IM/IO. |
| 03/02/15 | | Removed DELIBERATE ACTION. |
| 03/02/15 | | Removed DELIBERATE ACTION. |
| 04/14/15 | | Added consider to limb leads. |
| 11/17/15 | pdf | Increased Xopanex indication from heart rate of 100 to 110. |
| 06/27/16 | pdf | Added note that IV access must be in an AC space (left is preferred). |
| 06/27/16 | pdf | Added note that IV access must be in an AC space (left is preferred). |
| 07/22/16 | | Moved Epi IM and bronchodialators Neb to AEMT section. |
| 08/24/17 | pdf | Removed Ipratropium and clarified doses of Duoneb. Removed Decadron. |
| 08/24/17 | pdf | Removed Ipratropium and clarified doses of Duoneb. |
| 08/24/17 | pdf | Removed Decadron. |
| 08/24/18 | | Created this section at the request of multiple staff with references to other protocols. |
| 10/15/18 | pdf | Added option for Decadron. |
| 10/15/18 | pdf | Added option for Decadron. |
| 07/23/19 | pdf | Added IM option for Solu-Medrol. |
| 04/03/20 | pdf | Added content (without substantive modification) from old Protocol 4-030 - Asthma. |
| 04/03/20 | pdf | Added content (without substantive modification) from old Protocol 4-060 - Chronic Obstructive Pulmonary Disease (COPD). |
| 04/03/20 | | Added content (without substantive modification) from old Protocol 4-165 - Respiratory Distress. |
| 04/13/20 | pdf | Added content (without substantive modification) from old Protocol 4-080 - Croup. |
| 08/07/20 | pdf | Added Epi1:1,000 dosing instructions in the absence of Racemic Epi. |
| 06/06/21 | pdf | Moved to emsprotocols.online |
| 10/15/21 | pdf | Changed mag sulfate to be mixed with D5W to be mixed with NS per protocol committee on 5/26/21 and Dr. Nicholes on 12/8/20. Also fixed broken link to pulmonary edema protocol. |
| 11/30/21 | | Updated link to Albuterol. |
| 12/01/21 | | Updated link to Xopenex. |
| 02/28/22 | | Updated link for SoluMedrol. |

| | | |
|---|---|---|
| 03/16/23 | pdf | Removed requirement for medical control for adult (pediatric still needs med control) administration of magnesium sulfate. Mag dose change from 1-2g to 2g. Requested by Allen Werner 4/8/22, approved by Dr. Nicholes and protocol committee on 5/25/22. Clarified RN and medic roles. Added CP. |
| 03/17/23 | | Updated links to NS. |
| 03/19/23 | | Changed link for MagSulfate. |
| 03/19/23 | | Changed links for LR. |
| 03/20/23 | | Changed link for Racemic. |
| 03/20/23 | | Changed link for Epi. |
| 03/20/23 | | Changed link for Duoneb. |
| 03/20/23 | | Changed link for Decadron. |
| 04/28/23 | pdf | Added indications for a 12-lead as respiratory distress with unknown cause. |
| 05/11/23 | pdf | Added bronchodilators to the CP section as an option for those not calling 911. |
| 05/26/23 | pdf | Moved CP treatments to 4-458. |

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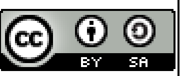
|---|---|---|

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# Protocol 2-792 - Seizure

**CMH EMS & MIH Protocols**

## EMD:

- No specific protocol.

## EMR:

- Ensure open Airway.
- Identify possible causes. Options include:
  - Alcohol use or withdrawl
  - Brain injury or tumor
  - Drug use or withdrawl
  - Epilepsy
  - Fever
  - Hypertension
  - Hyperthermia
  - Hypoglycemia
  - Poisoning
  - Stroke
- Clear area to decrease chance of injury.
- Consider Oxygen if SpO2 less than 88%.
- Apply Cardiac Monitor limb leads.

## EMT:

- Ensure completion of applicable items above.
- Perform Blood Sugar Check.
- Consider assisting ALS with Capnography.
- **No history of siezures, afebrile, and destination hospital is on CT divert**: Bypass that facility and transport to next closest appropriate facility taking into consideration the patient's wishes.

## AEMT:

- Ensure completion of applicable items above.
- Consider IV NS/LR.

# RN:

- Ensure completion of all applicable items above.
- Consider IO NS/LR.
- **Actively seizing**: Continue Versed as below until seizures stopped. Max single dose of 5 mg IV/IO/IN or 10 mg IM.

| Adult: | Pediatric: |
|---|---|
| ▪ Consider Versed 10 mg IM.<br>  ▪ OR Versed 2.5-5 mg IV/IO/IN<br>▪ **Pregnant Hypertension (20-week gestation through 4-week post-partum)**: Magnesium Sulfate 4 g IM/IV/IO (IV/IO in NS over 5 minutes) and refer to Protocol 2-528 - Hypertension. | ▪ **12-18 year old**: Consider Versed same as adult.<br>▪ **1-12 year old**: Consider Versed 0.15 mg/kg (max 5 mg) IM/IV/IO. May repeat every 5 minutes.<br>  ▪ Click "calculate" to get dose.<br>▪ **1-12 month old**: Consider Versed 0.2 mg/kg IM/IN (max 5 mg). May repeat every 5 minutes.<br>  ▪ Click "calculate" to get dose. |

# Medic:

- Ensure completion of all applicable items above.
- Use RSI with caution in seizure patients. Paralysis only masks the manifestation of seizure.
  - **Continued sedation for intubated patient**: Versed 2.5-5 mg IV/IO.

# CP:

- Ensure completion of all applicable items above.

## Change Log:

| Date | Link to previous version | Description of change |
|---|---|---|
| 11/11/13 | pdf | Added ensure open Airway to BLS. Moved IM Versed to bottom of options. |
| 12/12/14 | pdf | Removed Blood Draw. |
| 08/06/15 | pdf | Added reference to Protocol 4-110 - Hypertension protocol for the hypertensive, pregnant, seizing patient. |
| 08/24/17 | pdf | Removed Ativan. Added Mag Sulfate dosage from hypertension seizing protocol. Added Versed for continued sedation of RSI. |
| 09/22/17 | | Lowered glucose treatment threshold from 70 to 60. Removed Valium. Added pregnant hypertension range 20-weeks gestation through 4-weeks post-partum. Simplified pediatric dosages of Versed. |
| 08/24/18 | pdf | Removed requirement to contact medical control for higher doses of Versed. Added IM option for Versed to 2 mo - 12 yr old. |
| 07/23/19 | pdf | Fixed some confusion with pediatric age ranges for Versed doses. |
| 11/18/19 | pdf | Added comment to bypass CMH if on CT divert by specific order of Dr. Cauchi. |
| 04/17/20 | pdf | Added content (without substantive modification) from old Protocol 4-170 - Seizures. |
| 06/06/21 | pdf | Moved to emsprotocols.online |
| 10/15/21 | pdf | Added list of causes in EMR section. Specified mixing Mag Sulfate with NS. Changes approved by protocol committee on 5/26/21. Mag Sulfate in NS approved by Dr. Nicholes 12/8/20. |
| 12/01/21 | | Updated links to Versed. |
| 03/16/23 | pdf | Clarified RN and medic roles. Added CP. |
| 03/17/23 | | Updated links to NS. |
| 03/19/23 | | Changed link for MagSulfate. |
| 03/19/23 | | Changed links for LR. |

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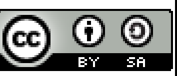

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# Protocol 2-814 - Spinal Cord Trauma

**CMH EMS & MIH Protocols**

## EMD:

- No specific protocol.

## EMR:

- Consider SMR. C-collar is contraindicated with penetrating neck trauma.
- Assist Ventilations as needed.
- Consider Oxygen 100%.
- Consider applying Cardiac Monitor limb leads.
- Maintain body temperature between 91° and 99° F.

## EMT:

- Ensure completion of applicable items above.
- **Sporting Event Standby**:
  - Park the emergency vehicle in a manner to allow view of the scene from a distance but always have the ability to leave the scene in an expedient manner.
  - Make contact with athletic trainers upon arrival (if they are present).
  - Prepare equipment for rapid deployment.
  - If medical care is needed for a player, event staff should wave EMS onto the field/track if you are needed.
  - **Football player or other event with significant padding and helmet**:
    - Assist athletic trainers in removing athletic equipment prior to transport.
    - If unable or not recommended by athletic trainer, secure player to Backboard with helmet and pads remaining in place.
    - Apply C-collar and Backboard if spinal injury is suspected.
    - Use 8-person lift or scoop stretcher to move patient from the ground to the backboard. Avoid use of log-roll procedure unless posterior inspection is required.
    - Utilize athletic trainer staff and equipment for Extremity splinting.
  - Preferred to request second unit to transport and standby unit remain at event.
    - Consider requesting a second unit to cover standby if critical patient.
    - Athletic training staff may ride with patient in back if requested.
    - Air Ambulance landing zone should not be on the playing field.
  - A standby PCR report shall be completed for all dedicated standbys. Be specific about which standby it is and which location.

# AEMT:

- Ensure completion of applicable items above.
- Consider IV LR titrated to maintain SBP according to age.
  - Refer to Protocol 2-924 - Universal Patient Care and do not exceed the lower range of the SBP indicated in the Normal Vital Signs table.

# RN:

- Ensure completion of all applicable items above.
- Consider IO LR.

# Medic:

- Ensure completion of all applicable items above.
- Consider Protocol 2-044 - Airway: RSI.

# CP:

- Ensure completion of all applicable items above.

## Change Log:

| Date | Link to previous version | Description of change |
|---|---|---|
| 10/04/13 | pdf | Changed ALS bag to first-in bag. Changed will to may provide ALS ambulance. |
| 01/29/14 | | Coordinated protocol with CMH policies. |
| 12/12/14 | pdf | Made Intubation and RSI DELIBERATE ACTIONS. Added weight-based dose for greater than 65 yr for Fentanyl. |
| 04/03/15 | pdf | Modified this section to reflect other vehicle standbys at events other than just an ambulance. |
| 04/14/15 | | Added consider to limb leads. |
| 09/22/17 | pdf | Added contraindication for c-collar for penetrating neck trauma. |
| 07/23/19 | pdf | Added link to new hemorrhage protocol. |
| 04/18/20 | pdf | Added content (without substantive modification) from old Protocol 6-080 - Event Standby. |
| 11/13/20 | pdf | dded content (without substantive modification) from old Protocol 5-080 - Spinal Trauma. |
| 06/06/21 | pdf | Moved to emsprotocols.online |
| 03/16/23 | pdf | Clarified RN and medic roles. Added CP. |
| 03/19/23 | | Changed links for LR. |

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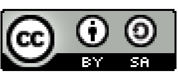
|---|---|---|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# Protocol 2-836 - Spinal Immobilization Clearance

**CMH EMS & MIH Protocols**

## EMD:

- No specific protocol.

## EMR:

- Providers should not manually stabilize alert and spontaneously moving patients, since patients with Pain will self-limit movement, and forcing immobilization in this scenario may unnecessarily increase discomfort and Anxiety.
- **Patients should NOT be transported on a backboard.**
- **Indications for C-Collar**:
  - **High-energy mechanism of injury AND any of the following**:
    - Drug or alcohol intoxication,
    - Inability to communicate,
    - Altered mental status, OR
    - Distracting injury.
  - Unconscious with unknown history of event.
  - Spinal pain, tenderness, or deformity.
  - Neurologic complaint (i.e. numbness or motor weakness).
  - Patients "cleared" by transferring physician being taken to trauma center meeting requirements for SMR must have SMR.

## EMT:

- Ensure completion of applicable items above.

## AEMT:

- Ensure completion of applicable items above.

## RN:

- Ensure completion of all applicable items above.

# Medic:

- Ensure completion of all applicable items above.

# CP:

- Ensure completion of all applicable items above.

## Change Log:

| Date | Link to previous version | Description of change |
|---|---|---|
| 11/19/13 | pdf | Added EMS Physicians position statement on backboards to only immobilize patients with spinal symptoms or altered consciousness. |
| 12/15/13 | | Added EMT scope of practice statement. Added facial bleeding and supine dyspnea to backboard contraindications. Added multi-person lift to procedure vs log-roll. |
| 01/29/14 | | Added c-collars should only be removed by ER MD from CMH policies. |
| 04/03/15 | pdf | Clarified indications and added Consider KED. |
| 04/18/20 | pdf | Added content (without substantive modification) from old Section 8-350 - Spinal Motion Restriction (SMR). |
| 06/06/21 | pdf | Moved to emsprotocols.online |
| 03/16/23 | pdf | Removed all indications for a backboard. Per Dr. Butvilas and protocol committee on 1/25/23: No need to transport on a backboard, ever. Clarified RN and medic roles. Added CP. |

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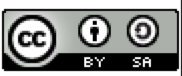
|---|---|---|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# Protocol 2-858 - Supraventricular Tachycardia

**CMH EMS & MIH Protocols**

## EMD:

- No specific protocol.

## EMR:

- Calm and reassure patient. Ensure patient does not exert themselves.
- Oxygen to maintain SpO2 between 94-99%.
- Apply cardiac monitor limb leads.
-

| Adult: | Pediatric: |
|---|---|
| ◦ **Rate greater than 150**: Apply combo pads anterior / posterior | ◦ **Rate greater than 180 (child) or 220 (infant)**: Apply combo pads anterior / posterior |

## EMT:

- Ensure completion of applicable items above.
- Consider assisting ALS with capnography.

## AEMT:

- Ensure completion of applicable items above.
- IV LR in AC (left is preferred) with pigtail extension with 18 ga or greater.

## RN:

- Ensure completion of all applicable items above.
- Obtain 12-Lead ECG.
- Consider IO LR. Do not delay IV/IO if symptomatic.
- **Determine and treat the cause of tachycardia before medication administration (i.e. infection, dehydration, pain, etc.).**

- **Adult:**
  - **Unstable/symptomatic and rate greater than 150**:
    - **Conscious**: Consider Protocol 2-660 - Pain Control.
    - Synchronized Cardioversion 125 J. **If unsuccessful**, repeat at 200 J.
  - **Stable/asymptomatic and rate greater than 150**:
    - **Vagal maneuver**: Have patient blow on 10 ml syringe to move the plunger for 15 seconds while sitting and immediately place supine and elevate feet afterward.
    - **Regular rhythm (not A-Fib, A-Flutter, or WPW)**: Adenosine 6-12 mg RAPID IV/IO.
      - **If ineffective**, second dose at 12 mg.
      - **If second dose ineffective**, consider Amiodarone, Cardizem, or Synchronized Cardioversion.
    - **A-Fib or A-Flutter**: Cardizem 0.25 mg/kg (max 20 mg) IV/IO over 2 min.
      - Click "calculate" to get dose.
      - May repeat after 15 min at 0.35 mg/kg (max 25 mg) IV/IO over 2 min.
        - Click "calculate" to get dose.
      - **If rate controlled with Cardizem bolus**, begin drip at 10 mg/hr.
    - **WPW**: Amiodarone 150 mg IV/IO over 10 min. May repeat at 150 mg over 10 min if tachycardia returns (max 300 mg). If rate controlled with Amiodarone bolus, begin drip at 1 mg/min.

  **Pediatric:**
  - **Vagal maneuver**: Place bag of ice on the patient's face for 15 seconds while sitting and immediately place supine and elevate feet afterward.
  - **Unstable/symptomatic and rate greater than 180 (child) or 220 (infant)**:
    - Adenosine 0.1 mg/kg (max 6 mg) RAPID IV/IO.
      - Click "calculate" to get dose.
      - **If ineffective**, second dose at 0.2 mg/kg (max 12 mg).
        - Click "calculate" to get dose.
    - Consider Protocol 2-660 - Pain Control.
    - Consider Synchronized Cardioversion 0.5-1 J/kg. Subsequent Cardioversion should be at 2 J/kg.
      - Click "calculate" to get dose.
  - **Stable/asymptomatic and rate greater than 180 (child) or 220 (infant)**:

    Consider contacting **MEDICAL CONTROL**:
      - Consider Adenosine 0.1 mg/kg (max 6 mg) RAPID IV/IO.
        - Click "calculate" to get dose.
        - **If ineffective**, second dose at 0.2 mg/kg (max 12 mg).
          - Click "calculate" to get dose.
      - Consider Cardizem.
      - Consider Protocol 2-660 - Pain Control.
      - Consider Synchronized Cardioversion 0.5-1 J/kg.
        - Click "calculate" to get dose.

- Consider and correct treatable causes: Hypovolemia, hypoxia, hypo/hyperkalemia, hypothermia, hypoglycemia, acidosis, tension pneumothorax, toxins, thrombosis, and cardiac

tamponade

# Medic:

- Ensure completion of all applicable items above.

# CP:

- Ensure completion of all applicable items above.

## Change Log:

| Date | Link to previous version | Description of change |
|---|---|---|
| 10/04/13 | pdf | Added rates to BLS Combo Pads. |
| 10/04/13 | pdf | Added rates and consider to Combo Pads. |
| 10/04/13 | pdf | Added rates to Combo Pads. |
| 10/04/13 | pdf | Added consider to Combo Pads. |
| 12/12/14 | pdf | Added Procainamide if pulmonary edema based on Dr. Nix conversation about a specific patient. |
| 12/12/14 | pdf | Made Cardioversion a DELIBERATE ACTION. |
| 12/12/14 | pdf | Made Cardioversion a DELIBERATE ACTION. |
| 12/15/14 | | Added do not delay for IV. |
| 12/15/14 | | Added do not delay for IV. |
| 03/02/15 | | Removed DELIBERATE ACTION. |
| 03/02/15 | | Removed DELIBERATE ACTION. |
| 04/03/15 | | Removed Procainamide after conversation with Dr. Merk. Clarified when to apply Combo Pads according to age and rates. |
| 04/03/15 | pdf | Clarified when to apply Combo Pads according to age and rates. |
| 04/03/15 | | Clarified when to apply Combo Pads according to age and rates. |
| 11/17/15 | pdf | Increased adult heart rate treatment threshold from 130 to 150. |
| 11/17/15 | pdf | Added treatment criteria of heart rate greater than 150 and symptomatic. Also added option for Amiodarone instead of Procainamide. |
| 06/08/16 | pdf | Added modified valsalva maneuver description. |
| 06/27/16 | pdf | Added note that IV access must be in an AC space (left is preferred). |
| 06/27/16 | | Added note that IV access must be in an AC space (left is preferred). |
| 08/02/16 | | At the request of Dr. Kramer, remove contraindications for Vagal Maneuver since carotid massage is not listed. |
| 08/24/17 | pdf | Removed Ativan. |
| 08/24/17 | pdf | Removed Ativan. |
| 08/24/17 | pdf | Removed Procainamide. |
| 09/20/17 | | Modified pediatric Versed dosages. |
| 09/20/17 | | Modified pediatric Versed dosages. |
| 11/11/17 | pdf | Replaced Versed and Fentanyl with reference to Protocol 6-050 - Control of Pain for pre-cardioversion. |
| 11/11/17 | pdf | Replaced Versed and Fentanyl with reference to Protocol 6-050 - Control of Pain for pre-cardioversion. Clarified Amiodarone and Cardizem to be given if Adenosine does not work. |
| 08/24/18 | pdf | Per Dr. Kramer, added comment to determinetreat cause of tachycardia before AmiodaroneCardizem. |

| | | |
|---|---|---|
| 07/23/19 | pdf | Fixed typo. |
| 03/30/20 | pdf | Added content (without substantive modification) from old Protocol 2-020 - Atrial FibrillationAtrial Flutter. |
| 03/30/20 | pdf | Added content (without substantive modification) from old Protocol 2-080 - Tachycardia Narrow Stable. |
| 03/30/20 | pdf | Added content (without substantive modification) from old Protocol 2-090 - Tachycardia Narrow Wide. |
| 03/30/20 | pdf | Added content (without substantive modification) from old Protocol 2-150 - Wolff-Parkinson-White (WPW). |
| 03/31/20 | | Due to conflicts between old protocols on treatment threshold for children (160180 were both used), heart rate of 180 is new treatment threshold for children. |
| 11/17/20 | pdf | Added clarification under no pulmonary edema that it also applies to A-Fib patients for Cardizem. |
| 02/19/21 | pdf | AHA 2020 changes to this protocol include more emphasis on determining and treating the cause of tachycardia, adding a maintenance drip of Amiodarone, removing the third Adenosine attempt, and increasing pediatric subsequent cardioversion energy levels. |
| 06/06/21 | pdf | Moved to emsprotocols.online |
| 11/30/21 | | Updated link to Adenosine. |
| 11/30/21 | | Updated link to Albuterol. |
| 11/30/21 | | Updated link to Amiodarone. |
| 02/28/22 | | Updated link for Sodium Bicarb. |
| 03/19/23 | | Changed links for LR. |
| 03/20/23 | | Changed link for Cardizem. |
| 04/28/23 | pdf | Removed the word CONVERTED. Changed the terminology to some variation of IF RATE CONTROLLED or IF TACHYCARDIA RETURNS. This is to clarify A-flutter and A-fib may not be CONVERTED, we just want to control the ventricular rate if it is over 150. |

Return to Protocols Table of Contents.

Search protocols: Search

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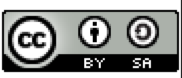
|---|---|---|



|  | Polk, Hickory, Cedar, & St Clair County EMS Protocols by Theron Becker is licensed under a Creative Commons Attribution-ShareAlike 4.0 International License. |
|---|---|

# Protocol 2-880 - Suspected Stroke

**CMH EMS & MIH Protocols**

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## EMD:

- **MPDS Protocol 18 (Headache) and Protocol 28 (Stroke) - Stroke time window**: Time window set by MEDICAL CONTROL is 24 hours. Greater than 24 hours since the patient was last seen normal is usually outside the therapeutic window.

## EMR:

- Complete Protocol 2-880-24 - STROKE Assessment Tool.
- Oxygen to maintain SpO2 between 94-99%.
- Apply Cardiac Monitor limb leads.
- Elevate head of Cot.

## EMT:

- Ensure completion of applicable items above.
- Perform Blood Sugar Check. **If blood sugar less than 60 mg/dl**: Refer to Protocol 2-572 - Hypoglycemia.
- Obtain and record contact information for family and/or witnesses. **If transporting by Aircraft: Contact receiving facility with this information.**
- Begin recording information found on Protocol 2-880-48 - STROKE EMS Information Form for handoff to aircraft or ER.
- Assist patient to walk to the Cot to assess gait.
- Transport according to Protocol 2-880-72 - STROKE Destination Matrix.

## AEMT:

- Ensure completion of applicable items above.
- IV NS/LR.
  - Bilateral 18 ga IVs in the AC are preferred.
  - Avoid multiple unsuccessful IV attempts.

# RN:

- Ensure completion of all applicable items above.
- Consider IO NS/LR.
- Obtain 12-Lead ECG.
- Do NOT treat hypertension.
- **If transfer with tPA**:
  - Sending hospital should stabilize hypertension prior to departure if SBP above 180 or DBP above 105.
  - Document GCS and NIHSS every 15 minutes.
  - Document family contact method.
  - Document tPA bolus total dose and time of administration.
  - Verify tPA drip estimated time of completion.
  - Have the sending hospital remove and waste excess tPA so when the drip is complete, the bottle will be empty. Label the bottle with actual dose.
  - When the bottle is empty, connect NS/LR and restart the infusion at the same rate to finish the tPA in the tubing.

    **If complications**: Turn off tPA and contact receiving facility MEDICAL CONTROL.
    **Complications include**:
    - Lips or tongue swelling,
    - Muffled voice,
    - Dyspnea,
    - Severe headache,
    - Acute hypertension,
    - Nausea, OR
    - Vomiting.

    **If hypertensive (greater than 180/105) OR hypotensive (less than 140/80)**: Contact receiving facility MEDICAL CONTROL.

# Medic:

- Ensure completion of all applicable items above.

# CP:

- Ensure completion of all applicable items above.
- Refer to MIH Protocol 4-291 - Chronic Neurological Disease Management.

## Change Log:

| Date | Link to previous version | Description of change |
|---|---|---|
| 11/11/13 | pdf | Added quote from MO Statutes on transporting TCD stroke. |
| 12/20/13 | | Added comment that TCD only applies when onset of symptoms less than 4 hours ago. |
| 01/29/14 | | Coordinated protocol with CMH policies. |
| 12/12/14 | pdf | Removed Blood Draw. Removed pending list of stroke centers. |
| 03/30/15 | | Added stroke destination determination flowchart. |
| 03/31/15 | | Added NIH Stroke Scale. |
| 04/14/15 | | Moved Cincinatti and NIH stroke scales to EMR secion. |
| 02/03/16 | pdf | Added EMD section for MPDS medical direction. |
| 07/23/16 | pdf | Moved obtaining family contact, transport info, and weighing pt to EMT section. |
| 08/02/16 | | Corrected typo in the title from Cardiovascular Accident to Cerebrovascular Accident. |
| 07/01/17 | pdf | Fixed typo from cardiovascular accident to cerebrovascular accident. |
| 08/24/17 | | Added comment to walk the patient to the cot. Added comment to contact receiving facility if flying. Added comment to get accurate weight. |
| 09/22/17 | | Lowerd glucose treatment threshold from 70 to 60. Added comment the target scene time is 10 minutes. Added comment to avoid multiple IV attempts. Added comment to not treat hypertension. |
| 11/19/17 | pdf | Added comment to obtain temperature, if able and 18ga in LAC is preferred IV access. |
| 03/05/18 | pdf | Per Mercy Stroke Center, added comments to repeat neuro assessment every 15 minhave two IVs. |
| 07/31/19 | pdf | Clarified CMH ActivationAlert levels of 4.524 hours. Increased EMD therapeutic window to 24 hours. |
| 11/27/19 | pdf | Added tPA drip transfer instructions based on MercyCox requests. |
| 04/16/20 | | Added content (without substantive modification) from old Section 4-051 - CMH EMS Stroke Assessment Tool. |
| 04/16/20 | | Added content (without substantive modification) from old Section 4-052 - NIH Stroke Scale Images. |
| 04/16/20 | | Added content (without substantive modification) from old Section 4-053 - Stroke Destination Matrix. |
| 04/16/20 | pdf | Added content (without substantive modification) from old Protocol 4-050 - Cerebrovascular Accident (CVA)Stroke. |
| 02/18/21 | pdf | Changed 2-880-01 to 2-880-24. |
| 02/18/21 | | Changed 2-880-02 to 2-880-72. |
| 02/18/21 | | Added statement and link to 2-880-48 EMS information form |
| 06/06/21 | pdf | Moved to emsprotocols.online |
| 02/28/22 | | Updated link to tPA. |

| | | |
|---|---|---|
| 03/16/23 | pdf | Clarified RN and medic roles. Added CP. |
| 03/17/23 | | Updated links to NS. |
| 03/19/23 | | Changed links for LR. |
| 05/26/23 | pdf | Added link to 4-291. |

Return to Protocols Table of Contents.

Search protocols: Search

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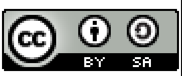
|---|---|---|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# Protocol 2-880-24 - Suspected Stroke - Assessment Tool

**CMH EMS & MIH Protocols**

Score only the first attempt. Do not coach. Do not go back and re-score.

**STEP 1**

- Perform **BEFAST** stroke assessment:
  - | Balance | Eyes | Face | Arm | Speech | Time |
    |---|---|---|---|---|---|
    | Trouble walking, stumbling, falling, dizziness, or spinning sensation | Vision loss, blurry vision, or double vision | One side of face is weak or numb, the face appears uneven, or drooping | Weakness or numbness in the arm (or leg), especially if it is only one side | Slurred speech, trouble getting words out, or speaking gibberish | Begin rapid transport to a stroke center and complete stroke assessment and treatment |
  - **If ANY deficit**: Perform the STROKE Assessment below.
  - **If NO deficits**: Transport to any ER, however, consider performing the STROKE Assessment below anyway.

**STEP 2**

- | Last Seen Normal (Calculate based on arrival at a STROKE center) | Patient age | |
  |---|---|---|
  | Greater than 12 hours ago | Greater than 89 years old | **Either >12 hrs OR >89 yr old**: Transport to any ER. |
  | 8-12 hours ago | Less than 90 years old | Perform STROKE Assessment below. |
  | 4-8 hours ago | | CLASS 2 STROKE. Perform STROKE Assessment below. |
  | 0-4 hours ago | | CLASS 1 STROKE. Perform STROKE Assessment below. |

**STEP 3**

| | Question | Answer | RACE Options | NIHSS Options |
|---|---|---|---|---|
| 1A | Level of **consciousness**? | 0 - Alert | NA | 0 - Alert<br>1 - Drowsy<br>2 - Stuporous<br>3 - Coma |
| 1B | Ask the patient two questions one at a time:<br>• What **month** is it?<br>• What is their **age**? | 0 - Both answers correct | NA | 0 - Both answers correct<br>1 - Only one answer correct<br>2 - Neither answer correct |
| 1C | Upon verbal command (simultanously given):<br>• **Open and close eyes**.<br>• **Grip and release good hand**. | 0 - Both tasks complete | 0 - Both tasks complete<br>1 - Only one task complete<br>2 - Neither task complete | 0 - Both tasks complete<br>1 - Only one task complete<br>2 - Neither task complete |
| 2 | Can patient **follow your finger horizontally** with their eyes? | 0 - Normal | 0 - Normal<br>1 - Only one direction<br>2 - Neither direction | 0 - Normal<br>1 - Only one direction<br>2 - Neither direction |
| 3 | Can patient **see all four quadrants peripherally** (one eye at a time)? | 0 - No loss | NA | 0 - No loss<br>1 - One eye with loss<br>2 - Both eyes with loss on same side<br>3 - Both eyes with loss on both sides |

| | Question | Answer | RACE Options | NIHSS Options |
|---|---|---|---|---|
| 4 | After demonstration, can the patient do the following one at a time:<br>• **Show teeth**?<br>• **Raise eyebrows**?<br>• **Close eyes tightly**? | 0 - Normal | NA | 0 - Normal<br>1 - Minor paralysis<br>2 - Lower paralysis only<br>3 - Complete paralysis |
| 5A | **Unaffected side arm drift**: Palm down, 90° for 10 seconds. If ataxic due to weakness, select "no drift." | 0 - No drift | NA | 0 - No drift<br>1 - Drift or jerky<br>2 - Some effort but falls<br>3 - No effort<br>4 - No movement |
| 5B | **Affected side arm drift**: Palm down, 90° for 10 seconds. If ataxic due to weakness, select "no drift." | 0 - No drift | 0 - No drift<br>0 - Drift or jerky<br>1 - Some effort but falls<br>2 - No effort<br>2 - No movement | 0 - No drift<br>1 - Drift or jerky<br>2 - Some effort but falls<br>3 - No effort<br>4 - No movement |
| 6A | **Unaffected side leg drift**: 30° for 10 seconds. If ataxic due to weakness, select "no drift." | 0 - No drift | NA | 0 - No drift<br>1 - Drift or jerky<br>2 - Some effort but falls<br>3 - No effort<br>4 - No movement |

| | Question | Answer | RACE Options | NIHSS Options |
|---|---|---|---|---|
| 6B | **Affected side leg drift**: 30° for 10 seconds. If ataxic due to weakness, select "no drift." | 0 - No drift | 0 - No drift<br>0 - Drift or jerky<br>1 - Some effort but falls<br>2 - No effort<br>2 - No movement | 0 - No drift<br>1 - Drift or jerky<br>2 - Some effort but falls<br>3 - No effort<br>4 - No movement |
| 7 | Test unaffected side first, then affected side:<br>• Can patient **touch nose with finger**?<br>• Can patient **slide heel against other shin**? | 0 - Able to complete | NA | 0 - Able to complete<br>1 - Unable in one limb<br>2 - Unable in multiple limbs |
| 8 | Can patient feel **pinprick to face, arms, trunk, and legs**? | 0 - Normal | NA | 0 - Normal<br>1 - Mild to moderate loss<br>2 - Severe loss |
| 9 | Measure the best response:<br>• "**What is your name**?"<br>• "**Describe what you see in the picture**?"<br>• "**Read the sentences**." | 0 - No aphasia | 0 - No aphasia<br>1 - Mild to moderate aphasia<br>2 - Severe aphasia<br>3 - Mute or global aphasia | 0 - No aphasia<br>1 - Mild to moderate aphasia<br>2 - Severe aphasia<br>3 - Mute or global aphasia |
| 10 | Can the patient repeat the following words:<br>• "**Mama**"?<br>• "**Tip-top**"?<br>• "**Fifty-fifty**"?<br>• "**Thanks**"?<br>• "**Huckleberry**"?<br>• "**Baseball player**"? | 0 - Normal articulation | NA | 0 - Normal articulation<br>1 - Mild to moderate dysarthria<br>2 - Severe dysarthria |

| | Question | Answer | RACE Options | NIHSS Options |
|---|---|---|---|---|
| 11 | Can the patient answer appropriately:<br>• "**Whose arm is this**?" (showing affected arm)<br>• "Can you **move this arm**?" (indicating affected arm) | 0 - No neglect | 0 - No neglect<br>1 - Not recognized OR unable to move<br>2 - Not recognized AND unable to move | 0 - No neglect<br>1 - Not recognized OR unable to move<br>2 - Not recognized AND unable to move |

Calculate STROKE scores

**STROKE scores**:

# Click "calculate" to show NIHSS score.

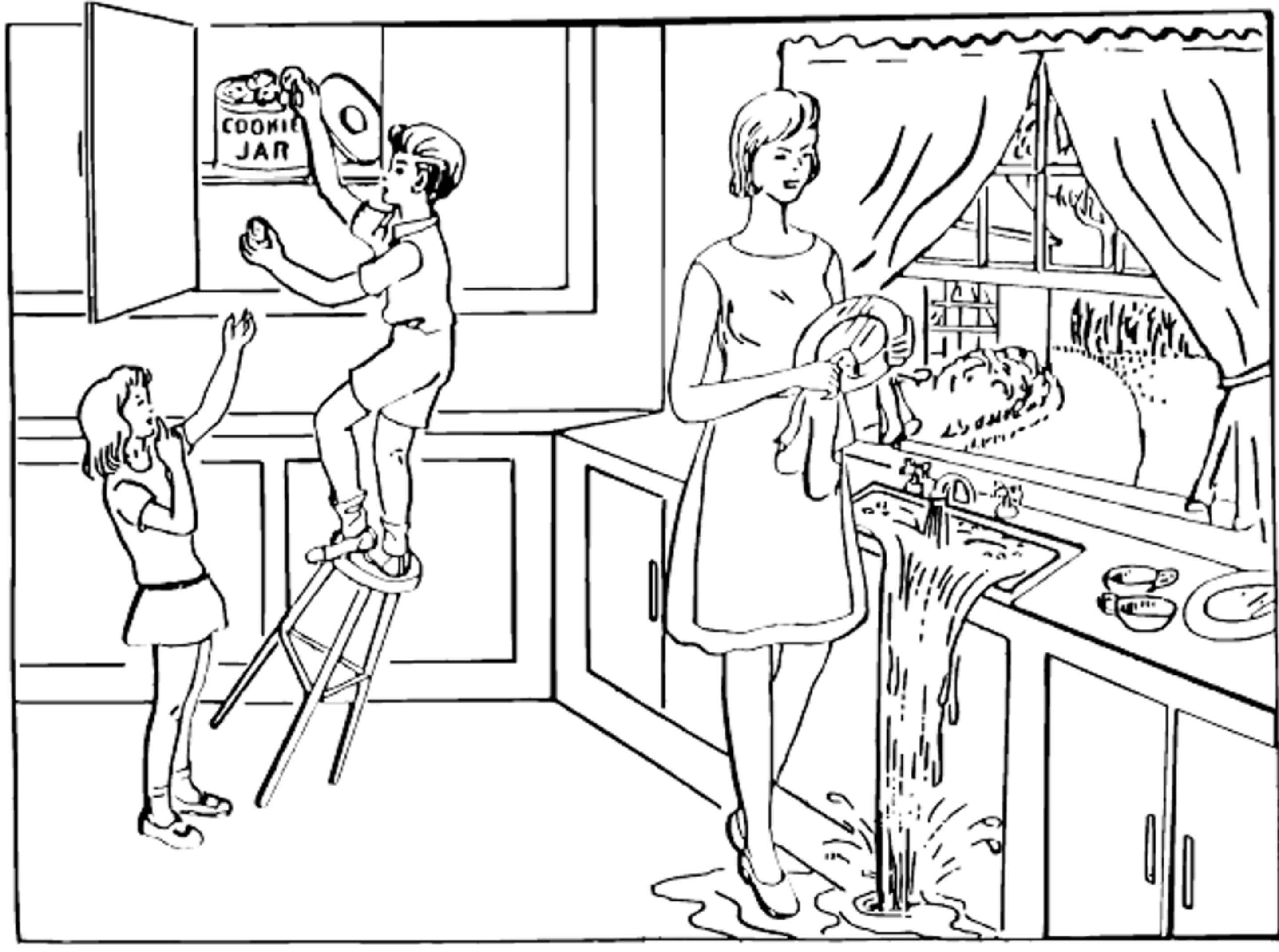
- **NIH greater than 6** = SEVERE STROKE.
- **NIH 1-5** = Mild to moderate stroke.
- **NIH 0** = No indication of stroke.

# Click "calculate" to show RACE score.

- **RACE greater than 4** = LARGE VESSEL OCCLUSION.
- **RACE 0-3** = No LVO.

**Definitions:**

- **Aphasia**: Loss of ability to understand or express speech.
- **Apraxia**: Inability to carry out familiar tasks.
- **Ataxia**: Loss of full control of bodily movements.
- **Dysarthria**: Difficult or unclear articulation of speech.
- **Dysphagia**: Difficulty in swallowing.
- **Dysphasia**: Difficulty in the generation of speech or its comprehension.
- **Hemiparesis**: Weakness on one side of the body.
- **Hemiplegia**: Paralysis on one side of the body.




You know how.

Down to earth.

I got home from work.

Near the table in the dining room.

They heard him speak on the radio last night.

# Change Log:

| Date | Link to previous version | Description of change |
|---|---|---|
| 05/05/15 | pdf | Created Section 4-052 - NIH Stroke Scale Images for images to accompany NIHSS. |
| 08/24/17 | pdf | Developed combined tool utilizing NIH and RACE tools. |
| 08/24/17 | | Modified images to reflect changes to assessment tool. |
| 03/05/18 | pdf | Aligned numbers to NIHSS. Added comment to arm drift if ataxic rate at 0. Add list of terminology definitions. Changed NIH score to transport to level I center from >21 to >6. |
| 07/12/20 | pdf | Moved this section from 2-880created a new page. |
| 02/18/21 | pdf | Changed document number from 2-880-01 to 2-880-24 to allow for future. |
| 02/18/21 | | Replaced Cincinnati with BEFAST. |
| 06/06/21 | pdf | Moved to emsprotocols.online |
| 10/15/21 | | Fixed typo on question 9 from MUT to MUTE. |

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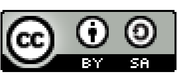
| CMH Pre-Hospital Services Mission: "*Provide safe, exceptional, and compassionate care to our communities with an emphasis on highly trained and empowered staff*." | CMH Mobile Integrated Healthcare Mission: "*Provide exceptional, compassionate, and patient-centered care by a mobile collaborative team to improve patient experience, improve quality outcomes, and reduce healthcare costs*." | |
|---|---|---|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# Protocol 2-880-48 - Suspected Stroke - EMS Information Form

**CMH EMS & MIH Protocols**

This form is a communication tool from EMS to ER with the goal of expidited patient care of stroke patients.

**Patient Demographics**

| | |
|---|---|
| Patient name: | |
| Patient DOB: | |
| Family/caregiver/witness name: | |
| Family/caregiver/witness phone number: | |

**Assessment Results**

| | | |
|---|---|---|
| Abnormal Balance: | ☐ Yes | ☐ No |
| Abnormal Eyes/Vision: | ☐ Yes | ☐ No |
| Abnormal Face: | ☐ Yes | ☐ No |
| Abnormal Arm: | ☐ Yes | ☐ No |
| Abnormal Speech: | ☐ Yes | ☐ No |
| Time (Last Known Well): | | |
| Blood glucose reading: | | |
| Blood pressure: | / | |
| Taking blood thinner: | ☐ Yes, list: | ☐ No |

| | |
|---|---|
| RACE score: | |
| NIH score: | |
| Patient weight: | lb / kg |

**tPA exclusion checklist**

| | | |
|---|---|---|
| Hemorrhage: | ☐ Yes, hemorrhage | ☐ No |
| Intracranial or intraspinal surgery within three (3) months: | ☐ Yes, recent neuro surgery | ☐ No |
| Serious head trauma within three (3) months: | ☐ Yes, recent head trauma | ☐ No |
| Other intercranial conditions (i.e. neoplasms, aneurysms): | ☐ Yes, IC conditions | ☐ No |
| Current, severe, uncontrolled hypertension: Current BP: | ☐ Yes, hypertensive | ☐ No |
| Age greater than 80 years: Current age: | ☐ Yes, over 80 | ☐ No |
| NIHSS greater than 25: | ☐ Yes, NIHSS > 25, see page 1 | ☐ No |
| History of diabetes: | ☐ Yes, diabetic | ☐ No |
| History of prior stroke: | ☐ Yes, prior stroke | ☐ No |
| Taking an oral anticoagulant: | ☐ Yes, see list on page 1 | ☐ No |

## Change Log:

| Date | Link to previous version | Description of change |
|---|---|---|
| 02/18/21 | | Added first draft of this document to be used as a communication tool from EMS to ER with stroke patients. |
| 02/18/21 | pdf | Added patient weight and other minor corrections as suggested by Jenna Hicks. |
| 06/06/21 | pdf | Moved to emsprotocols.online |
| 09/29/21 | pdf | At the request of the TCD coordinator, added blood pressure to this form. |
| 10/15/21 | pdf | After feedback from stroke competency, the option to mark NO on this form has been added in appropriate locations. |

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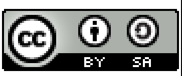
|---|---|---|



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# Protocol 2-880-72 - Suspected Stroke - Destination Matrix

**CMH EMS & MIH Protocols**

This matrix was developed using geographical analysis of designated facilities and historical ambulance transport statistics. It also follows Missouri regulations found in 19 CSR 30-40.790 (Transport protocol for trauma, stroke, and STEMI patients).

- These are guidelines only. Scene or patient conditions may influence an alternate destination determination.
- Patients have the right to refuse transport to the recommended destination. If the patient refuses recommended destination, document "transport / refused care" and have patient sign refusal.
- When initial transport from the scene would be prolonged, the patient may be transported to the nearest appropriate facility.

**Consider transporting to the closest tPA-capable emergency room for any one the following criteria:**

- Transporting to a STROKE center will take the patient out of the tPA treatment window (four hours).

| Location | Destination | Stroke Designation | Notes |
|---|---|---|---|
| Bolivar | Citizens Memorial | Level III | **If on CT divert**: Transport to the next closest stroke center. |
| Clinton | Golden Valley Memorial | Level III | |
| El Dorado Springs | Cedar County Memorial | Level III | |
| Harrisonville | Cass Regional | Level III | |
| Lamar | Cox Barton | Level III | |

**Consider transporting to the closest STROKE center for the following criteria:**

- Last seen normal within 12 hours, AND
- One or more of the following:
    - New onset of facial droop, arm drift, abnormal speech, one-sided neurological deficit, or abnormal gait, or
    - NIHSS score greater than zero.

| Location | Destination | Stroke Designation | Notes |
|---|---|---|---|
| Osage Beach | Lake Regional | Level II | **If LARGE VESSEL OCCLUSION or SEVERE STROKE**: Transport to the closest level I stroke center. |
| Springfield | Mercy | Level II | |

**Consider transporting to the closest Level I STROKE center for any one the following criteria:**

- Any criteria above, and/or
- Large vessel occlusion (either of the following):
  - NIHSS score greater than 6, or
  - RACE score greater than 4.

| Location | Destination | Stroke Designation | Notes |
|---|---|---|---|
| Aircraft | Aircraft crew determination | | **If under 45 minute drive time**: Transport by ground. |
| Springfield | Cox South | Level I | |
| Kansas City | Research | Level I | |
| | St Lukes | Level I | |

## Change Log:

| Date | Link to previous version | Description of change |
|---|---|---|
| 05/05/15 | pdf | Changed this section from 4-052 to 4-053 to accommodate NIHSS images. |
| 11/17/15 | | Added northern destinations that might be closer to Ellett's response area. Modified quickest transportation mode definition to 35 minutes. |
| 04/06/16 | pdf | Added age requirement of less than 90 yr old to be transported to level 1 center. Added consider CMH as a destination after contacting medical control. |
| 07/22/16 | | Added comment than BLS truck with ALS patient shall transport to closest ER or CMH. |
| 08/24/17 | pdf | Added Mercy Springfield as a destination. Streamlined flowchart with a comment to follow aircraft protocol when flying patient. |
| 08/24/18 | pdf | Requested change from 12-hours to 24-hours since last normal. Dr. Carter denied request. Added comment about if transporting to stroke center takes outside of tPA window, it is OK to transport to tPA-capable ER. |
| 07/23/19 | pdf | Verified designated stroke centers with BEMS website. Added Cedar County Memorial as level III stroke center. |
| 11/18/19 | pdf | Added comment to bypass CMH if on CT divert by specific order of Dr. Cauchi. |
| 11/27/19 | | Changed format from flowchart to something more easily utilized. |
| 07/12/20 | pdf | Moved this section from 2-880created a new page. |
| 02/18/21 | pdf | Changed number from 2-880-02 to 2-880-72 to allow future additions. |
| 06/06/21 | pdf | Moved to emsprotocols.online |
| 09/29/21 | pdf | Corrected a typo that indicated tPA facility window was six hours. It has been changed to the correct time of four (4) hours. |
| 02/25/22 | pdf | Added CMH-Bolivar and Cox-Lamar as a level III stroke centers. |
| 09/16/22 | pdf | Added Golden Valley as level III center. |
| 04/28/23 | | Another draft of this protocol was created [2-880-72(cta-ctp).php] to indicate transporting to CTA-CTP capable facilities instead of designated stroke centers. Still in draft as requested on 1/25/23 by Dr. Butvilas, however, on 3/24/23, Dr. Butvilas said Cox has not approved and it should remain inactive at this time. |

Return to Protocols Table of Contents.

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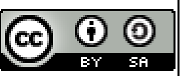
| CMH Pre-Hospital Services Mission: "*Provide safe, exceptional, and compassionate care to our communities with an emphasis on highly trained and empowered staff*." | CMH Mobile Integrated Healthcare Mission: "*Provide exceptional, compassionate, and patient-centered care by a mobile collaborative team to improve patient experience, improve quality outcomes, and reduce healthcare costs*." | |
|---|---|---|



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# Protocol 2-902 - Trauma Arrest

**CMH EMS & MIH Protocols**

## EMD:

- No specific protocol.

## EMR:

- Confirm apnea and pulselessness.
- Attempt to determine down-time and history.
- Consider SMR.
- Begin CPR and refer to Protocol 2-198 - Cardiac Arrest.

## EMT:

- Ensure completion of applicable items above.
- Consider Pelvic Binder.

## AEMT:

- Ensure completion of applicable items above.
- IV LR wide open. Consider second line wide open as well.

## RN:

- Ensure completion of all applicable items above.
- **Chest trauma**: Consider bilateral Needle Decompression and refer to Protocol 2-220 - Chest Pain.
- Consider IO LR.
- **If hypovolemia or obstructive shock is suspected**: Treatment of those conditions should take priority over all other treatments (potentially including CPR).
- Consider Intubation.
-

| Adult | Pediatric |
|---|---|
| ◦ Narrow complex PEA should NOT be terminated in the field.<br>Field termination may be requested from MEDICAL CONTROL regardless of how long resuscitation efforts | ◦ Pediatric arrest should NOT be terminated in the field. |

| have been underway. | |
|---|---|

# Medic:

- Ensure completion of all applicable items above.

# CP:

- Ensure completion of all applicable items above.

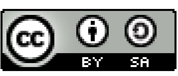
## Change Log:

| Date | Link to previous version | Description of change |
|---|---|---|
| 10/04/13 | pdf | Removed need for 20 minutes of ACLS and added immediate trauma termination from 6-140. |
| 12/19/17 | pdf | Added comment to consider pelvic binder. |
| 03/01/19 | pdf | Added comment that narrow PEA should not be terminated in the field based on recommendations from PHTLS version 9. APPROVED BY DR. CARTER ON 4/5/19. |
| 04/12/19 | | Added comment to consider not performing chest compressions until hypovolemiaobstructive shock causes are fixed. |
| 07/23/19 | | Added link to new hemorrhage protocol. |
| 04/18/20 | pdf | Added content (without substantive modification) from old Protocol 5-090 - Trauma Arrest. |
| 06/06/21 | pdf | Moved to emsprotocols.online |
| 03/16/23 | pdf | Clarified RN and medic roles. Added CP. |
| 03/19/23 | | Changed links for LR. |

Return to Protocols Table of Contents.

Search protocols: Search

| CMH Pre-Hospital Services Mission: "*Provide safe, exceptional, and compassionate care to our communities with an emphasis on highly trained and empowered staff*." | CMH Mobile Integrated Healthcare Mission: "*Provide exceptional, compassionate, and patient-centered care by a mobile collaborative team to improve patient experience, improve quality outcomes, and reduce healthcare costs*." | |
| --- | --- | --- |



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# Protocol 2-924 - Universal Patient Care

**CMH EMS & MIH Protocols**

## EMD:

- Utilize appropriate MPDS protocol for all calls where a patient may be ill or injured.

## EMR:

- Scene safety. Wear PPE and place PPE on your pateint as necessary. Some situations when PPE is indicated include, but not limited to the following:
    - **Reflective vest indications**:
        - You and/or your patient are not in a vehicle, but on a roadway (i.e. side of highway), OR
        - You and/or your patient are not in a vehicle, but near moving vehicles (i.e. landing a helicopter), OR
        - You and/or your patient are a pedestrian and visibility is reduced (i.e. foggy weather).
    - **Helmet indications**:
        - You and/or your patient are under other activities (i.e. someone above you), OR
        - You and/or your patient are under objects that are likely to fall (i.e. loose building materials), OR
        - You and/or your patient are walking or climbing on significantly uneven terrain (i.e. climbing a rocky embankment), OR
        - You and/or your patient are near technical rescue activities (i.e. inside a vehicle with extrication in progress).
    - **Personal floatation device indication**:
        - You and/or your patient are within ten (10) feet of exposed moving liquids (i.e. river), OR
        - You and/or your patient are within ten (10) feet of water deeper than three feet (i.e. swimming pool).
- **Potentially contaminated scene or patients**:
    - Identify the substance with two sources, if possible: NIOSH, WebWISER
    - Notify receiving facilities as soon as possible with possible contamination agent.
    - **Establish decontamination procedures according to research**:
        - **All persons leaving the hot zone must be gross decontaminated**:
            - Remove outer clothing and jewelry.
            - If contaminated with liquids, high volume water rinsing.
            - Irrigate eyes and face.
        - **All persons leaving the warm zone must be technically decontaminated**:

- Do not contaminate ambulances with patients or responders that have not been decontaminated.
- Do not perform most ALS procedures until technical decontamination has been performed due to causing additional breaks in the skin.
- Remove ALL clothing and jewelry.
- Gentle washing with soap and water.

- Coordinate with or establish incident command. Establish hot, warm, and cold zones, if applicable.
- BSI and ensure proper PPE.
- Determine nature of illness and/or mechanism of injury.
- Determine number of patients. **If greater than five (5) patients**: Refer to Guideline 1-850-25 - Mass Casualty.
- Determine need for additional resources.
- ABCs.
- LOC.
- **Altered mental status**: Refer to Protocol 2-077 - Altered Mental Status to assess and treat causes
- SAMPLE history.
- Focused assessment.
- Baseline vitals.
  - Refer to Protocol 2-924-24 - Normal Vital Signs.
  - Refer to Protocol 2-924-48 - Glasgow Coma Scale (GCS).
  - Two sets of vitals should be obtained that include time, blood pressure, pulse, respirations, SpO2, and Pain level. If patient contact time is less than 15 minutes (i.e. very short transport time with a critical patient), one set of vitals may be appropriate.
  - When appropriate, additional vitals may include Temperature, orthostatic blood pressure, and glucose. Consider assisting ALS with ETCO2.
- Treat per appropriate protocol.

# EMT:

- Ensure completion of applicable items above.
- **Responsive and no significant MOI**:
  - Treatment and transport decision (BLS/ALS).
  - Goal of moving a TCD patient (Sepsis, STEMI, Stroke, or Trauma) towards definitive care within 10 minutes.
- Interfacility transfer of patients meeting BLS criteria with the only exception of Heparin- or Saline-locked IV may be transported BLS.
- Four-lead cardiac monitoring does not require the patient to be transported ALS, but an ALS patient does require cardiac monitoring. Any cardiac monitor for cardiac assessment or 12-Lead ECG must be transported ALS or transmitted to the ER for interpretation.
- A BLS ambulance with an ALS patient shall request ALS intercept or transport to the nearest emergency room or CMH unless the destination is refused by the patient.
- Transport.
  - Routine use of lights and sirens is not warranted.
  - **Transport to the closest facility unless one of the two below**:

        - If the patient refuses the closest facility, transport to their choice, and obtain a refusal signature.
        - **Altered mental status and the closest facility is on CT divert**, bypass and transport to next closest appropriate facility.
        - **Time critical diagnosis:** Transport according to detination matrix:
            - **STEMI**: Protocol 2-220-50 - STEMI Destination Matrix
            - **Stroke**: Protocol 2-880-72 - STROKE Destination Matrix
            - **Trauma**: Protocol 2-451-50 - TRAUMA Destination Matrix
    - Ensure accurate weight is obtained on all patients upon arrival at the ER, if able.

# AEMT:

- Ensure completion of applicable items above.
- Consider IV LR bolus to maintain SBP above 100.

# RN:

- Ensure completion of all applicable items above.
- **ALS indicated when new onset of the following**:
    - Significant MOI.
    - Unresponsive.
    - **Responsive meeting one of the following**:
        - Altered mental status.
        - Chest discomfort.
        - Need for IV/IO or medications.
        - Overdose or poisoning.
        - Respiratory distress.
        - Severe pain.
        - Signs of shock.
- Rapid medical and/or trauma assessment.
- Treat per appropriate protocol.
- **If transfer out of the hospital**:
    - Refer to Guideline 1-200-72 - Transfer Priority Calculator.
    - **If Priority 1 transfer**:
        - Shall be responded to in the same fashion and promptness as any other priority 1 dispatches.
        - Patient care shall be provided by the RN or paramedic.
    - **If patient on a Ventilator and sedated with Propofol**:
        - Consider replacing Propofol at hospital bedside with Ketamine from ambulance stock.
        - Ketamine 1 mg/kg IV/IO.
            - Click "calculate" to get dose.
        -

| Adult: | Pediatric: |
|---|---|
| Consider Fentanyl 50-100 mcg IV/IO/IN (max 300 mcg). | Consider Fentanyl 1-2 mcg/kg IV/IO/IN (max 150 mcg)<br>Click "calculate" to get dose. |

    - **If patient on tPA drip**, refer to Protocol 2-880 - Suspected Stroke.

# Medic:

- Ensure completion of all applicable items above.

# CP:

- Ensure completion of all applicable items above.

# Change Log:

| Date | Link to previous version | Description of change |
|---|---|---|
| 10/04/13 | pdf | Added orthostatic. Added 4-lead and 12-lead BLS vs ALS clarification. |
| 11/11/13 | | Added quote from MO Statutes on transporting TCD. |
| 11/11/13 | pdf | Added quote from MO Statutes on transporting TCD trauma. |
| 01/28/14 | | Changed ALS indicated pulseox to reflect Oxygen titration changes. |
| 01/29/14 | | Coordinated protocol with CMH policies. |
| 01/29/14 | pdf | Defined mass casualty from policy. Added first arriving crew's responsibilities from policies. Added when Triage tags used from policies. |
| 12/12/14 | pdf | Added if patient contact time less than 15 min, only one set of vitals needed. Added definition of DELIBERATE ACTIONS. |
| 12/12/14 | pdf | Added comment to maintain patient temp. Added comment if patient contact time less than 15 min, only one set of vitals needed. Added definition of DELIBERATE ACTION. Removed list of trauma centers. |
| 12/12/14 | | Created Decontamination protocol. |
| 12/12/14 | pdf | New, clearer image for SALT Triage algorithm. |
| 12/26/14 | pdf | Added Celox and Tourniquet to BLS if bleeding cannot be controlled by simple means. |
| 03/02/15 | | Removed DELIBERATE ACTIONS. |
| 03/02/15 | | Removed DELIBERATE ACTION. Moved location from 5-010 to 1-020 to keep general assessment protocols together. |
| 03/30/15 | | Added trauma destination determination flowchart. |
| 04/03/15 | | Added consider SMR. |
| 05/31/15 | | Added comment to maintain patient warmth. |
| 08/06/15 | pdf | Changed instruction to keep football equipment in place to remove football equipment prior to transport based on new recoommendations by the National Athletic Trainers Association. |
| 01/28/16 | | Created Protocol 5-085 - Superficial Penetration. |
| 02/03/16 | pdf | Added EMD section. |
| 07/20/16 | pdf | Added comment that scene comms should be done on VTAC12. |
| 07/22/16 | pdf | Added comment than BLS truck with ALS patient shall transport to closest ER or CMH. |
| 07/25/16 | pdf | At the request of Dr. Merk, added comment to recommend followup with physician for infection monitoring. |
| 08/02/16 | | At the request of Dr. Kramer, added nipple line and above, grossly contaminated wound, and only one end of fish hook through the skin as contraindications for field removal. |
| 06/15/17 | | Per Dr. Carter: Give pain meds to all possible fractures. Clarified to consider giving pain meds to all possible fractures. |
| 07/01/17 | pdf | Added comment to allow ALS patient refusal for BLS ambulance to transport to closest facility. |
| 07/01/17 | pdf | Shortened title. |

| | | |
|---|---|---|
| 08/24/17 | | Added instructions to replace Propofol drips with Ketamine on transfers of intubated patients. |
| 09/20/17 | | Added comment to wear high-visibility apparel. Added comment that routine use of lights and siren is not warranted. Added AEMT to give LR bolus to maintain SBP at 90. Added target scene time of 10 minutes. |
| 09/22/17 | | Added cardiac monitoring and 12-lead for taser. |
| 10/16/17 | | Added comment to consider active re-warming. |
| 11/11/17 | pdf | Clarified requirements for ALS vs BLS patients based on complaint to allow more flexibility. |
| 11/11/17 | pdf | Clarified requirements for ALS vs BLS patients based on complaint to allow more flexibility. |
| 11/11/17 | pdf | Added comment to not put anyone in an ambulance without decontaminating them first. |
| 11/11/17 | pdf | Added this SALT triage section from the image that was too small to read in Protocol 6-130 - Triage. |
| 08/24/18 | pdf | Per Dr. Kramer, added comment to wrap other hooks before manipulation. |
| 07/23/19 | pdf | Added reference to new hemhorrage protocol. Moved requirement for 10 minute scene time from ALS to EMT. Added link to performance graph. |
| 07/23/19 | | Created this hemorrhage protocol as one place for all things hemorrhage, even non-traumatic causes of hemorrhage. |
| 07/23/19 | pdf | Removed specifics of which crew member on the first arriving ambulance is triage officerwhich is transportation officer. Added link to acquisition of medical control protocol for contact info. |
| 11/27/19 | pdf | Moved tourniquet to EMT to comply with new national scope of practice. |
| 11/27/19 | pdf | Added comment that cardiac monitoring12-lead is only needed if unresponsivecardiac symptoms. |
| 12/03/19 | pdf | Added comment to divert AMS if CMH on CT divert. |
| 12/03/19 | pdf | Added comment to divert AMS if CMH on CT divert. |
| 03/30/20 | | Added content from old Protocol 1-010 - General AssessmentTreatment - Medical. Added comment to divert from CMH if altered mental statusCMH on CT divert, per Dr. Cauchi. |
| 03/30/20 | pdf | Added content from old Protocol 5-085 - Superficial Penetration. |
| 03/30/20 | pdf | Added content (without substantive modification) from old Protocol 6-055 - Decontamination. |
| 03/30/20 | pdf | Added content from old Protocol 6-130 - Triage. Removed comment to use triage tags on patients taken by airTriage Tuesdays due to the region no longer does Triage Tuesdays. Removed entire section for HEAR radio report triaging due to the region moving away from HEAR radio reports. Removed SALT triage. Added comment for crews to stay in their ambulancelimiteliminate triagetreatment on the scene. |
| 03/30/20 | pdf | Added merged content from 1-020 - General AssessmentTreatment - Trauma. |
| 03/30/20 | pdf | Added content from 5-075 - Hemorrhage. |
| 04/03/20 | | Added content from old Section 6-125 - Transfer Out of Hospital. Removed section requiring paramedic attendant if physician requests ALS transfer. This is per conversation with Dr. Cauchi on 1/31/20. |
| 07/22/20 | | Per conversation with Dr. Nicholes on 7/22/20: Transport all patients to the closest ER unless the patient refuses (obtain signature)they need to go to a TCD center. |
| 02/18/21 | pdf | Changed 2-880-02 to 2-880-72. |
| 02/19/21 | pdf | Added section to investigate causes of altered mental status per the Protocol Committee meeting on 1/27/21. Added clarification that all overdoses are ALS patients. Added option for |

| | | |
|---|---|---|
| | | NeoSynephrine for nosebleed control after direct pressure does not work. Added link to transfer priority calculator. |
| 06/06/21 | pdf | Moved to emsprotocols.online |
| 10/14/21 | pdf | Changed link for 2-220-01 to 2-220-50. |
| 11/05/21 | pdf | Removed trauma content and added it to new protocol 2-451. |
| 02/28/22 | | Updated link to tPA. |
| 02/28/22 | | Updated link for Propofol. |
| 02/28/22 | | Fixed typo in link for Propofol. |
| 03/16/23 | pdf | Clarified RN and medic roles. Added CP. |
| 03/17/23 | | Updated link to saline. |
| 03/19/23 | | Changed link for LR. |
| 03/20/23 | | Changed link for Ketamine. |
| 03/20/23 | | Changed link for Heparin. |
| 03/20/23 | | Changed links for Fent. |
| 04/28/23 | pdf | Moved mass casualty section to Guideline 1-850-25. Moved altered mental status section to Protocol 2-077 that was created just for this info. |
| 04/28/23 | pdf | Added indications for PPE for staff and for patients. Reflective vests, helmets, and floatation devices all now have indications when they should be worn and when they should be placed on patients. Three sets of each type of PPE are still being purchased and placed on each ambulance. |

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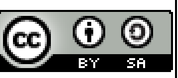

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# Protocol 2-924-24 - Universal Patient Care - Normal Vital Signs

**CMH EMS & MIH Protocols**

| Description | Age | Ideal Weight | Broslow / Handtevy | Pulse Rate | Respiratory Rate | Systolic BP | Diastolic BP | MAP | Temp |
|---|---|---|---|---|---|---|---|---|---|
| Preemie | Before due date | 2 kg | Grey | 120-170 | 40-70 | 55-90 | | | |
| Newborn / Neonate | 0-1 mo | 4 kg | Grey | Awake: 100-205<br>Asleep: 90-160 | 30-60 | 67-84 | 35-53 | 45-60 | 98.0-100.0 °F |
| Infant | 1-6 mo | 6 kg | Pink | Awake: 100-180<br>Asleep: 90-160 | 30-53 | 72-104 | 37-56 | 50-62 | 96.8-99.6 °F |
| | 6-12 mo | 8 kg | Red | | | | | | |
| Toddler | 1 yr | 10 kg | Purple | Awake: 98-140<br>Asleep: 80-120 | 22-37 | 86-106 | 42-63 | 49-62 | |
| | 2 yr | 12 kg | Yellow | | | | | | |
| Preschooler | 3 yr | 15 kg | White | | 20-28 | 89-112 | 46-72 | 58-69 | 98.6 °F |
| | 4 yr | 17 kg | White | | | | | | |
| | 5 yr | 20 kg | Blue | | | | | | |
| Schoolager | 6 yr | 22 kg | Blue | Awake: 75-118<br>Asleep: 58-90 | 18-25 | 97-120 | 57-80 | 66-79 | |
| | 7 yr | 25 kg | Orange | | | | | | |
| | 8 yr | 27 kg | Orange | | | | | | |
| | 9 yr | 30 kg | Green | | | | | | |
| | 10 yr | 35 kg | Green | | | | | | |
| | 11 yr | 40 kg | Green | | | | | | |
| Adolescent | 12 yr | 50 kg | Green | Awake: 60-100<br>Asleep: 50-90 | 12-20 | 110-131 | 64-83 | 73-84 | |
| | 13 yr | 60 kg | Green | | | | | | |
| | 14-16 yr | 60-75 kg | Green | | | | | | |

| Early Adult | 17-40 yr | 75 kg | Light Blue | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Middle Adult | 41-60 yr | 100 kg | Light Blue | 60-100 | | 90-140 | | | |
| Older Adult | 61+ yr | | Light Blue | | | | | | |

Other references:

- Refer to Protocol 2-044-66 - Airway Equipment Sizes.
- Refer to Protocol 2-616-66 - Targeted Pre-Ductal SpO2.
- Refer to Equipment 8-324 - Glucometer for blood sugar ranges.
- Refer to Equipment 8-864 - Thermometer for normal temperature ranges.

# Change Log:

| Date | Link to previous version | Description of change |
|---|---|---|
| 07/22/16 | | Added this section. |
| 07/23/19 | pdf | Added links for airway stuff, blood sugar,temperatures to RSI, glucometer,thermometer sections. Added standard weights. Matched table to Handtevy. |
| 07/12/20 | pdf | Moved this section from 2-924created a new page. |
| 06/06/21 | pdf | Moved to emsprotocols.online |
| 10/14/21 | pdf | Changed 2-044-01 to 2-044-66 link. |
| 10/16/21 | pdf | Renumbered from 2-924-01 to 2-924-24. Major change to list of vital signs. The JBL paramedic textbook currently used in paramedic class has a great table on page 544. This table was integrated into this protocol to limit confusion and provide more information. Changing table to the textbook version was approved by protocol committee on 5/26/21. Corrected some links. Added link to 2-616-66. |

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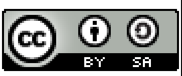
|---|---|---|

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# Protocol 2-924-48 - Universal Patient Care - Glasgow Coma Scale

**CMH EMS & MIH Protocols**

| Question | Answer | Adult Options | Pediatric Options |
|---|---|---|---|
| Eye Opening | 4 - Spontaneous | 4 - Spontaneous<br>3 - To speech<br>2 - To pain<br>1 - None | 4 - Spontaneous<br>3 - To speech<br>2 - To pain<br>1 - None |
| Verbal Response | 5 - Oriented (coos and babbles) | 5 - Oriented<br>4 - Confused<br>3 - Inappropriate<br>2 - Incomprehensible<br>1 - None | 5 - Coos and babbles<br>4 - Irritable cry<br>3 - Cries to pain<br>2 - Moans to pain<br>1 - None |
| Best Motor Response | 6 - Obeys commands (spontaneous movement) | 6 - Obeys commands<br>5 - Localizes pain<br>4 - Withdraws from pain<br>3 - Abnormal flexion<br>2 - Abnormal extension<br>1 - None | 6 - Spontaneous movement<br>5 - Withdraws to touch<br>4 - Withdraws from pain<br>3 - Abnormal flexion<br>2 - Abnormal extension<br>1 - None |

Calculate GCS score

**GCS score**:

## Click "calculate" to show GCS score.

- **Less than 8** = Severe deficit.
- **9-12** = Moderate deficit.

- **13-14** = Mild deficit.
- **15** = No deficit.

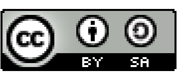
## Change Log:

| Date | Link to previous version | Description of change |
|---|---|---|
| 07/22/16 | | Added this section. |
| 07/12/20 | pdf | Moved this section from 2-924created a new page. |
| 06/06/21 | pdf | Moved to emsprotocols.online |
| 10/16/21 | | Renumbered from 2-924-02 to 2-924-48. |

Return to Protocols Table of Contents.

Search protocols: Search

| CMH Pre-Hospital Services Mission: "*Provide safe, exceptional, and compassionate care to our communities with an emphasis on highly trained and empowered staff*." | CMH Mobile Integrated Healthcare Mission: "*Provide exceptional, compassionate, and patient-centered care by a mobile collaborative team to improve patient experience, improve quality outcomes, and reduce healthcare costs*." | |
|---|---|---|



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# Protocol 2-946 - Ventricular Tachycardia

**CMH EMS & MIH Protocols**

## EMD:

- No specific protocol.

## EMR:

- Calm and reassure patient. Ensure patient does not exert themselves.
- Oxygen to maintain SpO2 between 94-99%.
- Apply Cardiac Monitor limb leads.
-

| Adult: | Pediatric: |
|---|---|
| ◦ **Heart rate greater than 150**: Apply Combo Pads anterior / posterior | ◦ **Child with heart rate greater than 160 OR infant with heart rate greater than 220**: Consider applying Combo Pads anterior / posterior. |

## EMT:

- Ensure completion of applicable items above.
- Consider assisting ALS with Capnography.

## AEMT:

- Ensure completion of applicable items above.
- IV NS/LR in AC (left is preferred) with pigtail extension with 18 ga or greater.

# RN:

- Ensure completion of all applicable items above.
- Obtain 12-Lead ECG as soon as able.
- Consider IO NS/LR. Do not delay for IV/IO if symptomatic.
-

| Adult: | Pediatric: |
| --- | --- |
| ◦ **Heart rate greater than 150**:<br>▪ **Symptomatic**:<br>▪ **Conscious**: Consider Protocol 2-660 - Pain Control.<br>▪ Synchronized Cardioversion 125 J. If unsuccessful, increase to 200 J.<br>▪ **Asymptomatic**:<br>▪ Amiodarone 150 mg IV/IO over 10 min. Mix in 100 ml NS. Repeat as needed (max 2.2 gm over 24 hr). If converted by Amiodarone, consider drip at 1 mg/min.<br>▪ **QTc greater than 0.300 sec**: Magnesium Sulfate 1-2 g IV/IO in NS over 15-20 min. | ◦ **Child with heart rate greater than 160 OR infant with heart rate greater than 220**:<br>◦ **Symptomatic**:<br>▪ **Conscious**: Consider Protocol 2-660 - Pain Control.<br>▪ Synchronized Cardioversion 0.5-1 J/kg.<br>▪ Click "calculate" to get dose.<br>Consider contacting MEDICAL CONTROL for Amiodarone as dosed in asymptomatic below.<br>◦ **Asymptomatic. Contact MEDICAL CONTROL for**:<br>▪ Consider Adenosine 0.1 mg/kg (max 6 mg). May repeat at 0.2 mg/kg (max 12 mg).<br>▪ Click "calculate" to get dose.<br>▪ Click "calculate" to get dose.<br>▪ Consider Amiodarone 5 mg/kg IV/IO over 20-60 min (max 150 mg).<br>▪ Click "calculate" to get dose.<br>▪ Consider Protocol 2-660 - Pain Control.<br>▪ Consider Synchronized Cardioversion 0.5-1 J/kg.<br>▪ Click "calculate" to get dose. |

- **Consider and correct treatable causes**: Hypovolemia, hypoxia, hypo/hyperkalemia, hypothermia, hypoglycemia, acidosis, tension pneumothorax, toxins, thrombosis, and cardiac

tamponade.

# Medic:

- Ensure completion of all applicable items above.

# CP:

- Ensure completion of all applicable items above.

# Change Log:

| Date | Link to previous version | Description of change |
|---|---|---|
| 10/04/13 | pdf | Added rates and consider to Combo Pads. |
| 10/04/13 | pdf | Added rates to Combo Pads. Added symptomatic to ALS treatments. |
| 11/11/13 | | Fixed Mag Sulfate dose over 5 min to over 15-20 min (assume it was a typo). |
| 06/27/16 | pdf | Added note that IV access must be in an AC space (left is preferred). |
| 08/24/17 | pdf | Removed Ativan and Procainamide. |
| 09/20/17 | | Increased Lidocaine from 0.5 to 1 mg/kg. Modified pediatric Versed dosages. |
| 11/11/17 | pdf | Replaced Versed and Fentanyl with reference to Protocol 6-050 - Control of Pain for pre-cardioversion.Removed directions to mix Amidoarone and Mag Sulfate. |
| 04/06/20 | | Added content from old Protocol 2-100 - Tachycardia Wide Stable. Changed indication for Mag Sulfate from QT/RR > 0.4 to QTc > 0.3 due to ease of identifying those values by paramedics. RR is not redily availablemust be measured by hand where QTc is measured by the LifePakprinted on the 12-lead. |
| 04/06/20 | | Added content (without substantive modification) from old Protocol 2-110 - Tachycardia Wide Unstable. |
| 04/06/20 | pdf | Added content (without substantive modification) from old Protocol 2-130 - Ventricular Ectopy. |
| 05/16/20 | pdf | Added additional Lidocaine dose if over 70 years old. Dose reduction by 50% was already in the medication protocol for Lidocaine. |
| 02/19/21 | pdf | AHA 2020 updates to this protocol include an Amiodarone drip after conversion and the option for Adenosine for pediatric patients. |
| 06/06/21 | pdf | Moved to emsprotocols.online |
| 10/16/21 | pdf | Added comment to mix Mag Sulfate with NS per protocol committee on 5/26/21 and Dr Nicholes on 12/8/20. Also, removed Lidocaine as a treatment option for VTach with a pulse per Dr. Nicholes on 8/5/21. |
| 11/30/21 | | Updated link to Adenosine. |
| 11/30/21 | | Updated link to Albuterol. |
| 11/30/21 | | Updated link to Amiodarone. |
| 02/25/22 | pdf | Removed typo indicating 125 J/kg cardioversion (now 125 J). Added details of mixing Amiodarone in 100 ml NS per protocol committee on 1/26/22. |
| 02/28/22 | | Updated link for Sodium Bicarb. |
| 03/16/23 | pdf | Clarified RN and medic roles. Added CP. |
| 03/17/23 | | Updated link to NS. |
| 03/19/23 | | Changed link for MagSulftate. |
| 03/19/23 | | Changed link for LR. |

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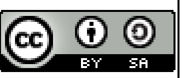
|---|---|---|



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# Protocol 2-968 - V-Fib / Pulseless V-Tach

**CMH EMS & MIH Protocols**

## EMD:

- No specific protocol.

## EMR:

- Refer to Protocol 2-198 - Cardiac Arrest.

## EMT:

- Ensure completion of applicable items above.

## AEMT:

- Ensure completion of applicable items above.

## RN:

- Ensure completion of all applicable items above.
- **If ALS and Cardiac Monitor is available**, manual defibrillation is preferred.
- **Winessed arrest by EMS**: Immediate Defibrillation.
- **Unwitnessed arrest**: Perform 2 min of Compressions, then Defibrillation. Immediately start Compressions for 2 min after each shock before rhythm or pulse check.
- Every 2 minutes, charge Monitor in anticipation of shock able rhythm. During pause in Compressions, Defibrillate or dump charge.
  - | Adult: | Pediatric: |
    |---|---|
    | ▪ 360 J (OR consider biphasic dose of 200 J). | ▪ 4 J/kg.<br>▪ Click "calculate" to get dose.<br>▪ Add 2 J/kg each shock (max 10 J/kg).<br>▪ Click "calculate" to get dose. |

- Consider Lidocaine 1-1.5 mg/kg IV/IO.
  - Click "calculate" to get dose.
  - **Recurrent VF/VT**: Repeat Lidocaine at 3-5 min at half dose (0.5-0.75 mg/kg).
    - Click "calculate" to get dose.
  - OR consider Amiodarone IV/IO:

| Adult: | Pediatric: |
|---|---|
| 300 mg. | 5 mg/kg. Click "calculate" to get dose. |

- **Recurrent VF/VT**: Repeat Amiodarone:

| Adult: | Pediatric: |
|---|---|
| 150 mg. | 2.5 mg/kg. Click "calculate" to get dose. |

- **Persistent fibrillation after five (5) attempted Defibrillations:** Consider Dual-Sequential or Dual-Simultaneous Defibrillation.
- **Torsades de Pointes**:

| Adult: | Pediatric: |
|---|---|
| Magnesium Sulfate 1-2 g over 2 min.<br>Follow with Magnesium Sulfate 0.5-1 g/hr IV/IO titrated to control Torsades de Pointes.<br>**Conscious**:<br>Consider Protocol 2-660 - Pain Control.<br>Synchronized Cardioversion 200 J. | Magnesium Sulfate 25-50 mg/kg over 2 min.<br>Click "calculate" to get dose.<br>**Conscious**:<br>Consider Protocol 2-660 - Pain Control.<br>Synchronized Cardioversion 0.5-1 J/kg.<br>Click "calculate" to get dose. |

# Medic:

- Ensure completion of all applicable items above.

# CP:

- Ensure completion of all applicable items above.

## Change Log:

| Date | Link to previous version | Description of change |
|---|---|---|
| 10/04/13 | pdf | Changed witnessed pediatric energy from 2 J/kg to 4 J/kg. |
| 12/12/14 | pdf | Added 20 min of CPR before movement. |
| 12/12/14 | pdf | Added consider Gastric Tube. |
| 12/12/14 | pdf | Added consider Gastric Tube. |
| 12/15/14 | | Replaced CPR with CCR. |
| 03/31/15 | | Reverted to CPR per medical director. |
| 04/03/15 | | Moved Gastric Tube to Protocol 6-110 - Rapid/Delayed Sequence Intubation (RSI). |
| 04/03/15 | | Moved Gastric Tube to Protocol 6-110 - Rapid/Delayed Sequence Intubation (RSI). |
| 05/31/15 | | Replaced BLS sections with refer to Protocol 6-025 - Cardiopulmonary Resuscitation (CPR). |
| 11/17/15 | | Added comment to consider biphasic energy doses. |
| 06/08/16 | pdf | Added comment to contact medical control for dual sequential defibrillation after five unsuccessful defibrillations. |
| 08/24/17 | pdf | Removed Ativan. |
| 09/20/17 | | Modified pediatric Versed dosages. |
| 08/03/18 | pdf | Per Dr. Kramer, changed Mag Sulfate administration from 15-20 min to 2 min. |
| 08/03/18 | pdf | Per Dr. Kramer, changed Mag Sulfate administration from 15-20 min to 2 min. |
| 08/24/18 | | Added option for Epi drip over five min. |
| 04/06/20 | pdf | Added content (without substantive modification) from old Protocol 2-140 - Ventricular Fibrillation (V-FibV-Tach). |
| 04/06/20 | pdf | Added content (without substantive modification) from old Protocol 2-120 - Torsades de Pointes. |
| 06/06/21 | pdf | Moved to emsprotocols.online |
| 11/30/21 | | Updated link to Amiodarone. |
| 03/16/23 | pdf | Clarified RN and medic roles. Added CP. |
| 03/19/23 | | Changed link for MagSulfate. |
| 03/19/23 | | Updated link to Lido. |

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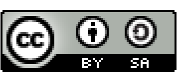


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# Protocol 2-990 - Vomiting

**CMH EMS & MIH Protocols**

## EMD:

- No specific protocol.

## EMR:

- Identify possible causes.
- Consider Oxygen if SpO2 is less than 88%.
- Consider applying Cardiac Monitor limb leads.

## EMT:

- Ensure completion of applicable items above.
- Assume nausea or vomiting with unknown cause is a STEMI: Obtain 12-Lead ECG within 10 minutes of patient contact.

## AEMT:

- Ensure completion of applicable items above.
- Consider IV NS/LR.

## RN:

- Ensure completion of all applicable items above.
- Consider IO NS/LR.
-

| Adult: | Pediatric: |
|---|---|
| ◦ Consider Zofran 4 mg IV/IO/IM/IN/PO/SL (max 8 mg).<br>◦ Consider Phenergan 6.25-25 mg:<br>▪ IM OR<br>▪ IV/IO infused in NS/LR over 15-30 minutes OR<br>▪ Diluted in NS flush and pushed VERY slowly. | ◦ **Greater than 2 years old**:<br>▪ Consider Zofran 0.1-0.2 mg/kg IV/IO/IM/IN/PO/SL (max 8 mg).<br>▪ Click "calculate" to get dose.<br>▪ Consider Phenergan:<br>▪ 0.25-0.5 mg/kg IM OR<br>▪ Click "calculate" to get dose.<br>▪ 0.25-0.5 mg/kg IV/IO infused in NS/LR over 15-30 minutes OR |

| | |
|---|---|
| ◦ Consider Benadryl 12.5-25 mg IV/IO/IM. | ▪ Click "calculate" to get dose.<br>▪ 0.25 mg/kg diluted in NS flush and pushed VERY slowly.<br>▪ Click "calculate" to get dose.<br>◦ Consider Benadryl 0.1 mg/kg IV/IO/IM (max 25 mg).<br>▪ Click "calculate" to get dose. |

# Medic:

- Ensure completion of all applicable items above.

# CP:

- Ensure completion of all applicable items above.

## Change Log:

| Date | Link to previous version | Description of change |
|---|---|---|
| 12/12/14 | pdf | Added clarification for pediatric dosages of Zofran and Phenergan. |
| 12/15/14 | | Added Regalin medication. |
| 04/14/15 | | Added comment that medication is not prophylactic. |
| 11/17/15 | pdf | Removed Regalin. |
| 08/24/17 | pdf | Removed comment that antiemetics cannot be used prophylactically. Added comment to use Phenergan diluted in NS flush. |
| 09/22/17 | | Added PO/SL option for Zofran. Added Benadryl to adult and pediatric. |
| 10/16/17 | | Removed requirement for motion sickness to administer Benadryl. |
| 11/14/17 | pdf | Changed minimum initial dosage of Phenergan to 6.25 mg to allow more flexibility. |
| 04/18/20 | pdf | Added content (without substantive modification) from old Protocol 6-040 - Control of Nausea. |
| 06/06/21 | pdf | Moved to emsprotocols.online |
| 10/16/21 | | Addition of inhaled isopropanol for anti-nausea treatment by EMTs was approved by protocol committee on 5/26/21. However, Dr. Nicholes did not approve it on 6/8/21 stating the use of inhaled isopropanol in the ER, in his experience only last for seconds to minutes before they are nauseated again. |
| 12/01/21 | | Updated link to Zofran. |
| 02/28/22 | | Updated link for Phenergan. |
| 03/16/23 | pdf | Added statement that STEMI should be assumed with all vomiting until proven otherwise and 12-lead is required within 10 min. Clarified RN and medic roles. Added CP. |
| 03/17/23 | | Updated links to NS. |
| 03/20/23 | | Changed link for Benadryl. |
| 04/28/23 | pdf | Tweaked indication for 12-lead. Added nausea instead of just vomiting as an indication, but clarified UNKNOWN CAUSE as a condition. |

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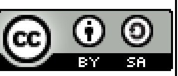


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# Part 4-000 - Mobile Integrated Healthcare Protocols

**CMH EMS & MIH Protocols**

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## Contents:


- 4-042 - Chronic Diabetes Management
- 4-083 - Chronic Gastrointestinal Disease Management
- 4-125 - Chronic Heart Failure Management
- 4-167 - Chronic Hypertension Management
- 4-208 - Chronic Kidney Disease Management
- 4-250 - Chronic Mental Health Management
- 4-291 - Chronic Neurological Disease Management
- 4-333 - Chronic OB/GYN Management
- 4-375 - Chronic Orthopedic Management
- 4-416 - Chronic Pain Management
- 4-458 - Chronic Respiratory Disease Management
- 4-500 - Chronic Sepsis Management
- 4-541 - Chronic Special Needs Management
- 4-624 - Chronic Urinary Complaints Management
- 4-666 - Chronic Wound Management

- 4-708 - General History and Physical Exam
- 4-749 - General Home Visit
- 4-791 - General Medication Administration
- 4-833 - General Medications Reconciliation
- 4-916 - General Safety Assessment
    - 4-916-50 - Physical Environment Assessment Tool
- 4-957 - General Social Assessment

## Change Log:

| Date | Link to previous version | Description of change |
|---|---|---|
| 11/29/21 | | Created this part for future additions as the MIH program is developed. |
| 03/16/23 | pdf | Updated draft of section titles and section number. Created links for future documents. |
| 05/12/23 | pdf | Removed section 4-583 stroke (combined with 4-291) |
| 05/17/23 | pdf | Removed link to 4-874 (Palliative Care). Might add this at a later time. |

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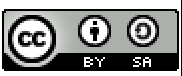
|---|---|---|

|  | Polk, Hickory, Cedar, & St Clair County EMS Protocols by Theron Becker is licensed under a Creative Commons Attribution-ShareAlike 4.0 International License. |
|---|---|

# Protocol 4-042 - Chronic Diabetes Management

**CMH EMS & MIH Protocols**

| Condition GREEN: | All Clear Zone... This is the safety zone. |
|---|---|

**Indications**:

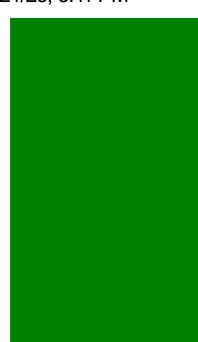
- None of the YELLOW or RED indications are present.

**What you can do**:

- Routinely monitor your blood sugars.
- Take your medications as ordered.
- Follow healthy eating habits.
- Keep all medical appointments.

**What your CHW might do**:

- Review health history and PCP care plan prior to visit.
- Answer any questions and address any concerns you have.
- Review any discharge instructions from any hospital, emergency room, and/or doctor visits.
- Review goals from previous visit:__________
- Assess adherence to care plan, including diet, exercise, medications, and keeping appointments.
- Review disease process and prevention measures with you including how and when to correctly take your medications.
- Education on diabetes is to be expected for every encounter.
- Education on healthy eating and living habits is to be expected for every encounter.
- Complete a History and Physical Exam.
- A complete Medications Reconciliation is to be expected at every encounter.
- Complete a Safety Assessment.
- Complete a Social Assessment.
- Facilitate a Telehealth visit, if scheduled.
- Follow any verbal orders as obtained via telehealth, phone call, or electronic messaging.
- Schedule follow-up appointment(s) as needed that might include, but not limited to: Primary Care Provider, Addiction Recovery, Behavioral Health, Dental Care, Dietician, Home Health, Home Medical Equipment, Hospice, Pharmacy Services, Therapy Services, Public Health, Wound Care
- Establish goals for next visit:__________



**What your CP might do**:

- Ensure completion of applicable CHW items above.
- Perform a capillary blood stick for rapid A1C.
- Perform venous blood draw for the following test panel:
  - CBC
  - CMP
  - Lipids

| Condition YELLOW: | **Warning Zone... This is the watch zone.** |
|---|---|
| | **Indications**:<br>• None of the RED indications are present.<br>• A1c greater than 7%,<br>• Blood sugar less than 70,<br>• You are having symptoms of low blood sugar,<br>• Average blood sugars greater than 150,<br>• Blood sugar greater than 180 two hours after eating,<br>• Blood pressure greater than 140/90,<br>• LDL cholesterol greater than 100 mg/dL,<br>• Dehydration,<br>• Decreased urine output,<br>• Nausea or vomiting,<br>• Other indication set by your doctor:____________________ |
| | **What you can do**:<br>• You may need an adjustment to your medications.<br>• Improve your eating habits.<br>• Increase your activity level.<br>• Call your CHW or CP:____________________<br>• Call your PCP:____________________<br>  ◦ If outside business hours, 24-hour triage nurse screening is available by calling your PCP's number. |
| | **What your CHW might do**:<br>• Ensure completion of applicable items in the GREEN zone above.<br>**What your CP might do**:<br>• Ensure completion of applicable CHW items above. |

| Condition RED: | **Medical Alert Zone... This is the danger zone.** |
|---|---|
| | **Indications**:<br><br>• A1c greater than 9%,<br>• Blood sugar less than 50,<br>• Average blood sugars are over 210,<br>• Most fasting blood sugars are over 200,<br>• Altered mental status,<br>• Other indication set by your doctor:____________________ |
| | **What you can do**:<br><br>• You need immediate evaluation by a medical professional.<br>• Call your CHW or CP:____________________<br>• Call your PCP:____________________<br>    ◦ If outside business hours, 24-hour triage nurse screening is available by calling your PCP's number.<br>• Call 9-1-1 |
| | **What your CHW might do**:<br><br>• Refer to Emergency Protocol 2-506 - Hyperglycemia as appropriate.<br>• Refer to Emergency Protocol 2-572 - Hypoglycemia as appropriate.<br>• Ensure completion of applicable items in the YELLOW zone above.<br><br>**What your CP might do**:<br><br>• Ensure completion of applicable CHW items above.<br>• Assist you in the administration of your own prescribed medications. |

## Change Log:

| Date | Link to previous version | Description of change |
|---|---|---|
| 03/16/23 | | Created this section. |
| 04/28/23 | pdf | First draft in the new format of green, yellow, red. |
| 05/26/23 | pdf | Added review of discharge instructions. |

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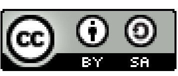
|---|---|---|



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# Protocol 4-083 - Chronic Gastrointestinal Disease Management

**CMH EMS & MIH Protocols**

| Condition GREEN: | All Clear Zone... This is the safety zone. |
|---|---|

**Indications**:

- None of the YELLOW or RED indications are present.

**What you can do**:

- Take your medications as ordered.
- Follow healthy eating habits.
- Keep all medical appointments.

**What your CHW might do**:

- Review health history and PCP care plan prior to visit.
- Answer any questions and address any concerns you have.
- Review any discharge instructions from any hospital, emergency room, and/or doctor visits.
- Review goals from previous visit:__________
- Assess adherence to care plan, including diet, exercise, medications, and keeping appointments.
- Review disease process and prevention measures with you including how and when to correctly take your medications.
- Education on healthy eating and living habits is to be expected for every encounter.
- Complete a History and Physical Exam.
- A complete Medications Reconciliation is to be expected at every encounter.
- Complete a Safety Assessment.
- Complete a Social Assessment.
- Facilitate a Telehealth visit, if scheduled.
- Follow any verbal orders as obtained via telehealth, phone call, or electronic messaging.
- Schedule follow-up appointment(s) as needed that might include, but not limited to: Primary Care Provider, Addiction Recovery, Behavioral Health, Dental Care, Dietician, Home Health, Home Medical Equipment, Hospice, Pharmacy Services, Therapy Services, Public Health, Wound Care
- Establish goals for next visit:__________

**What your CP might do**:

- Ensure completion of applicable CHW items above.
- Perform venous blood draw for the following test panel:
  - CBC
  - CMP

| Condition YELLOW: | **Warning Zone... This is the watch zone.** |
|---|---|
| | **Indications**:<br><br>• None of the RED indications are present.<br>• Presence of small amounts of blood in stool or emesis,<br>• You are having mild complaints of being unable to have a bowel movement,<br>• Nausea or vomiting,<br>• Other indication set by your doctor:____________________ |
| | **What you can do**:<br><br>• You may need an adjustment to your medications.<br>• Improve your eating habits.<br>• Increase your activity level.<br>• Call your CHW or CP:____________________<br>• Call your PCP:____________________<br>  ◦ If outside business hours, 24-hour triage nurse screening is available by calling your PCP's number. |
| | **What your CHW might do**:<br><br>• Ensure completion of applicable items in the GREEN zone above.<br><br>**What your CP might do**:<br><br>• Ensure completion of applicable CHW items above.<br>• Start an IV to provide fluids (NS or LR 1-2 L) for dehydration if you do not have CHF or renal failure.<br>• Refer to Protocol 2-990 - Vomiting to provide Zofran 4 mg ODT, Phenergan 12.5 mg IM, or Benadryl 25 mg IM.<br>• Refer to Protocol 2-660 - Pain Control. |

| Condition RED: | **Medical Alert Zone... This is the danger zone.** |
|---|---|
| | **Indications**:<br>• Systemic symptoms,<br>• Presence of large amounts of blood in stool or emesis,<br>• Lightheadedness or other symptoms of low blood pressure,<br>• Abnormal pain or tenderness,<br>• Altered level of consciousness,<br>• Fever, chills, diaphoresis, weakness, dizziness, or difficulty breathing,<br>• Other indication set by your doctor:____________________ |
| | **What you can do**:<br>• You need immediate evaluation by a medical professional.<br>• Call your CHW or CP:____________________<br>• Call your PCP:____________________<br>  ◦ If outside business hours, 24-hour triage nurse screening is available by calling your PCP's number.<br>• Call 9-1-1 |
| | **What your CHW might do**:<br>• Refer to Emergency Protocol 2-022 - Abdominal Pain as appropriate.<br>• Refer to Emergency Protocol 2-583 - Hypotension / Shock as appropriate.<br>• Ensure completion of applicable items in the YELLOW zone above.<br><br>**What your CP might do**:<br>• Ensure completion of applicable CHW items above.<br>• Assist you in the administration of your own prescribed medications. |

## Change Log:

| Date | Link to previous version | Description of change |
|---|---|---|
| 03/16/23 | | Added this section. |
| 04/28/23 | pdf | First draft using green, yellow, red format. |
| 05/26/23 | pdf | Added review of discharge instructions. Changed Zofran PO to ODT. |

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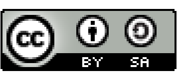
|---|---|---|



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# Protocol 4-125 - Chronic Heart Failure Management

**CMH EMS & MIH Protocols**

---

**Condition GREEN:**

**All Clear Zone... This is the safety zone.**

**Indications**:

- None of the YELLOW or RED indications are present.

**What you can do**:

- Weigh yourself in the morning before breakfast and write your weight down.
- Track your daily sodium intake.
- Take your medications as ordered.
- Follow healthy eating habits: low salt and low sodium foods.
- Balance activity and rest periods.
- Monitor for swelling in your feet, ankles, legs, and stomach.
- Keep all medical appointments.

**What your CHW might do**:

- Review health history and PCP care plan prior to visit.
- Answer any questions and address any concerns you have.
- Review any discharge instructions from any hospital, emergency room, and/or doctor visits.
- Review goals from previous visit:__________
- Assess adherence to care plan, including diet, exercise, medications, and keeping appointments.
- Review sodium intake log and weight log.
- Perform a 12-lead ECG.
- Review disease process and prevention measures with you including how and when to correctly take your medications.
- Education on heart disease is to be expected for every encounter specific to your diagnosis(es).
- Education on healthy eating and living habits is to be expected for every encounter.
- Specific education on diuretics as it relates to increasing weight gain and fatigue will be provided.
- Inspect and discuss CPAP equipment and usage.
- Complete a History and Physical Exam.
- A complete Medications Reconciliation is to be expected at every encounter.

- Complete a Safety Assessment.
- Complete a Social Assessment.
- Facilitate a Telehealth visit, if scheduled.
- Follow any verbal orders as obtained via telehealth, phone call, or electronic messaging.
- Schedule follow-up appointment(s) as needed that might include, but not limited to: Primary Care Provider, Addiction Recovery, Behavioral Health, Dental Care, Dietician, Home Health, Home Medical Equipment, Hospice, Pharmacy Services, Therapy Services, Public Health, Wound Care
- Establish goals for next visit:__________
-

**What your CP might do**:

- Ensure completion of applicable CHW items above.
- Perform venous blood draw for the following test panel:
  - BNP
  - BUN
  - CBC
  - CMP
  - Creatinine
  - Lipids
  - Troponin
- Perform heart Ultrasound.

---

**Condition YELLOW:**

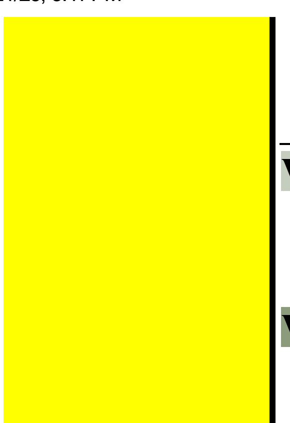
**Warning Zone... This is the watch zone.**

**Indications**:

- None of the RED indications are present.
- Weight gain of three (3) pounds or more in one day,
- Weight gain of five (5) pounds or more in one week,
- Increased swelling of your feet, ankles, legs, or stomach,
- Difficulty breathing when lying down or feel the need to sleep up in a chair,
- An uneasy feeling or you know something is not right,
- Fatigue or no energy,
- Dry hacking cough,
- Other indication set by your doctor:____________________

**What you can do**:

- You may need an adjustment to your medications.
- Improve your eating habits.
- Increase your activity level.
- Call your CHW or CP:____________________
- Call your PCP:____________________



  - If outside business hours, 24-hour triage nurse screening is available by calling your PCP's number.

**What your CHW might do**:

- Ensure completion of applicable items in the GREEN zone above.

**What your CP might do**:

- Ensure completion of applicable CHW items above.

| Condition RED: | **Medical Alert Zone... This is the danger zone.** |
|---|---|
| | **Indications**:<br><br>• Severe difficulty breathing,<br>• Unrelieved shortness of breath while sitting still,<br>• Chest pain,<br>• Altered mental status, confusion, or inability to think clearly,<br>• Dizziness,<br>• SpO2 less than 88%,<br>• Other indication set by your doctor:_____________________ |
| | **What you can do**:<br><br>• You need immediate evaluation by a medical professional.<br>• Call your CHW or CP:_____________________<br>• Call your PCP:_____________________<br>  ◦ If outside business hours, 24-hour triage nurse screening is available by calling your PCP's number.<br>• Call 9-1-1 |
| | **What your CHW might do**:<br><br>• Refer to Emergency Protocol 2-220 - Chest Pain / Suspected Cardiac Event as appropriate.<br>• Refer to Emergency Protocol 2-726 - Pulmonary Edema as appropriate.<br>• Refer to Emergency Protocol 2-770 - Respiratory Distress as appropriate.<br>• Ensure completion of applicable items in the YELLOW zone above.<br><br>**What your CP might do**:<br><br>• Ensure completion of applicable CHW items above.<br>• Provide CPAP through your home device, a disposable device, or Ventilator using CPAP mode with PSV (BiPAP).<br>• Administration of Nitroglycerine 0.4 mg SL (may repeat every 5 min). If more than three doses are required, transport to an Emergency Room is needed.<br>• Administration of Albuterol 2.5 mg Neb.<br>• Assist you in the administration of your own prescribed medications. |

## Change Log:

| Date | Link to previous version | Description of change |
|---|---|---|
| 03/16/23 | | Created this section. |
| 04/28/23 | pdf | First draft using green, yellow, red format. |
| 05/26/23 | pdf | Added review of discharge instructions. Added repeat Nitro with a max of three before ER visit. Nitro repeat and three max is per Dr. Butvilas on 5/22/23. |

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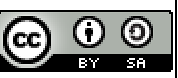
|---|---|---|


|  | Polk, Hickory, Cedar, & St Clair County EMS Protocols by Theron Becker is licensed under a Creative Commons Attribution-ShareAlike 4.0 International License. |
|---|---|

# Protocol 4-167 - Chronic Hypertension Management

**CMH EMS & MIH Protocols**

**Condition GREEN:**

**All Clear Zone... This is the safety zone.**

**Indications**:

- None of the YELLOW or RED indications are present.

**What you can do**:

- Track your daily sodium intake.
- Take your medications as ordered.
- Follow healthy eating habits: low salt and low sodium foods.
- Balance activity and rest periods.
- Keep all medical appointments.

**What your CHW might do**:

- Review health history and PCP care plan prior to visit.
- Answer any questions and address any concerns you have.
- Review any discharge instructions from any hospital, emergency room, and/or doctor visits.
- Review goals from previous visit:__________
- Assess adherence to care plan, including diet, exercise, medications, and keeping appointments.
- Review sodium intake log and weight log.
- Perform a 12-lead ECG.
- Review disease process and prevention measures with you including how and when to correctly take your medications.
- Education on hypertension is to be expected for every encounter specific to your diagnosis(es).
- Education on healthy eating and living habits is to be expected for every encounter.
- Specific education on ACE inhibitors, beta blockers, and diuretics as it relates to hypertention and fatigue will be provided.
- Complete a History and Physical Exam.
- A complete Medications Reconciliation is to be expected at every encounter.
- Complete a Safety Assessment.
- Complete a Social Assessment.
- Facilitate a Telehealth visit, if scheduled.

- Follow any verbal orders as obtained via telehealth, phone call, or electronic messaging.
- Schedule follow-up appointment(s) as needed that might include, but not limited to: Primary Care Provider, Addiction Recovery, Behavioral Health, Dental Care, Dietician, Home Health, Home Medical Equipment, Hospice, Pharmacy Services, Therapy Services, Public Health, Wound Care
- Establish goals for next visit:__________
-

**What your CP might do**:

- Ensure completion of applicable CHW items above.
- Perform venous blood draw for the following test panel:
  - BNP
  - BUN
  - CBC
  - CMP
  - Creatinine
  - Lipids
  - Troponin
- Perform heart Ultrasound.

**Condition YELLOW:**

**Warning Zone... This is the watch zone.**

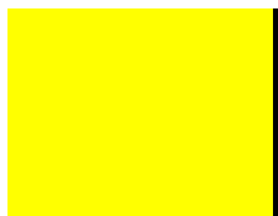
**Indications**:

- None of the RED indications are present.
- Blood pressure greater than 140/90 but less than 220/115 (either number)
- An uneasy feeling or you know something is not right,
- Fatigue or no energy,
- Other indication set by your doctor:____________________

**What you can do**:

- You may need an adjustment to your medications.
- Improve your eating habits.
- Increase your activity level.
- Call your CHW or CP:____________________
- Call your PCP:____________________
  - If outside business hours, 24-hour triage nurse screening is available by calling your PCP's number.

**What your CHW might do**:



- Ensure completion of applicable items in the GREEN zone above.

**What your CP might do**:

- Ensure completion of applicable CHW items above.

| Condition RED: | **Medical Alert Zone... This is the danger zone.** |
|---|---|
| | **Indications**:<br><br>• Chest pain,<br>• Severe difficulty breathing,<br>• Unrelieved shortness of breath while sitting still,<br>• Altered mental status, confusion, or inability to think clearly,<br>• Dizziness,<br>• Blood pressure greater than 220/115 (either number)<br>• SpO2 less than 88%,<br>• Other indication set by your doctor:____________________ |
| | **What you can do**:<br><br>• You need immediate evaluation by a medical professional.<br>• Call your CHW or CP:____________________<br>• Call your PCP:____________________<br>  ◦ If outside business hours, 24-hour triage nurse screening is available by calling your PCP's number.<br>• Call 9-1-1 |
| | **What your CHW might do**:<br><br>• Refer to Emergency Protocol 2-220 - Chest Pain / Suspected Cardiac Event as appropriate.<br>• Refer to Emergency Protocol 2-528 - Hypertension as appropriate.<br>• Ensure completion of applicable items in the YELLOW zone above.<br><br>**What your CP might do**:<br><br>• Ensure completion of applicable CHW items above.<br>• Assist you in the administration of your own prescribed medications. |

# Change Log:

| Date | Link to previous version | Description of change |
| --- | --- | --- |
| 03/16/23 | | Created this section. |
| 05/11/23 | pdf | First draft of MIH protocol. |
| 05/26/23 | pdf | Added review of discharge instructions. |

Return to Protocols Table of Contents.

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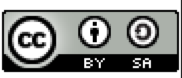
|---|---|---|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# Protocol 4-208 - Chronic Kidney Disease Management

**CMH EMS & MIH Protocols**

**Condition GREEN:**

**All Clear Zone... This is the safety zone.**

**Indications**:

- None of the YELLOW or RED indications are present.

**What you can do**:

- Maintain a record of your fluid intake and output.
- Take your medications as ordered.
- Follow healthy eating habits.
- Monitor potassium, protein, and salt intake.
- Eat small, frequent meals throughout the day.
- Record your weight daily.
- Balance activity and rest periods.
- Keep all medical appointments.

**What your CHW might do**:

- Review health history and PCP care plan prior to visit.
- Answer any questions and address any concerns you have.
- Review any discharge instructions from any hospital, emergency room, and/or doctor visits.
- Review goals from previous visit:__________
- Assess adherence to care plan, including diet, exercise, medications, and keeping appointments.
- Review disease process and prevention measures with you including how and when to correctly take your medications.
- Education on kidney disease is to be expected for every encounter specific to your diagnosis(es).
- Education on healthy eating and living habits is to be expected for every encounter.
- Specific education on medications as they relates to kidney disease will be provided.
- Review of recent dialysis appointments, transportation to dialysis, and urinary output.
- Assessment of your shunt or port location.
- Complete a History and Physical Exam.

- A complete Medications Reconciliation is to be expected at every encounter.
- Complete a Safety Assessment.
- Complete a Social Assessment.
- Facilitate a Telehealth visit, if scheduled.
- Follow any verbal orders as obtained via telehealth, phone call, or electronic messaging.
- Schedule follow-up appointment(s) as needed that might include, but not limited to: Primary Care Provider, Addiction Recovery, Behavioral Health, Dental Care, Dietician, Home Health, Home Medical Equipment, Hospice, Pharmacy Services, Therapy Services, Public Health, Wound Care
- Establish goals for next visit:__________

**What your CP might do**:

- Ensure completion of applicable CHW items above.
- Perform venous blood draw for the following test panel:
  - BMP
  - GFR
  - Magnesium
  - Phosphorus

**Condition YELLOW:**

**Warning Zone... This is the watch zone.**

**Indications**:

- None of the RED indications are present.
- You missed a dialysis appointment,
- Mild shortness of breath,
- Decreased urine output,
- Blood pressure higher or lower than normal,
- Blood in your urine,
- Extra swelling,
- Nausea or vomiting,
- Poor appetite, headache, or muscle aches,
- An uneasy feeling or you know something is not right,
- Fatigue or no energy,
- Other indication set by your doctor:____________________

**What you can do**:

- You may need an adjustment to your medications.
- Improve your eating habits.
- Increase your activity level.
- Call your CHW or CP:____________________
- Call your PCP:____________________
  - If outside business hours, 24-hour triage nurse screening is available by calling your PCP's number.

**What your CHW might do**:

- Ensure completion of applicable items in the GREEN zone above.

**What your CP might do**:

- Ensure completion of applicable CHW items above.

<table>
<tr><td rowspan="5">Condition RED:</td><td>Medical Alert Zone... This is the danger zone.</td></tr>
<tr><td>Indications:<br><br>• Altered mental status, confusion, or inability to think clearly,<br>• Dizziness,<br>• Shortness of breath,<br>• Fast heart rate (palpitations),<br>• Trouble staying awake,<br>• Generalized pain,<br>• Fever or chills,<br>• Unable to urinate at all.<br>• Missed more than one dialysis appointment in a row,<br>• Blood pressure greater than 220/115 (either number),<br>• Other indication set by your doctor:____________________</td></tr>
<tr><td>What you can do:<br><br>• You need immediate evaluation by a medical professional.<br>• Call your CHW or CP:____________________<br>• Call your PCP:____________________<br>    ◦ If outside business hours, 24-hour triage nurse screening is available by calling your PCP's number.<br>• Call 9-1-1</td></tr>
<tr><td>What your CHW might do:<br><br>• Refer to Emergency Protocol 2-077 - Altered Mental Status as appropriate.<br>• Refer to Emergency Protocol 2-528 - Hypertension as appropriate.<br>• Ensure completion of applicable items in the YELLOW zone above.<br><br>What your CP might do:<br><br>• Ensure completion of applicable CHW items above.<br>• Assist you in the administration of your own prescribed medications.</td></tr>
</table>

## Change Log:

| Date | Link to previous version | Description of change |
|---|---|---|
| 03/16/23 | | Created this section. |
| 05/11/23 | | First draft with Green, Yellow, and Red categories. |
| 05/26/23 | pdf | Added review of discharge instructions. |

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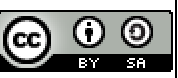
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# Protocol 4-250 - Chronic Mental Health Management

**CMH EMS & MIH Protocols**

**Condition GREEN:**

**All Clear Zone... This is the safety zone.**

**Indications**:

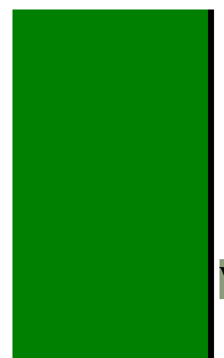
- None of the YELLOW or RED indications are present.

**What you can do**:

- Take your medications as ordered.
- Follow healthy eating habits.
- Balance activity and rest periods.
- Keep all medical appointments.

**What your CHW might do**:

- Review health history and PCP care plan prior to visit.
- Answer any questions and address any concerns you have.
- Review any discharge instructions from any hospital, emergency room, and/or doctor visits.
- Review goals from previous visit:__________
- Assess adherence to care plan, including diet, exercise, medications, and keeping appointments.
- Review disease process and prevention measures with you including how and when to correctly take your medications.
- Education on healthy eating and living habits is to be expected for every encounter.
- Specific education on medications as they relates to mental health will be provided.
- Review of recent appointments and transportation to appointments.
- Complete an assessment of the possibility for domestic violence, child abuse, or elder abuse.
- Complete a History and Physical Exam.
- A complete Medications Reconciliation is to be expected at every encounter.
- Complete a Safety Assessment.
- Complete a Social Assessment.
- Facilitate a Telehealth visit, if scheduled.
- Follow any verbal orders as obtained via telehealth, phone call, or electronic messaging.



- Schedule follow-up appointment(s) as needed that might include, but not limited to: Primary Care Provider, Addiction Recovery, Behavioral Health, Dental Care, Dietician, Home Health, Home Medical Equipment, Hospice, Pharmacy Services, Therapy Services, Public Health, Wound Care
- Establish goals for next visit:__________

**What your CP might do**:

- Ensure completion of applicable CHW items above.

| Condition YELLOW: | **Warning Zone... This is the watch zone.** |
|---|---|
| | **Indications**:<br><br>• None of the RED indications are present.<br>• You missed a mental health appointment,<br>• Mild anxiety,<br>• Minor increase in depression,<br>• Changes in appetite,<br>• An uneasy feeling or you know something is not right,<br>• Fatigue or no energy,<br>• Other indication set by your doctor:____________________ |
| | **What you can do**:<br><br>• You may need an adjustment to your medications.<br>• Improve your eating habits.<br>• Increase your activity level.<br>• Call your CHW or CP:____________________<br>• Call your PCP:____________________<br>    ◦ If outside business hours, 24-hour triage nurse screening is available by calling your PCP's number. |
| | **What your CHW might do**:<br><br>• Ensure completion of applicable items in the GREEN zone above.<br>• Complete a suicide risk assessment.<br><br>**What your CP might do**:<br><br>• Ensure completion of applicable CHW items above. |

| Condition RED: | **Medical Alert Zone... This is the danger zone.** |
|---|---|
| | **Indications**:<br>• Altered mental status, confusion, or inability to think clearly,<br>• Thoughts of harming yourself, harming others, or suicide,<br>• Recent triggering event occurred,<br>• Hallucinations,<br>• Bizarre bahavior,<br>• Violence,<br>• Intoxication or substance abuse,<br>• Missed more than one appointment in a row,<br>• Other indication set by your doctor:____________________ |
| | **What you can do**:<br>• You need immediate evaluation by a medical professional.<br>• Call your CHW or CP:____________________<br>• Call your PCP:____________________<br>  ◦ If outside business hours, 24-hour triage nurse screening is available by calling your PCP's number.<br>• Call 9-1-1 |
| | **What your CHW might do**:<br>• Refer to Emergency Protocol 2-110 - Behavioral as appropriate.<br>• Ensure completion of applicable items in the YELLOW zone above.<br><br>**What your CP might do**:<br>• Ensure completion of applicable CHW items above.<br>• Assist you in the administration of your own prescribed medications. |

## Change Log:

| Date | Link to previous version | Description of change |
|---|---|---|
| 03/16/23 | | Created this section. |
| 05/11/23 | pdf | First draft with green, yellow, red sections. |
| 05/26/23 | pdf | Added review of discharge instructions. |

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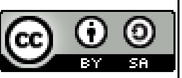
| CMH Pre-Hospital Services Mission: "*Provide safe, exceptional, and compassionate care to our communities with an emphasis on highly trained and empowered staff*." | CMH Mobile Integrated Healthcare Mission: "*Provide exceptional, compassionate, and patient-centered care by a mobile collaborative team to improve patient experience, improve quality outcomes, and reduce healthcare costs*." | |
|---|---|---|

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# Protocol 4-291 - Chronic Neurological Disease Management (Including Stroke)

**CMH EMS & MIH Protocols**

**Condition GREEN:**

**All Clear Zone... This is the safety zone.**

**Indications**:

- None of the YELLOW or RED indications are present.

**What you can do**:

- Take your medications as ordered.
- Follow healthy eating habits.
- Balance activity and rest periods.
- Keep all medical appointments.

**What your CHW might do**:

- Review health history and PCP care plan prior to visit.
- Answer any questions and address any concerns you have.
- Review any discharge instructions from any hospital, emergency room, and/or doctor visits.
- Review goals from previous visit:__________
- Assess adherence to care plan, including diet, exercise, medications, and keeping appointments.
- Review disease process and prevention measures with you including how and when to correctly take your medications.
- Education on stroke signs, symptoms, and prevention.
- Education on healthy eating and living habits is to be expected for every encounter.
- Complete a History and Physical Exam.
- A complete Medications Reconciliation is to be expected at every encounter.
- Complete a Safety Assessment.
- Complete a Social Assessment.
- Facilitate a Telehealth visit, if scheduled.
- Assess for the need for rehabilitation services.
- Follow any verbal orders as obtained via telehealth, phone call, or electronic messaging.
- Schedule follow-up appointment(s) as needed that might include, but not limited to: Primary Care Provider, Addiction Recovery, Behavioral Health,

Dental Care, Dietician, Home Health, Home Medical Equipment, Hospice, Pharmacy Services, Therapy Services, Public Health, Wound Care

- Establish goals for next visit:__________

**What your CP might do**:

- Ensure completion of applicable CHW items above.

| Condition YELLOW: | **Warning Zone... This is the watch zone.** |
| --- | --- |
| | **Indications**:<br>• None of the RED indications are present.<br>• An uneasy feeling or you know something is not right,<br>• Fatigue or no energy,<br>• Other indication set by your doctor:____________________ |
| | **What you can do**:<br>• You may need an adjustment to your medications.<br>• Improve your eating habits.<br>• Increase your activity level.<br>• Call your CHW or CP:____________________<br>• Call your PCP:____________________<br>    ◦ If outside business hours, 24-hour triage nurse screening is available by calling your PCP's number. |
| | **What your CHW might do**:<br>• Ensure completion of applicable items in the GREEN zone above.<br>**What your CP might do**:<br>• Ensure completion of applicable CHW items above. |

<table>
<tr><td rowspan="4">Condition RED:</td><td>Medical Alert Zone... This is the danger zone.</td></tr>
<tr><td>Indications:<br><ul><li>Altered mental status, confusion, or inability to think clearly,</li><li>Sudden increased weakness,</li><li>Sudden difficulty speaking,</li><li>Sudden visual changes,</li><li>Dizziness,</li><li>Seizures,</li><li>Other indication set by your doctor:____________________</li></ul></td></tr>
<tr><td>What you can do:<br><ul><li>You need immediate evaluation by a medical professional.</li><li>Call your CHW or CP:____________________</li><li>Call your PCP:____________________<ul><li>If outside business hours, 24-hour triage nurse screening is available by calling your PCP's number.</li></ul></li><li>Call 9-1-1</li></ul></td></tr>
<tr><td>What your CHW might do:<br><ul><li>Refer to Emergency Protocol 2-077 - Altered Mental Status as appropriate.</li><li>Refer to Emergency Protocol 2-880 - Suspected Stroke as appropriate.</li><li>Ensure completion of applicable items in the YELLOW zone above.</li></ul>What your CP might do:<br><ul><li>Ensure completion of applicable CHW items above.</li><li>Assist you in the administration of your own prescribed medications.</li></ul></td></tr>
</table>

# Change Log:

| Date | Link to previous version | Description of change |
|---|---|---|
| 03/16/23 | | Created this section. |
| 05/11/23 | pdf | First draft with green, yellow, and red sections. |
| 05/12/23 | pdf | Added stroke and will remove 4-583 protocol. |
| 05/26/23 | pdf | Added review of discharge instructions. |

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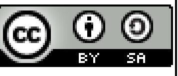
|---|---|---|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# Protocol 4-333 - Chronic OB/GYN Management (Including New Born Management)

**CMH EMS & MIH Protocols**

**Condition GREEN:**

**All Clear Zone... This is the safety zone.**

**Indications**:

- None of the YELLOW or RED indications are present.

**What you can do**:

- Take your medications as ordered.
- Follow healthy eating habits.
- Balance activity and rest periods.
- Keep all medical appointments.

**What your CHW might do**:

- Review health history and PCP care plan prior to visit.
- Answer any questions and address any concerns you have.
- Review any discharge instructions from any hospital, emergency room, and/or doctor visits.
- Review goals from previous visit:__________
- Assess adherence to care plan, including diet, exercise, medications, and keeping appointments.
- Review delivery complications and history.
- Evaluated for postpartum depression and provide education on expected warning signs and symptoms.
- Perform a general newborn assessment that includes:
  - Weight,
  - Oxygen saturation,
  - Vital signs,
  - Heart tones,
  - Lung sounds,
  - Physical exam
- Review prevention measures with you including how and when to correctly take your medications.
- Education on healthy eating and living habits is to be expected for every encounter.

- Education on baby vaccination schedule.
- Education on calorie count and food intake recommendations for both mother and baby.
- Complete a History and Physical Exam.
- A complete Medications Reconciliation is to be expected at every encounter.
- Complete a Safety Assessment.
- Complete a Social Assessment.
- Facilitate a Telehealth visit, if scheduled.
- Follow any verbal orders as obtained via telehealth, phone call, or electronic messaging.
- Schedule follow-up appointment(s) as needed that might include, but not limited to: Primary Care Provider, Addiction Recovery, Behavioral Health, Dental Care, Dietician, Home Health, Home Medical Equipment, Hospice, Pharmacy Services, Therapy Services, Public Health, Wound Care
- Establish goals for next visit:__________

**What your CP might do**:

- Ensure completion of applicable CHW items above.

**Condition YELLOW:**

**Warning Zone... This is the watch zone.**

**Indications**:

- None of the RED indications are present.
- An uneasy feeling or you know something is not right,
- Changes in the baby's feeding habits or diaper conditions (including diarrhea),
- Baby has lost weight,
- Other indication set by your doctor:____________________

**What you can do**:

- You may need an adjustment to your medications.
- Improve your eating habits.
- Increase your activity level.
- Provide referral to a lactation counselor.
- Call your CHW or CP:____________________
- Call your PCP:____________________
  - If outside business hours, 24-hour triage nurse screening is available by calling your PCP's number.

**What your CHW might do**:

- Ensure completion of applicable items in the GREEN zone above.

**What your CP might do**:

- Ensure completion of applicable CHW items above.

<table>
<tr><td rowspan="4">Condition RED:</td><td>Medical Alert Zone... This is the danger zone.</td></tr>
<tr><td>Indications:<ul><li>Baby has continued to lose weight,</li><li>Baby has a fever,</li><li>Other indication set by your doctor:____________________</li></ul></td></tr>
<tr><td>What you can do:<ul><li>You need immediate evaluation by a medical professional.</li><li>Call your CHW or CP:____________________</li><li>Call your PCP:____________________<ul><li>If outside business hours, 24-hour triage nurse screening is available by calling your PCP's number.</li></ul></li><li>Call 9-1-1</li></ul></td></tr>
<tr><td>What your CHW might do:<ul><li>Refer to Emergency Protocol 2-440 - Fever/Sepsis as appropriate.</li><li>Refer to Emergency Protocol 2-583 - Hypotension / Shock as appropriate.</li><li>Refer to Emergency Protocol 2-616 - Newly Born as appropriate.</li><li>Refer to Emergency Protocol 2-770 - Respiratory Distress as appropriate.</li><li>Ensure completion of applicable items in the YELLOW zone above.</li></ul>What your CP might do:<ul><li>Ensure completion of applicable CHW items above.</li><li>Assist you in the administration of your own prescribed medications.</li></ul></td></tr>
</table>

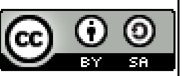
# Change Log:

| Date | Link to previous version | Description of change |
|---|---|---|
| 03/16/23 | | Created this section. |
| 05/11/23 | pdf | First draft with green, yellow, and red sections. |
| 05/26/23 | pdf | Added review of discharge instructions. |

Return to Protocols Table of Contents.

Search protocols: Search

| CMH Pre-Hospital Services Mission: "*Provide safe, exceptional, and compassionate care to our communities with an emphasis on highly trained and empowered staff*." | CMH Mobile Integrated Healthcare Mission: "*Provide exceptional, compassionate, and patient-centered care by a mobile collaborative team to improve patient experience, improve quality outcomes, and reduce healthcare costs*." | |
|---|---|---|



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# Protocol 4-375 - Chronic Orthopedic Management

**CMH EMS & MIH Protocols**

**Condition GREEN:**

**All Clear Zone... This is the safety zone.**

**Indications**:

- None of the YELLOW or RED indications are present.

**What you can do**:

- Take your medications as ordered.
- Follow healthy eating habits.
- Balance activity and rest periods.
- Keep all medical appointments.

**What your CHW might do**:

- Review health history and PCP care plan prior to visit.
- Answer any questions and address any concerns you have.
- Review any discharge instructions from any hospital, emergency room, and/or doctor visits.
- Review goals from previous visit:__________
- Assess adherence to care plan, including diet, exercise, medications, and keeping appointments.
- Review injury prevention measures with you including how and when to correctly take your medications.
- Inspection of the surgery site.
- Education on surgery site cleaning.
- Education on healthy eating and living habits is to be expected for every encounter.
- Complete a History and Physical Exam.
- A complete Medications Reconciliation is to be expected at every encounter.
- Complete a Safety Assessment.
- Complete a Social Assessment.
- Facilitate a Telehealth visit, if scheduled.
- Follow any verbal orders as obtained via telehealth, phone call, or electronic messaging.
- Schedule follow-up appointment(s) as needed that might include, but not limited to: Primary Care Provider, Addiction Recovery, Behavioral Health,

Dental Care, Dietician, Home Health, Home Medical Equipment, Hospice, Pharmacy Services, Therapy Services, Public Health, Wound Care
- Establish goals for next visit:__________

**What your CP might do**:

- Ensure completion of applicable CHW items above.

| Condition YELLOW: | **Warning Zone... This is the watch zone.** |
|---|---|
| | **Indications**:<br><br>• None of the RED indications are present.<br>• Increased redness or swelling of your surgery site,<br>• Increased pain,<br>• An uneasy feeling or you know something is not right,<br>• Other indication set by your doctor:_____________________ |
| | **What you can do**:<br><br>• You may need an adjustment to your medications.<br>• Improve your eating habits.<br>• Increase your activity level.<br>• Call your CHW or CP:_____________________<br>• Call your PCP:_____________________<br>  ◦ If outside business hours, 24-hour triage nurse screening is available by calling your PCP's number. |
| | **What your CHW might do**:<br><br>• Ensure completion of applicable items in the GREEN zone above.<br><br>**What your CP might do**:<br><br>• Ensure completion of applicable CHW items above. |

<table>
<tr><td rowspan="4">Condition RED:</td><td>Medical Alert Zone... This is the danger zone.</td></tr>
<tr><td>Indications:<ul><li>Altered mental status, confusion, or inability to think clearly,</li><li>Fever,</li><li>Loss of sensation or perfusion,</li><li>Severe pain,</li><li>Other indication set by your doctor:____________________</li></ul></td></tr>
<tr><td>What you can do:<ul><li>You need immediate evaluation by a medical professional.</li><li>Call your CHW or CP:____________________</li><li>Call your PCP:____________________<ul><li>If outside business hours, 24-hour triage nurse screening is available by calling your PCP's number.</li></ul></li><li>Call 9-1-1</li></ul></td></tr>
<tr><td>What your CHW might do:<ul><li>Refer to Emergency Protocol 2-440 - Fever / Sepsis as appropriate.</li><li>Refer to Emergency Protocol 2-660 - Pain Control as appropriate.</li><li>Ensure completion of applicable items in the YELLOW zone above.</li></ul>What your CP might do:<ul><li>Ensure completion of applicable CHW items above.</li><li>Assist you in the administration of your own prescribed medications.</li></ul></td></tr>
</table>

# Change Log:

| Date | Link to previous version | Description of change |
|---|---|---|
| 03/16/23 | | Created that section. |
| 05/11/23 | pdf | First draft of green, yellow, and red format. |
| 05/26/23 | pdf | Added review of discharge instructions. |

Return to Protocols Table of Contents.

Search protocols: Search

| CMH Pre-Hospital Services Mission: "*Provide safe, exceptional, and compassionate care to our communities with an emphasis on highly trained and empowered staff*." | CMH Mobile Integrated Healthcare Mission: "*Provide exceptional, compassionate, and patient-centered care by a mobile collaborative team to improve patient experience, improve quality outcomes, and reduce healthcare costs*." | |
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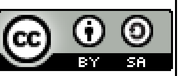


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# Protocol 4-416 - Chronic Pain Management

**CMH EMS & MIH Protocols**

| Condition GREEN: | All Clear Zone... This is the safety zone. |
|---|---|
| | **Indications**:<br>• None of the YELLOW or RED indications are present. |
| | **What you can do**:<br>• Take your medications as ordered.<br>• Follow healthy eating habits.<br>• Balance activity and rest periods.<br>• Keep all medical appointments. |
| | **What your CHW might do**:<br>• Review health history and PCP care plan prior to visit.<br>• Answer any questions and address any concerns you have.<br>• Review any discharge instructions from any hospital, emergency room, and/or doctor visits.<br>• Review goals from previous visit:__________<br>• Assess adherence to care plan, including diet, exercise, medications, and keeping appointments.<br>• Review disease process and prevention measures with you including how and when to correctly take your medications.<br>• Education on healthy eating and living habits is to be expected for every encounter.<br>• Review of recent appointments and transportation to appointments.<br>• Complete a History and Physical Exam.<br>• A complete Medications Reconciliation is to be expected at every encounter.<br>• Complete a Safety Assessment.<br>• Complete a Social Assessment.<br>• Facilitate a Telehealth visit, if scheduled.<br>• Follow any verbal orders as obtained via telehealth, phone call, or electronic messaging.<br>• Schedule follow-up appointment(s) as needed that might include, but not limited to: Primary Care Provider, Addiction Recovery, Behavioral Health, Dental Care, Dietician, Home Health, Home Medical Equipment, Hospice, Pharmacy Services, Therapy Services, Public Health, Wound Care<br>• Establish goals for next visit:__________ |

**What your CP might do**:

- Ensure completion of applicable CHW items above.

| Condition YELLOW: | **Warning Zone... This is the watch zone.** |
|---|---|
| | **Indications**:<br>• None of the RED indications are present.<br>• Increase of pain that is not relieved with current medications and treatments,<br>• Other indication set by your doctor:____________________ |
| | **What you can do**:<br>• You may need an adjustment to your medications.<br>• Improve your eating habits.<br>• Increase your activity level.<br>• Call your CHW or CP:____________________<br>• Call your PCP:____________________<br>    ◦ If outside business hours, 24-hour triage nurse screening is available by calling your PCP's number. |
| | **What your CHW might do**:<br>• Ensure completion of applicable items in the GREEN zone above.<br>• Complete a suicide risk assessment.<br><br>**What your CP might do**:<br>• Ensure completion of applicable CHW items above. |

| Condition RED: | **Medical Alert Zone... This is the danger zone.** |
|---|---|
| | **Indications**:<br>• Altered mental status, confusion, or inability to think clearly,<br>• Difficulty breathing,<br>• Sudden severe pain,<br>• Other indication set by your doctor:____________________ |
| | **What you can do**:<br>• You need immediate evaluation by a medical professional.<br>• Call your CHW or CP:____________________<br>• Call your PCP:____________________<br>  ◦ If outside business hours, 24-hour triage nurse screening is available by calling your PCP's number.<br>• Call 9-1-1 |
| | **What your CHW might do**:<br>• Refer to Emergency Protocol 2-660 - Pain Control as appropriate.<br>• Ensure completion of applicable items in the YELLOW zone above.<br><br>**What your CP might do**:<br>• Ensure completion of applicable CHW items above.<br>• Assist you in the administration of your own prescribed medications.<br>• **Contraindications for home pain treatment**:<br>  ◦ Patient called 9-1-1 or requested an ambulance.<br>  ◦ Sudden onset of pain.<br>  ◦ Atypical presentation from previous pain episodes.<br>  ◦ Fever.<br>  ◦ Neck stiffness.<br>  ◦ Atypical weakness.<br>  ◦ Dizziness or altered mental status.<br>  ◦ No prior diagnosis to explain the pain.<br>  ◦ Pediatric patient.<br>• **If no contraindications are present**:<br>  ◦ Consider Oxygen 2-4 lpm NC.<br>  ◦ Consider NS/LR 1-2 L IV.<br>  ◦ Consider Acetaminophen 650 mg PO OR Ibuprofen 200 mg PO OR Toradol 15 mg IM.<br>  ◦ Consider Benadryl 50 mg PO OR Phenergan 25 mg IM. |

## Change Log:

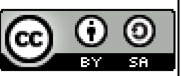
| Date | Link to previous version | Description of change |
|---|---|---|
| 03/16/23 | | Created this section. |
| 05/11/23 | pdf | First draft with green, yellow, and red sections. |
| 05/25/23 | pdf | Moved the community paramedic pain treatments from protocol 2-660. |

Return to Protocols Table of Contents.

Search protocols: Search

| CMH Pre-Hospital Services Mission: "*Provide safe, exceptional, and compassionate care to our communities with an emphasis on highly trained and empowered staff*." | CMH Mobile Integrated Healthcare Mission: "*Provide exceptional, compassionate, and patient-centered care by a mobile collaborative team to improve patient experience, improve quality outcomes, and reduce healthcare costs*." | |
|---|---|---|



|  | Polk, Hickory, Cedar, & St Clair County EMS Protocols by Theron Becker is licensed under a Creative Commons Attribution-ShareAlike 4.0 International License. |
|---|---|

# Protocol 4-458 - Chronic Respiratory Disease Management (Including Asthma, COPD, Pneumonia, and Sleep Apnea)

**CMH EMS & MIH Protocols**

**Condition GREEN:**

**All Clear Zone... This is the safety zone.**

**Indications**:

- None of the YELLOW or RED indications are present.

**What you can do**:

- Take your medications as ordered.
- Continue to practice deep breathing and cough techniques.
- Record the frequency of short-acting medications (i.e. rescue inhalers) must be used.
- Track when exacerbations occur as related to possible triggers (i.e. illnesses, allergens, exercise, cold air, or hot air, smoke, aerosols, or chemical irritants).
- Stop smoking and limit your exposure to others smoking.
- Drink plenty of fluids.
- Follow healthy eating habits.
- Balance activity and rest periods.
- Keep all medical appointments.

**What your CHW might do**:

- Review health history and PCP care plan prior to visit.
- Answer any questions and address any concerns you have.
- Review any discharge instructions from any hospital, emergency room, and/or doctor visits.
- Review goals from previous visit:__________
- Assess adherence to care plan, including diet, exercise, medications, and keeping appointments.
- Perform an assessment using a Peak Flow Meter.
- Review disease process and prevention measures with you including how and when to correctly take your medications.
- Education on your sepecific respiratory disease is to be expected for every encounter specific to your diagnosis(es).
- Education on healthy eating and living habits is to be expected for every encounter.

- Specific education on medications as they relates to your specific respiratory disease will be provided.
- Discuss smoking cessation.
- Discuss sleeping habits and waking periods.
- Assessment of your home medical equipment along with any needed education.
- Assess the environment for exacerbation triggers.
- Complete a History and Physical Exam.
- A complete Medications Reconciliation is to be expected at every encounter.
- Complete a Safety Assessment.
- Complete a Social Assessment.
- Facilitate a Telehealth visit, if scheduled.
- Follow any verbal orders as obtained via telehealth, phone call, or electronic messaging.
- Schedule follow-up appointment(s) as needed that might include, but not limited to: Primary Care Provider, Addiction Recovery, Behavioral Health, Dental Care, Dietician, Home Health, Home Medical Equipment, Hospice, Pharmacy Services, Therapy Services, Public Health, Wound Care
- Establish goals for next visit:__________

**What your CP might do**:

- Ensure completion of applicable CHW items above.
- Perform venous blood draw for the following test panel:
  - VBG

**Condition YELLOW:**

**Warning Zone... This is the watch zone.**

**Indications**:

- None of the RED indications are present.
- Increased shortness of breath,
- Increased coughing,
- You begin coughing up blood- or rust-colored mucus,
- Chest pain that gets worse when you cough,
- Fever or chills,
- Loss of appetite, nausea, or vomiting,
- An uneasy feeling or you know something is not right,
- Increased fatigue or no energy,
- Increased reliance on rescue inhalers,
- SpO2 less than 95% while on Oxygen,
- Other indication set by your doctor:____________________

**What you can do**:

- You may need an adjustment to your medications.
- Improve your eating habits.
- Increase your activity level.

- Call your CHW or CP:____________________
- Call your PCP:____________________
  - If outside business hours, 24-hour triage nurse screening is available by calling your PCP's number.

**What your CHW might do**:

- Ensure completion of applicable items in the GREEN zone above.

**What your CP might do**:

- Ensure completion of applicable CHW items above.

**Condition RED:**

**Medical Alert Zone... This is the danger zone.**

**Indications**:

- Altered mental status, confusion, or inability to think clearly,
- Dizziness,
- Reduced urination or not able to urinate,
- Your heart rate is greater than 100,
- Severe shortness of breath,
- SpO2 less than 88% while on Oxygen,
- Lips or fingers are turning grey or blue,
- You have been in the YELLOW Zone for more than 24 hours without getting better,
- Other indication set by your doctor:____________________

**What you can do**:

- You need immediate evaluation by a medical professional.
- Call your CHW or CP:____________________
- Call your PCP:____________________
  - If outside business hours, 24-hour triage nurse screening is available by calling your PCP's number.
- Call 9-1-1

**What your CHW might do**:

- Refer to Emergency Protocol 2-770 - Respiratory Distress as appropriate.
- Ensure completion of applicable items in the YELLOW zone above.

**What your CP might do**:

- Ensure completion of applicable CHW items above.
- Assist you in the administration of your own prescribed medications.
- Consider Albuterol 2.5 mg in NS 3 ml Nebulized.
- Consider Duoneb 3 ml Nebulized (max 1 dose).
- Transportation to an Emergency Room may be required if any of the following are present:
  - You called 9-1-1 or requested an ambulance.
  - Sudden onset of respiratory distress.
  - Atypical presentation from previous respiratory distress episodes.
  - Fever.
  - Atypical weakness.
  - Dizziness or altered mental status.
  - No prior diagnosis to explain the respiratory distress.

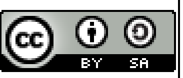
## Change Log:

| Date | Link to previous version | Description of change |
|---|---|---|
| 03/16/23 | | Created this section. |
| 05/11/23 | pdf | First draft using green, yellow, and red sections. |
| 05/26/23 | pdf | Added review of discharge instructions. Added CP content from protocol 2-770. Removed Xopenex per Dr. Butvilas on 5/22/23. |

Return to Protocols Table of Contents.

Search protocols: Search

| CMH Pre-Hospital Services Mission: "*Provide safe, exceptional, and compassionate care to our communities with an emphasis on highly trained and empowered staff*." | CMH Mobile Integrated Healthcare Mission: "*Provide exceptional, compassionate, and patient-centered care by a mobile collaborative team to improve patient experience, improve quality outcomes, and reduce healthcare costs*." | |
|---|---|---|

|  | Polk, Hickory, Cedar, & St Clair County EMS Protocols by Theron Becker is licensed under a Creative Commons Attribution-ShareAlike 4.0 International License. |
|---|---|

# Protocol 4-500 - Chronic Sepsis Management

**CMH EMS & MIH Protocols**

**Condition GREEN:**

**All Clear Zone... This is the safety zone.**

**Indications**:

- None of the YELLOW or RED indications are present.

**What you can do**:

- Take your medications as ordered.
- Follow healthy eating habits.
- Drink enough fluids to keep your urine light yellow in color.
- Get plenty of rest while you are recovering. Try to get at least seven (7) to nine (9) hours of sleep each night.
- Balance activity and rest periods.
- Perform hand hygiene before and after eating, restroom activities, changing dressings, or changing catheters.
- Keep wounds and surgical sites clean until healed.
- Keep your living environment and home clean.
- Keep all medical appointments.

**What your CHW might do**:

- Review health history and PCP care plan prior to visit.
- Answer any questions and address any concerns you have.
- Review any discharge instructions from any hospital, emergency room, and/or doctor visits.
- Review goals from previous visit:__________
- Assess adherence to care plan, including diet, exercise, medications, and keeping appointments.
- Review disease process and prevention measures with you including how and when to correctly take your medications.
- Education on sepsis is to be expected for every encounter specific to your diagnosis(es).
- Education on healthy eating and living habits is to be expected for every encounter.
- Specific education on medications as they relates to your specific diagnosis will be provided.
- Complete a History and Physical Exam.
- A complete Medications Reconciliation is to be expected at every encounter.
- Complete a Safety Assessment.

- Complete a Social Assessment.
- Facilitate a Telehealth visit, if scheduled.
- Follow any verbal orders as obtained via telehealth, phone call, or electronic messaging.
- Schedule follow-up appointment(s) as needed that might include, but not limited to: Primary Care Provider, Addiction Recovery, Behavioral Health, Dental Care, Dietician, Home Health, Home Medical Equipment, Hospice, Pharmacy Services, Therapy Services, Public Health, Wound Care
- Establish goals for next visit:__________
-

**What your CP might do**:

- Ensure completion of applicable CHW items above.
- Perform venous blood draw.

**Condition YELLOW:**

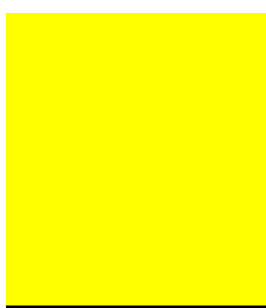
**Warning Zone... This is the watch zone.**

**Indications**:

- None of the RED indications are present.
- Fever higher than 100.5° F,
- Chills or sweats,
- New body aches,
- Nausea or vomiting,
- Decrease in appetite,
- Decrease in your ability to do usual activities,
- Fast heartbeat (above 100) while at rest,
- New dizziness when you stand up,
- Small amounts of new redness or swelling from any wound,
- Easy bruising or bleeding,
- Increased pain at site of infection or surgery,
- Redness, swelling, or leaking around the area where an IV goes into your skin,
- An uneasy feeling or you know something is not right,
- Other indication set by your doctor:____________________

**What you can do**:

- You may need an adjustment to your medications.
- Improve your eating habits.
- Increase your activity level.
- Call your CHW or CP:____________________
- Call your PCP:____________________
  - If outside business hours, 24-hour triage nurse screening is available by calling your PCP's number.



**What your CHW might do**:

- Ensure completion of applicable items in the GREEN zone above.

**What your CP might do**:

- Ensure completion of applicable CHW items above.

| Condition RED: | Medical Alert Zone... This is the danger zone. |
|---|---|

**Indications**:

- Altered mental status, confusion, or inability to think clearly,
- Shortness of breath,
- Clammy and sweaty skin,
- Fever higher than 101.5° F,
- Fast heartbeat (above 110) while at rest,
- Fainting when you stand up or extreme dizziness,
- Medium to large amounts of new redness or swelling from any wound,
- Urinating less or not at all,
- Drainage of pus from any wound,
- Extreme pain or discomfort,
- You have been in the YELLOW Zone for more than 24 hours without getting better,
- Other indication set by your doctor:____________________

**What you can do**:

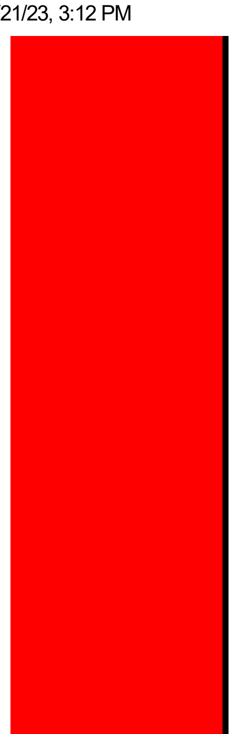
- You need immediate evaluation by a medical professional.
- Call your CHW or CP:____________________
- Call your PCP:____________________
  - If outside business hours, 24-hour triage nurse screening is available by calling your PCP's number.
- Call 9-1-1

**What your CHW might do**:

- Refer to Emergency Protocol 2-440 - Fever / Sepsis as appropriate.
- Ensure completion of applicable items in the YELLOW zone above.

**What your CP might do**:

- Ensure completion of applicable CHW items above.
- Assist you in the administration of your own prescribed medications.
- Consult with your PCP to recommend antibiotic administration:
  - **Bites (animal or human)**: Amoxicillin/Clavulanate 500 mg / 125 mg three times per day for seven to ten days.
  - **Bronchitis**:
    - Zithromax 250 mg two on the first day follwed by one per day for four more days OR
    - Amoxicillin/Clavulanate 500 mg / 125 mg three times per day for seven to ten days.
  - **Cellulitis**: Keflex 500 mg four times per day for five to ten days.
  - **Cellulitis with MRSA**:



- Bactrim 160 mg / 800 mg two times per day for five to ten days OR
- Clindamycin 300 mg four times per day for five to ten days.

- **Strep pharyngitis**:
  - Penicillin 500 mg four times per day for seven to ten days OR
  - Keflex 500 mg four times per day for seven to ten days OR
  - Zithromax 250 mg two on the first day followed by one per day for four more days OR
  - Amoxicillin/Clavulanate 500 mg / 125 mg three times per day for seven to ten days.
- **Tooth infection**:
  - Penicillin 500 mg four times per day for seven to ten days OR
  - Clindamycin 300 mg four times per day for five to ten days.
- **Urinary tract infection of pyelonephritis**:
  - Keflex 500 mg three times per day for three to ten days OR
  - Bactrim 160 mg / 800 mg two times per day for three to ten days OR
  - Cipro 500 mg for three to ten days.

## Change Log:

| Date | Link to previous version | Description of change |
|---|---|---|
| 03/16/23 | | Created this section. |
| 05/12/23 | pdf | First draft with green, yellow, and red sections. |
| 05/26/23 | pdf | Added review of discharge instructions. Changed antibiotic infusion to antibiotic administration. |

Return to Protocols Table of Contents.

Search protocols: Search

| CMH Pre-Hospital Services Mission: "*Provide safe, exceptional, and compassionate care to our communities with an emphasis on highly trained and empowered staff*." | CMH Mobile Integrated Healthcare Mission: "*Provide exceptional, compassionate, and patient-centered care by a mobile collaborative team to improve patient experience, improve quality outcomes, and reduce healthcare costs*." | |
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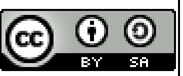


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# Protocol 4-541 - Chronic Special Needs Management

**CMH EMS & MIH Protocols**

**Condition GREEN:**

**All Clear Zone... This is the safety zone.**

**Indications**:

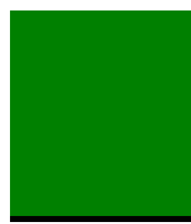
- None of the YELLOW or RED indications are present.

**What you can do**:

- Take your medications as ordered.
- Follow healthy eating habits.
- Balance activity and rest periods.
- Keep all medical appointments.

**What your CHW might do**:

- Review health history and PCP care plan prior to visit.
- Answer any questions and address any concerns you have.
- Review any discharge instructions from any hospital, emergency room, and/or doctor visits.
- Review goals from previous visit:__________
- Assess adherence to care plan, including diet, exercise, medications, and keeping appointments.
- Education on applicable disease processes and health conditions are to be expected for every encounter specific to your diagnosis(es).
- Education on healthy eating and living habits is to be expected for every encounter.
- Complete a History and Physical Exam.
- A complete Medications Reconciliation is to be expected at every encounter.
- Complete a Safety Assessment.
- Complete a Social Assessment.
- Facilitate a Telehealth visit, if scheduled.
- Follow any verbal orders as obtained via telehealth, phone call, or electronic messaging.
- Schedule follow-up appointment(s) as needed that might include, but not limited to: Primary Care Provider, Addiction Recovery, Behavioral Health, Dental Care, Dietician, Home Health, Home Medical Equipment, Hospice, Pharmacy Services, Therapy Services, Public Health, Wound Care
- Establish goals for next visit:__________



**What your CP might do**:

- Ensure completion of applicable CHW items above.
- Perform venous blood draw.

| Condition YELLOW: | **Warning Zone... This is the watch zone.** |
| --- | --- |
| | **Indications**:<br>• None of the RED indications are present.<br>• An uneasy feeling or you know something is not right,<br>• Other indication set by your doctor:____________________ |
| | **What you can do**:<br>• You may need an adjustment to your medications.<br>• Improve your eating habits.<br>• Increase your activity level.<br>• Call your CHW or CP:____________________<br>• Call your PCP:____________________<br>  ◦ If outside business hours, 24-hour triage nurse screening is available by calling your PCP's number. |
| | **What your CHW might do**:<br>• Ensure completion of applicable items in the GREEN zone above.<br>**What your CP might do**:<br>• Ensure completion of applicable CHW items above. |

| Condition RED: | **Medical Alert Zone... This is the danger zone.** |
|---|---|
| | **Indications**:<br>• Extreme pain or discomfort,<br>• You have been in the YELLOW Zone for more than 24 hours without getting better,<br>• Other indication set by your doctor:____________________ |
| | **What you can do**:<br>• You need immediate evaluation by a medical professional.<br>• Call your CHW or CP:____________________<br>• Call your PCP:____________________<br>  ◦ If outside business hours, 24-hour triage nurse screening is available by calling your PCP's number.<br>• Call 9-1-1 |
| | **What your CHW might do**:<br>• Ensure completion of applicable items in the YELLOW zone above.<br><br>**What your CP might do**:<br>• Ensure completion of applicable CHW items above.<br>• Assist you in the administration of your own prescribed medications. |

## Change Log:

| Date | Link to previous version | Description of change |
|---|---|---|
| 03/16/23 | | Created this section. |
| 05/12/23 | | First draft with green, yellow, and red sections. |
| 05/26/23 | pdf | Added discharge instructions review. |

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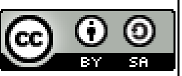
|---|---|---|



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# Protocol 4-624 - Chronic Urinary Complaints Management

**CMH EMS & MIH Protocols**

**Condition GREEN:**

**All Clear Zone... This is the safety zone.**

**Indications**:

- None of the YELLOW or RED indications are present.

**What you can do**:

- Maintain a record of your fluid intake and output.
- Take your medications as ordered.
- Follow healthy eating habits.
- Monitor potassium, protein, and salt intake.
- Drink enough fluids to keep your urine light yellow in color.
- Perform hand hygiene before and after changing catheters.
- Balance activity and rest periods.
- Keep all medical appointments.

**What your CHW might do**:

- Review health history and PCP care plan prior to visit.
- Answer any questions and address any concerns you have.
- Review any discharge instructions from any hospital, emergency room, and/or doctor visits.
- Review goals from previous visit:__________
- Assess adherence to care plan, including diet, exercise, medications, and keeping appointments.
- Review disease process and prevention measures with you including how and when to correctly take your medications.
- Education on urinary conditions are to be expected for every encounter specific to your diagnosis(es).
- Education on healthy eating and living habits is to be expected for every encounter.
- Complete a History and Physical Exam.
- A complete Medications Reconciliation is to be expected at every encounter.
- Complete a Safety Assessment.
- Complete a Social Assessment.
- Facilitate a Telehealth visit, if scheduled.

- Follow any verbal orders as obtained via telehealth, phone call, or electronic messaging.
- Obtain urine sample and dip stick test.
- Schedule follow-up appointment(s) as needed that might include, but not limited to: Primary Care Provider, Addiction Recovery, Behavioral Health, Dental Care, Dietician, Home Health, Home Medical Equipment, Hospice, Pharmacy Services, Therapy Services, Public Health, Wound Care
- Establish goals for next visit:__________
-

**What your CP might do**:

- Ensure completion of applicable CHW items above.
- Perform venous blood draw for the following test panel:
  - BMP
  - GFR
  - Magnesium
  - Phosphorus

**Condition YELLOW:**

**Warning Zone... This is the watch zone.**

**Indications**:

- None of the RED indications are present.
- Decreased urine output,
- Fever higher than 100.5° F,
- Chills or sweats,
- Blood pressure higher or lower than normal,
- Blood in your urine,
- Increased pain while urinating,
- Poor appetite, headache, or muscle aches,
- An uneasy feeling or you know something is not right,
- Fatigue or no energy,
- Other indication set by your doctor:____________________

**What you can do**:

- You may need an adjustment to your medications.
- Improve your eating habits.
- Increase your activity level.
- Call your CHW or CP:____________________
- Call your PCP:____________________
  - If outside business hours, 24-hour triage nurse screening is available by calling your PCP's number.

**What your CHW might do**:

- Ensure completion of applicable items in the GREEN zone above.

**What your CP might do**:

- Ensure completion of applicable CHW items above.
- Use the results of the urine dip stick to guide therapy:
  - **Positive for infection**: Consult with PCP to consider antibiotics.
  - **Negative for infection but suspected urinary retention**: Consider Foley catheter insertion.

| Condition RED: | **Medical Alert Zone... This is the danger zone.** |
|---|---|
| | **Indications**:<br><br>• Altered mental status, confusion, or inability to think clearly,<br>• Generalized pain,<br>• Clammy and sweaty skin,<br>• Fever higher than 101.5° F,<br>• Unable to urinate at all.<br>• Other indication set by your doctor:____________________ |
| | **What you can do**:<br><br>• You need immediate evaluation by a medical professional.<br>• Call your CHW or CP:____________________<br>• Call your PCP:____________________<br>  ◦ If outside business hours, 24-hour triage nurse screening is available by calling your PCP's number.<br>• Call 9-1-1 |
| | **What your CHW might do**:<br><br>• Refer to Emergency Protocol 2-440 - Fever / Sepsis as appropriate.<br>• Ensure completion of applicable items in the YELLOW zone above.<br><br>**What your CP might do**:<br><br>• Ensure completion of applicable CHW items above.<br>• Assist you in the administration of your own prescribed medications.<br>• Consult with your PCP to recommend antibiotic administration:<br>  ◦ Keflex 500 mg three times per day for three to ten days OR<br>  ◦ Bactrim 160 mg / 800 mg two times per day for three to ten days OR<br>  ◦ Cipro 500 mg for three to ten days. |

## Change Log:

| Date | Link to previous version | Description of change |
| --- | --- | --- |
| 03/16/23 | | Created this section. |
| 05/12/23 | pdf | First draft with green, yellow, and red sections. |
| 05/26/23 | pdf | Added review of discharge instructions. Changed Antibiotic infusion to administration. |

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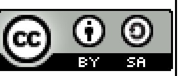
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# Protocol 4-666 - Chronic Wound Management

**CMH EMS & MIH Protocols**

**Condition GREEN:**

**All Clear Zone... This is the safety zone.**

**Indications**:

- None of the YELLOW or RED indications are present.

**What you can do**:

- Take your medications as ordered.
- Make sure you are up to date with vaccinations, including Tetanus.
- Follow healthy eating habits.
- Drink enough fluids to keep your urine light yellow in color.
- Get plenty of rest while you are recovering. Try to get at least seven (7) to nine (9) hours of sleep each night.
- Balance activity and rest periods.
- Perform hand hygiene before and after eating, restroom activities, or changing dressings.
- Follow your doctor's directions for frequency of dressing changes.
- Keep wounds and surgical sites clean until healed.
- Keep your living environment and home clean.
- Keep all medical appointments.

**What your CHW might do**:

- Review health history and PCP care plan prior to visit.
- Answer any questions and address any concerns you have.
- Review any discharge instructions from any hospital, emergency room, and doctor visits.
- Review goals from previous visit:__________
- Assess adherence to care plan, including diet, exercise, medications, and keeping appointments.
- Review disease process and prevention measures with you including how and when to correctly take your medications.
- Education on sepsis is to be expected for every encounter specific to your diagnosis(es).
- Education on healthy eating and living habits is to be expected for every encounter.
- Specific education on medications as they relates to your specific diagnosis and conditions will be provided.
- Assess and measure your wound site.

- Complete a History and Physical Exam.
- A complete Medications Reconciliation is to be expected at every encounter.
- Complete a Safety Assessment.
- Complete a Social Assessment.
- Facilitate a Telehealth visit, if scheduled.
- Follow any verbal orders as obtained via telehealth, phone call, or electronic messaging.
- Schedule follow-up appointment(s) as needed that might include, but not limited to: Primary Care Provider, Addiction Recovery, Behavioral Health, Dental Care, Dietician, Home Health, Home Medical Equipment, Hospice, Pharmacy Services, Therapy Services, Public Health, Wound Care
- Establish goals for next visit:__________

**What your CP might do**:

- Ensure completion of applicable CHW items above.
- Perform venous blood draw.

**Condition YELLOW:**

**Warning Zone... This is the watch zone.**

**Indications**:

- None of the RED indications are present.
- Fever higher than 100.5° F,
- Chills or sweats,
- New body aches,
- Nausea or vomiting,
- Decrease in appetite,
- Decrease in your ability to do usual activities,
- Fast heartbeat (above 100) while at rest,
- New dizziness when you stand up,
- Small amounts of new redness or swelling from any wound,
- Stitches or staples you feel have come out too soon,
- Easy bruising or bleeding,
- Increased pain at site of infection or surgery,
- Redness, swelling, or leaking around the area where an IV goes into your skin,
- An uneasy feeling or you know something is not right,
- Other indication set by your doctor:____________________

**What you can do**:

- You may need an adjustment to your medications.
- Improve your eating habits.
- Increase your activity level.
- Call your CHW or CP:____________________
- Call your PCP:____________________

- If outside business hours, 24-hour triage nurse screening is available by calling your PCP's number.

**What your CHW might do**:

- Ensure completion of applicable items in the GREEN zone above.

**What your CP might do**:

- Ensure completion of applicable CHW items above.
- Remove sutures and staples after healing has completed.
- **In the absence of wound but skin rash is present consistent with contact allergen exposure (i.e. poison ivy/oak)**: Consider Benadryl 25-50 mg PO or IM.

**Medical Alert Zone... This is the danger zone.**

**Condition RED:**

**Indications**:

- Altered mental status, confusion, or inability to think clearly,
- Shortness of breath,
- Clammy and sweaty skin,
- Fever higher than 101.5° F,
- Fast heartbeat (above 110) while at rest,
- Fainting when you stand up or extreme dizziness,
- Medium to large amounts of new redness or swelling from any wound,
- Bleeding from the injury site that will not stop after ten (10) minutes of direct pressure,
- Drainage of pus from any wound,
- Urinating less or not at all,
- Extreme pain or discomfort,
- You have been in the YELLOW Zone for more than 24 hours without getting better,
- Other indication set by your doctor:____________________

**What you can do**:

- You need immediate evaluation by a medical professional.
- Call your CHW or CP:____________________
- Call your PCP:____________________
  - If outside business hours, 24-hour triage nurse screening is available by calling your PCP's number.
- Call 9-1-1

**What your CHW might do**:

- Refer to Emergency Protocol 2-440 - Fever / Sepsis as appropriate.
- Ensure completion of applicable items in the YELLOW zone above.

**What your CP might do**:

- Ensure completion of applicable CHW items above.
- Assist you in the administration of your own prescribed medications.
- Consult with your PCP to recommend antibiotic administration:
  - **Bites (animal or human)**: Amoxicillin/Clavulanate 500 mg / 125 mg three times per day for seven to ten days.
  - **Cellulitis**: Keflex 500 mg four times per day for five to ten days.
  - **Cellulitis with MRSA**:
    - Bactrim 160 mg / 800 mg two times per day for five to ten days OR
    - Clindamycin 300 mg four times per day for five to ten days.

## Change Log:

| Date | Link to previous version | Description of change |
|---|---|---|
| 03/16/23 | | Created this section. |
| 05/12/23 | pdf | First draft with green, yellow, and red sections. |
| 05/26/23 | pdf | Added review of discharge instructions. Changed antibiotic infusion to administration. |

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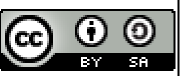
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# Protocol 4-708 - General History and Physical Exam

**CMH EMS & MIH Protocols**

## EMT w/CHW:

- A complete history and physical exam should be completed on all patients that meet one or more of the following criteria:
  - It has been greater than one year since a documented visit with their PCP.
  - A significant health event has occured since their last documented visit with their PCP.
  - Refer to CMH Policy HIM02-01 - History and Physical.
- **GENERAL INFORMATION**:
  - Contact information and PCP information.
  - Primary communication language.
  - Primary caregiver information.
  - Location where medical care is obtained (i.e. PCP, specialist, ER, 9-1-1, etc.).
  - Demographic data such as age, gender, race, and ethnicity
  - Chief complaint, including location, aggravating factors, complications, signs/symptoms, and treatments.
  - Presence of DNR or advanced directives.
  - Patient knowledge level of their diseases/conditions.
- **PAST MEDICAL HISTORY**:
  - General vaccination history.
  - Medical conditions with details such as onset date, hospitalizations, complications, and treatments.
  - Surgical history with dates, indications, and types of operations.
  - OB/GYN history with number of pregnancies, number of births, number of living children, menstrual history, and birth control.
  - Psychiatric history with dates, diagnoses, hospitalizations, and treatments.
  - Age-appropriate health maintenance with pap smears, mammograms, cholesterol testing, colon cancer screenings, and immunizations.
  - Childhood illnesses.
  - Refer to Protocol 4-833 - General Medications Reconciliation to complete a full assessment of medications.
  - Allergies and nature of adverse reactions.
  - Occupation and past occupations.
- **FAMILY HISTORY**:
  - Health state or cause of death of parents, siblings, and children.
  - Presence of diseases that run in the family such as hypertension, artery disease, strokes, diabetes, cancer, and addictions.

- **SAFETY AND SOCIAL ASSESSMENT**:
  - Refer to Protocol 4-916 - General Safety Assessment to complete a full assessment of safety risks.
  - Refer to Protocol 4-957 - General Social Assessment to complete a full assessment of social factors and history.
- **GENERAL ASSESSMENT**:
  - Patient's perceived level of physical health.
  - Patient's perceived level of mental health.
  - General appearance.
  - Position of comfort.
  - Level of distress.
  - Mobility concerns.
  - Sleep patterns.
  - Eating habits.
  - Bathroom habits.
  - Alcohol and drug use.
  - Vital signs to include:
    - Pulse rate, rhythm, and quality
    - Respiration rate, rhythm, and quality
    - Blood pressure to include orthostatics
    - Temperature
    - Pulse oximetry
    - Weight and height
    - Blood Glucose
    - Pain level
- **REVIEW OF SYSTEMS**:
  - Neurological
  - Skin
  - Head, eyes, ears, nose, and throat
  - Cardiorespiratory: Inspection, auscultation, and palpation)
  - Abdominal: Inspection, auscultation, percussion, and palpation
  - Musculoskeletal: Inspection, palpation, range of motion, muscle strength and tone, and gait
  - Consider Peak Flow Meter.
  - Consider Urine Analysis

# AEMT w/CHW:

- Ensure completion of applicable items above.

# RN w/CHW:

- Ensure completion of all applicable items above.
- Consider Capnography.
- Consider Blood Analysis.

- Consider Ultrasound.

# Medic w/CHW:

- Ensure completion of all applicable items above.
- Consider Cardiac Monitoring or 12-lead ECG.

# CP:

- Ensure completion of all applicable items above.

# Change Log:

| Date | Link to previous version | Description of change |
|---|---|---|
| 03/16/23 | | Created this section. |
| 05/12/23 | pdf | Added content from multiple sources for the first draft. |
| 05/16/23 | pdf | Added link to Policy HIM02-01. |

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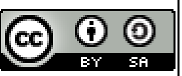


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# Protocol 4-749 - General Home Visit

**CMH EMS & MIH Protocols**

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## EMT w/CHW:

- **Program admission requirements**: Note, an initial, one-time assessment visit may be conducted prior to official admission into the MIH program.
    - Must be under the care of a CMH physician with an active medical record in CMH's electronic medical records system.
    - Must have a pre-designated discharge date from the program no greater than 90 days from admission.
    - Services provided by CMH MIH must not be otherwise available through other mechanisms or programs.
    - Consent forms must be signed by the patient or their guardian.
- **Program discharge triggers**:
    - Unsafe environment for personnel.
    - The patient requests discharge from the program.
    - The pre-designated discharge date has been reached.
    - Cancellation or missing at least three (3) appointments.
    - Patient non-adherence to goals or aggressive behavior.
    - Patient relocation out of CMH's region.
    - Patient becomes incarcerated, jailed, homeless, or other situation where visiting in a home is not possible.
- **Flow of home visit**:
    - Contact the patient prior to the visit by phone or in person to verify appointment date/time and location. If the patient is a referral from in-patient admission or emergency room visit, attempt to see the patient in-person prior to discharge and include a face-to-face report from the physician.
    - Review available patient records prior to home visit. These records should include accessible systems such as CMH Expanse and CMH ESO at a minimum before each visit.
    - Print and have the patient sign the universal consent form on every initial visit.
    - Vehicles driven to home visits by MIH staff shall be marked with "CMH Mobile Integrated Healthcare" and shall not be an ambulance. MIH personnel will also be wearing an MIH uniform with a CMH photo ID badge.
    - Home visits shall not occur at the time of the patient's request for an ambulance or calling 9-1-1. If referral to MIH is made from an ambulance, a separate visit shall be scheduled at a different time.
    - Ensure personnel safety.
    - If at any time, the patient is presenting sign or symptoms that require ambulance transport or treatment by an emergency room physician, contact 9-1-1 to make an

ambulance request. Consider maintaining patient care throughout transport. In all cases, contact the emergency room physician to provide a verbal report.
  - Ensure patient privacy.
  - Obtain applicable consent signatures.
  - Refer to Protocol 4-708 - General History and Physical Exam as applicable.
  - Refer to Protocol 4-833 - General Medications Reconciliation as applicable.
  - Refer to Protocol 4-916 - General Safety Assessment as applicable.
  - Refer to Protocol 4-957 - General Social Assessment as applicable.
  - Refer to and follow standing order protocols and on-line physician orders.
  - Consider contacting the patient's Primary Care Provider (PCP) as needed for orders or consultation outside standing orders.
  - Work with the patient to develop or modify the care plan with SMART objectives for the next visit.
  - Make all efforts to refer needs to existing agencies and do not duplicate services. Assist the patient in enrolling in applicable services.
    - Refer to CMH Policy CLN03-02 - Clinic Referral.
    - Refer to CMH Policy HHA09-17 - Referral Criteria for Other Skilled Disciplines, Dietitian, and/or Diabetic Educator.
    - Refer to CMH Policy HHA09-31 - Social Service Referral.
    - Refer to CMH Policy HHA23-02 - Hospice Referral and Admission Procedure.
    - Refer to CMH Policy MSI25-01 - Sleep Institute Referral Appointments.
    - Refer to CMH Policy RS02-01 - Rehabilitation Referrals/Orders.
    - Refer to CMH Policy SS03-02 - Skilled Nursing Facility Referral.
    - Refer to CMH Policy SS03-04 - Residential Care Facility Referral.
    - Refer to CMH Policy SS03-08 - Community Agency Referral.
    - Refer to CMH Policy SS03-09 - Home Medical Equipment (HME) Referrals.
    - Refer to CMH Policy SS03-11 - Hospice Consultation/Referral.
    - Refer to CMH Policy SS03-12 - Home Care Services Referral.
    - Refer to CMH Policy SS04-05 - Hearing and Visual Referral List.
    - Refer to CMH Policy SS07-01 - Referral of Psychiatric and Behavioral Health Patients.
  - Patient and caregiver education must be a high priority including teach-back to ensure understanding.
  - Schedule the next visit as applicable. Typical schedules are one visit per week.
  - Schedule follow-up appointments with the PCP and/or other services as needed.
  - Refer the patient to the Red, Yellow, and Green zones for their specific condition and respond accordingly before their next scheduled visit.
- **Documentation**:
  - Complete an ePCR in ESO for the initial visit. Fax the completed ESO record to the referring agency HIPAA-compliant number for inclusion in their medical record system.
  - If the patient exists in CMH medical records, document the visit in Expanse.
  - Minimum documentation for every visit includes:
    - The patient's medical needs.
    - "CP (or CHW) will continue with the discharge plan."
    - "Patient will follow up with the PCP if necessary or approrpiate."
    - Intended return visit plan with weekly/bi-weekly/etc. assessments.

- "Home medications were reconciled. The patient is able to afford and obtain their medications. The patient understands what medications are for and they will take them consistently as prescribed." Add any issues identified and resolved.
- "The patient has adequate transportation to all necessary healthcare-related appointments." Add any issues identified and resolved.
- "Financial burdens were discussed along with opportunities to resolve issues." Add any issues identified and resolved.
- "Potential legal situations were discussed along with opportunities to resolve issues." Add any issues identified and resolved.
- "Communications barriers regarding healtchare were discussed along with opportunities to resolve issues." Add any issues identified and resolved.
- "Social issues that may present barriers to the patient's healthcare were discussied along with opportunities to resolve issues." Add any issues identified and resolved.

# AEMT w/CHW:

- Ensure completion of applicable items above.

# RN w/CHW:

- Ensure completion of all applicable items above.

# Medic w/CHW:

- Ensure completion of all applicable items above.

# CP:

- Ensure completion of all applicable items above.

## Change Log:

| Date | Link to previous version | Description of change |
| --- | --- | --- |
| 03/16/23 | | Created this section. |
| 05/16/23 | pdf | First draft with content. |
| 05/16/23 | | Added links to CMH referral policies. |
| 05/26/23 | pdf | Fixed typo (stading - standing). Added minimum documentation requirements for chronic care management billing. |
| 05/26/23 | | Added printing and signing universal consent form for initial visit. |

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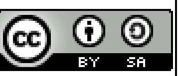

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# Protocol 4-791 - General Medication Administration (Includes Vaccination and Infusion Administration)

**CMH EMS & MIH Protocols**

## EMT w/CHW:

## AEMT w/CHW:

- Ensure completion of applicable items above.

## RN w/CHW:

- Ensure completion of all applicable items above.
- Medications may be administered according to standing order protocols or as part of the care plan as authorized by a primary care physician.
- Immunizations may be administered under guidelines developed by the local public health agency.
- Medications and supplies should be provided by the referring pharmacy or health department. The patient's own medications and supplies may also be used. In the absense of provided medications or supplies, stock from the MIH vehicle may be used as last resort, if available.
- Medication viability and security must be determined such as expiration date, storage temperature, contamination, etc.
- Medication information must be given to the patient (such as a Vaccination Information Sheet).
- Confirm the correct patient is listed on the medication, if applicable.
- Confirm allergies and discuss side effects with the patient.
- Confirm correct medication, person, dose, site, route, and time.
- Observe for adverse reactions for 15 minutes after completion of medication administration. Refer to Protocol 2-06 - Allergic Reaction if an adverse reaction is suspected.
- Document administration using provided paperwork and in CMH medical record.

## Medic w/CHW:

- Ensure completion of all applicable items above.

## CP:

- Ensure completion of all applicable items above.

# Change Log:

| Date | Link to previous version | Description of change |
|---|---|---|
| 03/16/23 | | Created this section. |
| 05/16/23 | pdf | First draft with content. |
| 05/26/23 | pdf | Removed TB testing per Dr. Butvilas on 5/22/23. |

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Search protocols: Search

| CMH Pre-Hospital Services Mission: "*Provide safe, exceptional, and compassionate care to our communities with an emphasis on highly trained and empowered staff*." | CMH Mobile Integrated Healthcare Mission: "*Provide exceptional, compassionate, and patient-centered care by a mobile collaborative team to improve patient experience, improve quality outcomes, and reduce healthcare costs*." | |
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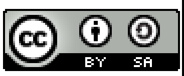

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# Protocol 4-833 - General Medications Reconciliation

**CMH EMS & MIH Protocols**

## EMT w/CHW:

- The goal of medication reconciliation is to document an accurate medication list, determine if the patient is following their prescribed medications, and educate the patient through inspection of medications, organization containers, and interview techniques.
- Review pertinent medical history and medical provider's orders.
- Medication will be reviewed and documented on the initial visit after enrollment and periodically updated to include prescriptions, over-the-counter, samples, vitamins, herbals, essential oils, and other supplements.
- Discuss other medication or substance use the patient may not want to disclose.
- Involvement of the patient and their care team should be included considering input from the patient, family, caregivers, medical records, and medications found in the home.
- Record medication name, dose, frequency, route, purpose, and date/time of last dose in the electronic medical record.
- Allergies and adverse reactions should also be updated with each encounter.
- Refer to Policy NUR09-08 - Medication Reconciliation for Expanse instructions on how to complete a medication reconciliation.
- Consider assisting the patient in creating an easy-to-read quick reference in a location that will benefit the patient in taking the correct medications at the right times.
- Consider assisting the patient in sorting medications.
- Educate and stress the importance of medication compliance to the patient.
- Provide education as appropriate on what medications are used for, medication interactions, and possible side effects.
- Facilitate other questions such as alternative medications and other requests by the patient to the PCP. Do not change any medications, change any dose, or advise the patient how to alter their medications without consultation with their PCP.
- If a discrepancy, duplication, or other issue is found during reconciliation, refer changes in medication orders to the patient's PCP. Other changes where a misinterpretation of current orders has occured, provide patient education and corrections.
- In the case where a patient has not been compliant with medications for more than a few days, consult with the PCP about resuming.
- Provide instructions, as appropriate, to the patient on how to dispose of their medications appropriately. Transportation of the patient's medications by MIH should not be done.

## AEMT w/CHW:

- Ensure completion of applicable items above.

# RN w/CHW:

- Ensure completion of all applicable items above.

# Medic w/CHW:

- Ensure completion of all applicable items above.

# CP:

- Ensure completion of all applicable items above.

# Change Log:

| Date | Link to previous version | Description of change |
|---|---|---|
| 03/16/23 | | Created this section. |
| 05/17/23 | pdf | First draft with content. |

Return to Protocols Table of Contents.

Search protocols: Search

| CMH Pre-Hospital Services Mission: "*Provide safe, exceptional, and compassionate care to our communities with an emphasis on highly trained and empowered staff*." | CMH Mobile Integrated Healthcare Mission: "*Provide exceptional, compassionate, and patient-centered care by a mobile collaborative team to improve patient experience, improve quality outcomes, and reduce healthcare costs*." | |
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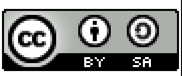


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# Protocol 4-916 - General Safety Assessment

**CMH EMS & MIH Protocols**

## EMT w/CHW:

- Include all persons living in the household in the safety assessment, if possible.
- Ask the residents what their greatest safety concern is.
- Assess overall living conditions for hygiene. Are cleaning supplies available and being used?
- Assess for house numbers that are visible from the street.
- Assess air temperature and availabily for heating and cooling.
- Provide patients and the household with guidance on fire evacuation and severe weather plans.
- Evaluate the home for and educate about obvious fire and electrical hazards. Include review of storage of flammable and hazardous chemicals. Ensure fuse box or circuit breaker box is accessible and clutter-free.
- Assess means of egress to include clear walkways, two exits from sleeping areas, and ability to self-rescue.
- Test all smoke detectors and refer to the local fire department for correct placement. If heater or water heater is wood burning, propane, or other non-electric source, ensure a carbon monoxide detector is present and working.
- Ensure a fire extinguisher is present, charged, and accessible in the kitchen. Refer to the fire department for deficiencies.
- Assess exterior doors and windows for security and ability to lock against intruders.
- Discuss home firearm safety and safe storage.
- Refer the patient to CMH Home Medical Equipment for instruction on use and safety of their provided equipment.
- Assess Oxygen tubing to be less than 50 feet long and not a trip hazard. Include education on Oxygen hazards and general smoking fire hazards.
- Assess walking areas inside and outside of home for trip hazards to include uneven and slippery surfaces. Ensure all rugs are secured to the floor.
- Assess stairs for sturdiness and handrails.
- Assess lighting in all areas for adequacy to avoid hazards. Ensure a flashlight is available by the sleeping area.
- Assess furniture for adequate height, arm rests, sturdiness, and cleanliness.
- Assess access to communication (i.e. telephone or cellphone). Ensure emergency numbers are printed near all phones.
- Assess items most commonly used are within easy reach. Assess step stools for accessibility and sturdiness.
- Assess equipment and appliances (kitchen, laundry, etc.) appear to be working safely.
- Assess tap water temperature (scald hazard and functioning water heater).
- Assess for clean drinking water and food storage locations.
- Assess sewage and trash disposal.

- Assess for rodent and insect infestation.
- Assess the bathrooms for non-slip surfaces and grab bars.
- Ensure medical information is readily available and in an area emergency responders can easily find.
- Complete and document the results of the Physical Environment Assessment Tool (PEAT).

- Additional items for **Newborn Home Assessment**:
  - Assess for secure doors to outside areas.
  - Assess for a fence around any pools or bodies of water.
  - Assess for secure furniture that will not fall over when climbed on.
  - Assess for choking hazards and inedible objects such as poisons and household plants.
  - Assess for locked drawers and cabinets holding sharp and poisonous objects and medications.
  - Assess sleeping areas to remove smothering and choking hazards (loose mattress, cords, stuffed animals, pillows, etc.)
  - Water heater should be set to maximum of 120° F.
  - Electrical outlets have covers in place.

# AEMT w/CHW:

- Ensure completion of applicable items above.

# RN w/CHW:

- Ensure completion of all applicable items above.

# Medic w/CHW:

- Ensure completion of all applicable items above.

# CP:

- Ensure completion of all applicable items above.

## Change Log:

| Date | Link to previous version | Description of change |
| --- | --- | --- |
| 03/16/23 | | Created this section. |
| 05/26/23 | pdf | Created first draft of this protocol. |

Return to Protocols Table of Contents.

Search protocols: [ ] Search

| CMH Pre-Hospital Services Mission: "*Provide safe, exceptional, and compassionate care to our communities with an emphasis on highly trained and empowered staff*." | CMH Mobile Integrated Healthcare Mission: "*Provide exceptional, compassionate, and patient-centered care by a mobile collaborative team to improve patient experience, improve quality outcomes, and reduce healthcare costs*." | |
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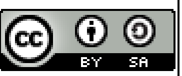

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# Protocol 4-916-50 - Physical Environment Assessment Tool

**CMH EMS & MIH Protocols**

Date: 08/21/2023

Name of person completing this form:

Patient sticker here

| Dwelling | Check MULTIPLE | Points possible | Points given |
|---|---|---|---|
| Enclosed shelter. | ☐ | 2 | |
| Electricity. | ☐ | 2 | |
| Running water. | ☐ | 2 | |
| Safe temperature. | ☐ | 2 | |

| Cleanliness | Check ONLY ONE | Points possible | Points given |
|---|---|---|---|
| Immaculate. | ○ | 4 | |
| Clutter. | ○ | 3 | |
| Small biological waste. | ○ | 2 | |
| Large biological waste. | ○ | 1 | |

| Social Structure | Check ONLY ONE | Points possible | Points given |
|---|---|---|---|
| Lives with other(s). | ○ | 12 | |
| Lives alone. | ○ | 9 | |
| Verbal abuse/neglect. | ○ | 6 | |
| Physical abuse/neglect. | ○ | 3 | |

| Hazards | Check ONLY ONE | Points possible | Points given |
|---|---|---|---|
| None. | ◯ | 12 | |
| Possible. | ◯ | 9 | |
| Probable. | ◯ | 6 | |
| Certain. | ◯ | 3 | |

Calculate points

Select the environmental assessment based on points and table below:

| Assessment | Minimum score required |
|---|---|
| Healthy | 32 |
| Less than optimal | 28 |
| Referral assistance | 17 |
| Urgent intervention | 7 |

# Change Log:

| Date | Link to previous version | Description of change |
|---|---|---|
| 05/26/23 | | Created this tool. |

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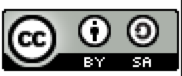
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# Protocol 4-957 - General Social Assessment

**CMH EMS & MIH Protocols**

## EMT w/CHW:

- Assess and include the patient's primary caretaker.
- Ask the patient what their greatest social concern is.
- Discuss housing security. Is the patient concerned about getting housing or losing their housing?
- Assess number of persons living in the same household.
- **Standardized Social Determinants of Health Screening**. Ask the patient the following questions:
  - **Food**:
    1. Within the past 12 months, did you worry that your food would run out before you got money to buy more?
    2. Within the past 12 months, did the food you bough just not last and you did not have money to get more?
  - **Housing/Utilities**:
    3. Do you have housing?
    4. Are you worried about losing your housing?
    5. Within the past 12 months, have you or your family members you live with been unable to get utilities (heat, electricity) wen it was really needed?
  - **Transportation**:
    6. Within the past 12 months, has lack of transportation kept you from medical appointments, getting your medicines, non-medical meetings or appointments, work, or from getting things that you need?
  - **Interpersonal Safety**:
    7. Do you feel physically and emotionally safe where you currently live?
    8. Within the past 12 months, have you been hit, slapped, kicked, or otherwise physically hurt by someone?
    9. Within the past 12 months, have you been humiliated or emotionally abused in other ways by your partner or ex-partner?
  - **Urgency**:
    10. Are any of your needs urgent?
- Assess other material security such as clothing, childcare, and internet service.
- Assess isolation to determine how often they talk to people they care about.
- Assess the patient's support structure to include family, church, work, etc.
- Assess stress level by asking about frequency of anxiousness, nervousness, lack of sleep, etc.
- Assess activity level to include work, leisure, hobbies, family, church, etc.
- Assess employment status.
- Assess level of education completed.

- Assess current situation by determining recent job termination, family changes, jail/correctional facility placement, etc.
- Assess substance use and abuse.
- Discuss and refer appropriately for advanced directives and healthcare power of attourney.

## AEMT w/CHW:

- Ensure completion of applicable items above.

## RN w/CHW:

- Ensure completion of all applicable items above.

## Medic w/CHW:

- Ensure completion of all applicable items above.

## CP:

- Ensure completion of all applicable items above.

## Change Log:

| Date | Link to previous version | Description of change |
|---|---|---|
| 03/16/23 | | Created this section. |
| 05/26/23 | pdf | First draft from various cited sources. |

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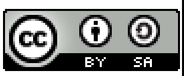
|  | Polk, Hickory, Cedar, & St Clair County EMS Protocols by Theron Becker is licensed under a Creative Commons Attribution-ShareAlike 4.0 International License. |
|---|---|

# Part 7-000 - Medications

**CMH EMS & MIH Protocols**

# Contents:


- 7-001 - Medications on Response Vehicles
- 7-011 - Acetaminophen (Tylenol)
- 7-022 - Activated Charcoal (Actidose)
- 7-033 - Adenosine (Adenocard)
- 7-044 - Afrin (Oxymetazoline)
- 7-055 - Albuterol (Proventil, Ventolin)
- 7-066 - Amiodarone (Cordarone)
- 7-077 - Amoxicillin (Clavulante)
- 7-088 - Ancef (Cefazolin)
- 7-099 - Aspirin (Bayer)
- 7-110 - Ativan (Lorazapam)
- 7-121 - Atropine (Sal-Tropine)
- 7-132 - Bactrim (Trimethoprim, Sulfamethoxazole)
- 7-143 - Benadryl (Diphenhydramine)
- 7-154 - Blood Products (Whole Blood, PRBC, Platelets, Plasma)
- 7-165 - Brilinta (Ticagrelor)
- 7-175 - Calcium Chloride (Calcijeet)
- 7-186 - Captopril (Capoten)
- 7-197 - Cardizem (Diltiazem)
- 7-208 - Cipro (Ciprofloxacin)
- 7-219 - Clindamycin (Cleocin)
- 7-230 - Cyanokit (Hydroxocobalamin)
- 7-241 - Decadron (Dexamethasone)
- 7-252 - Dextrose
- 7-263 - Dilaudid (Hydromorphone)
- 7-274 - Dopamine (Intropin)
- 7-285 - Droperidol (Inapsine)
- 7-296 - Duoneb (Ipratropium and Albuterol, Combivent)
- 7-307 - Effient (Prasugrel)
- 7-318 - Enalaprilat
- 7-329 - Epinephrine (Adrenalin)
- 7-340 - Epinephrine Racemic (Micronefrin)
- 7-351 - Etomidate (Amidate)
- 7-362 - Famotidine (Pepcid, Zantac)
- 7-373 - Fentanyl (Sublimaze)
- 7-384 - Glucagon

- 7-395 - Glucose
- 7-406 - Haldol (Haloperidol)
- 7-417 - Heparin
- 7-428 - Hydralazine (Apresoline)
- 7-439 - Hydrocortisone
- 7-450 - Ibuprofen (Advil, Pediaprofen)
- 7-461 - Insulin
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- 7-483 - Keflex (Cephalexin)
- 7-494 - Ketamine (Ketalar)
- 7-504 - Labetalol (Nomadyne)
- 7-515 - Lactated Ringers (LR)
- 7-526 - Lasix (Furosemide)
- 7-537 - Lidocaine (Xylocaine)
- 7-548 - Lipitor (Atorvastatin)
- 7-559 - Magnesium Sulfate
- 7-570 - Meclizine (Antivert)
- 7-581 - Metoprolol (Lopressor)
- 7-592 - Morphine
- 7-603 - Narcan (Naloxone)
- 7-614 - Neo-Synephrine (Phenylephrine)
- 7-625 - Nicardipine (Cardene)
- 7-636 - Nitroglycerin (Nitrostat, Nitrolingual, Tridil)
- 7-647 - Norepinephrine (Levophed)
- 7-658 - Normal Saline (NS, Sodium Chloride)
- 7-669 - Oxygen
- 7-680 - Oxytocin (Pitocin)
- 7-691 - Penicillin
- 7-702 - Phenergan (Promethazine)
- 7-713 - Phenobarbital (Luminal)
- 7-724 - Plavix (Clopidogrel)
- 7-735 - Potassium Chloride (K-Lor)
- 7-746 - Pralidoxime (2-Pam)
- 7-757 - Prednisone (Deltasone)
- 7-768 - Procainamide (Pronestyl)
- 7-779 - Propofol (Diprivan)
- 7-790 - Pyridium (Phenazopyridine)
- 7-801 - Reglan (Metoclopramide)
- 7-812 - Rocuronium (Zemuron)
- 7-823 - Sodium Bicarbonate (Soda)
- 7-833 - Sodium Thiosulfate
- 7-844 - Solu-Medrol (Methylprednisolone)
- 7-855 - Succinylcholine (Anectine)
- 7-866 - Terbutaline (Brethine)
- 7-877 - Tetracaine
- 7-888 - Thiamine (Vitamin B1)

- 7-899 - Toradol (Ketorolac)
- 7-910 - tPA (Tissue Plasminogen Activator)
- 7-921 - TXA (Tranexamic Acid)
- 7-932 - Valium (Diazepam)
- 7-943 - Vecuronium (Norcuron)
- 7-954 - Versed (Midazolam)
- 7-965 - Xopenex (Levalbuterol)
- 7-976 - Zithromax (Azithromycin)
- 7-987 - Zofran (Ondansetron)

## Change Log:

| Date | Link to previous version | Description of change |
|---|---|---|
| 10/07/13 | | Added images of typical medication (vials). |
| 02/24/14 | | Added half-life of most medications. |
| 12/29/14 | | Removed call for orders from all titles. |
| 11/17/15 | | Added Section 7-005 - Medications that prolong QT interval. |
| 11/24/15 | | Added levomepromazine, Nosinan, Nozinan, Levoprome, delamanid, Deltyba, and papaverine to Section 7-005 - Medications that prolong QT interval |
| 12/22/15 | pdf | Added Oxaliplatin, Eloxatin, Asenapine, Saphris, Sycrest, Hydrocodone, Hysingla, and Zohydro to list that prolong QT. |
| 02/21/16 | pdf | Added new drugs according to updated list that prolong QT. |
| 05/16/16 | | Added new drugs according to updated list that prolong QT. |
| 06/14/16 | | Added new drugs according to updated list that prolong QT. |
| 07/24/16 | | Clarified scope of practice in each medication protocol. |
| 08/24/17 | pdf | Removed Section 7-005 - Medications that prolong QT interval. |
| 08/24/17 | pdf | Removed Section 7-130 - Compazine |
| 08/24/17 | pdf | Removed Section 7-135 - Cyanokit |
| 08/24/17 | pdf | Removed Section 7-525 - Romazicon |
| 08/24/18 | | Added sections back in on common EMS or ER medications for reference only (Decadron, Dilaudid, Ipratropium, Lasix, Procainamide, Propofol, Reglan, Succinylcholine, Valium, Vecuronium). Also made major changes to the layout of each page to add much more information. Removed dosing information to eliminate confusion between these sections and the actual protocols where doses should be found. |
| 03/31/20 | | Removed all specific mentions of the different concentrations of Epinephrine (i.e. 1:1,000, 1:10,000, 1:100,000). |
| 06/07/21 | pdf | Moved to emsprotocols.online |
| 10/16/21 | | Fixed a typo on every... single... medication... page. Changed preganancy to pregnancy. |
| 11/29/21 | pdf | Added placeholders for MIH medications. Also had to renumber entire list due to not having enough space between existing medications to add new ones alphabetically. |
| 11/30/21 | | Changed numbers for Acetaminophen through Aspirin to accommodate more meds in the list. |
| 12/01/21 | | Updated links to Vecuronium through Zofran. |
| 12/01/21 | | Updated links for TXA and Valium. |
| 02/28/22 | | Working through the list to change numbers to give more space. Changed 460 (669) through 577 (910) today. |
| 03/17/23 | pdf | Added links to all medications to allow future documents to be created. |

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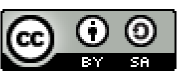
|  | Polk, Hickory, Cedar, & St Clair County EMS Protocols by Theron Becker is licensed under a Creative Commons Attribution-ShareAlike 4.0 International License. |
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# Medication 7-001 - Medications on Response Vehicles

**CMH EMS & MIH Protocols**

19 CSR 30-40.303(2)(C) states "the medical director, in cooperation with the ambulance service administrator, shall develop, implement, and annually review medications and medical equipment to be utilized." This section fulfils that requirement for equipment.

Refer to Equipment 8-001 - Equipment on Response Vehicles for equipment.

## Wheelchair Van:

| Location | Medication | Quantity |
|---|---|---|
| Patient Compartment | Oxygen | 2 cylinders |

## BLS Ambulance:

| Location | Medication | Quantity |
|---|---|---|
| Bag, Pharmacy Cell | Acetaminophen | 2 cups |
| | Adenosine | 3 vials |
| | Amiodarone | 3 vials - 150 mg ea |
| | Aspirin | 16 tabs |
| | Atropine | 1 vial multidose |
| | Atropine | 3 vials |
| | Benadryl | 1 vial |
| | Calcium Chloride | 2 vials |
| | Captopril | 2 tabs |
| | Cardizem | 2 kits |
| | Decadron | 1 vial - 16 mg |
| | Dextrose | 1 bag - 250 ml D10W |
| | Epinephrine 1:1,000 | 2 vials |
| | Epinephrine 1:10,000 | 4 vials |
| | Glucagon | 1 kit |
| | Glucose | 2 tubes |
| | Haldol | 2 vials |

| | | | |
|---|---|---|---|
| | Heparin | 2 vials | |
| | Hydralazine | 2 vials | |
| | Ibuprofen | 2 cups | |
| | Labetalol | 1 vial | |
| | Lidocaine | 2 vials | |
| | Magnesium Sulfate | 4 vials - 1 g ea | |
| | Narcan | 2 vials | |
| | Nitroglycerin | 1 bottle | |
| | Neo-Synephrine | 1 bottle | |
| | Normal Saline | 1 bag 100 ml | |
| | Oxytocin | 2 vials | |
| | Phenergan | 2 vials | |
| | Sodium Bicarbonate | 2 vials | |
| | Solu-Medrol | 2 vials | |
| | Tetracaine | 2 bottles | |
| | Thiamine | 1 vial | |
| | Toradol | 2 vials | |
| | TXA | 2 vials | |
| | Zofran | 6 vials | |
| | | Lactated Ringers | 1 bag - 1 L |
| Normal Saline | Cabinets | 1 bag - 500 ml | |
| Oxygen | | 2 cylinders | |
| Cot | Albuterol | 1 vial | |
| | Oxygen | 1 cylinder | |
| Monitor | Aspirin | 4 tabs | |
| | Nitroglycerin | 1 bottle | |

## ALS Ambulance:

| Location | Medication | Quantity |
|---|---|---|
| Bag, Big | Lactated Ringers | 1 bag - 1 L |
| Bag, Medication | Same as BLS Ambulance | |
| Bag, Oxygen | Albuterol | 1 vial |
| | Normal Saline | 1 vial - 3 ml |
| | Oxygen | 1 cylinder |
| Bag, Small | Lactated Ringers | 1 bag - 1 L |
| Box, Narcotics | Fentanyl | 4-8 vials |
| | Ketamine | 2 vials |

| | | |
|---|---|---|
| | Morphine | 2-6 vials - 4 mg ea |
| | Morphine | 2-6 vials - 10 mg ea |
| | Versed | 3-6 vials |
| Cabinets | Albuterol | 6 vials |
| | Dopamine Drip | 1 kit |
| | Duoneb | 4 vials |
| | Epinephrine Racemic | 1 vial |
| | Lactated Ringers | 4 bags - 1 L ea |
| | Lidocaine Drip | 1 kit |
| | Nitroglycerin Drip | 1 kit |
| | Normal Saline | 1 vial - 3 ml |
| | Normal Saline | 4 bags - 500 ml ea |
| | Oxygen | 2 cylinders |
| Cot | Same as BLS Ambulance | |
| IV Tray | Normal Saline | 10 flushes |
| Monitor | Same as BLS Ambulance | |
| RSI Kit] | Atropine | 1 vial |
| | Etomidate | 1 vial |
| | Rocuronium | 4 vials |

## EMS Mobile Integrated Healthcare Vehicle:

| Location | Medication | Quantity |
|---|---|---|
| Bag, Big | Same as ALS Ambulance | |
| Bag, Medication | Same as BLS Ambulance | |
| Bag, Oxygen | Same as ALS Ambulance | |
| Box, Narcotics | Same as ALS Ambulance | |
| Monitor | Same as BLS Ambulance | |
| RSI Kit | Same as ALS Ambulance | |

## EMS Supervisor Vehicle:

| Location | Medication | Quantity |
|---|---|---|
| Bag, Big | Same as ALS Ambulance | |
| Bag, Medication | Same as BLS Ambulance | |
| Bag, Oxygen | Same as ALS Ambulance | |
| Box, Narcotics | Same as ALS Ambulance | |
| Monitor | Same as BLS Ambulance | |

| RSI Kit | Same as ALS Ambulance |
| --- | --- |

## Change Log:

| Date | Link to previous version | Description of change |
|---|---|---|
| 05/31/15 | | Added this section to meet state requirement for medical director approval of what medications are currently carried on ambulances. |
| 09/16/15 | | Added Ketamine to narcotic box. Added contents of RSI box. |
| 01/26/16 | pdf | Added comments that the following are not authorized for EMH and not carried on their ambulances:<br>• Cardizem<br>• Decadron<br>• Etomidate<br>• Haldol<br>• Heparin<br>• Hydralazine<br>• Ketamine<br>• Neo-Synephrine<br>• Rocuronium |
| 02/03/16 | | Changed section title from currently on ambulances to currently on response vehicles. |
| 07/25/16 | pdf | At the request of Dr. Merk, we need to include Succinylcholine on ambulances and in RSI kits for an option to Rocuronium. |
| 08/02/16 | | Removed Ketamine, Succinylcholine, and Toradol from list of meds not currently carried by CMH. |
| 08/24/17 | pdf | Updated according to current ambulance inventory list. Removed Decadron, Lasix, and Procainamide. |
| 09/22/17 | | Added 1 bag D10W to cabinets. Added 2 tabs captopril to extra med box. Removed valium from narc box. Added 1 bad D10W to big bag. |
| 10/16/17 | | Updated placement of D10W bags. |
| 11/11/17 | pdf | Changes required for new IV pumps: Amiodarone bags and Magnesium Sulfate bags. Removed Lidocaine from RSI kit. |
| 11/19/17 | | Increased rocuronium from 2 vials to 4 vials in RSI kit due to increased dosages in version 9 protocols. |
| 08/24/18 | pdf | Made changes to quantities to accurately reflect ALS stock. Created section placeholders for BLS ambulance, EMS supervisor, and rescue vehicles. |
| 10/15/18 | | Updated ALS Ambulance, added EMS Supervisor, added BLS Ambulance, added PHFPD, added BCFD. |
| 01/16/19 | pdf | Made adjustments based on equipment committee recommendations. |
| 03/20/19 | | Made adjustments based on equipment committee recommendations. |
| 04/19/20 | pdf | Added content from old Protocol 7-001 - Medications Currently on Response Vehicles. Removed Xopenex. Removed Fire Department vehicles. |

| | | |
|---|---|---|
| 06/07/21 | pdf | Moved to emsprotocols.online |
| 11/30/21 | | Updated link to Acetaminophen |
| 11/30/21 | | Updated link to Activated Charcoal. |
| 11/30/21 | | Updated link to Adenosine. |
| 11/30/21 | | Updated link to Amiodarone. |
| 11/30/21 | | Updated link to Aspirin. |
| 12/01/21 | | Updated links for Vecuronium through Zofran. |
| 12/01/21 | | Updated link for TXA. |
| 02/28/22 | | Updated multiple medication links. |
| 03/17/23 | pdf | Several changes to catch up to a couple protocol committees where medication bag trials have been conducted with pharmacy cell, etc. More changes are pending as a new medication bag, IV bag, and box are being trialed. Current changes from the last edition: Removed the medication box and moved all medications from it into the pharmacy cell, reduced labetalol from 2 vials to 1 vial per bag. Discussed increasing Acetaminophen, Ibuprofen, Nitro, and D10W, but with two bags, kept the same amount per bags. Protocol committee on 5/26/21 added an extra bag of D10W which has since been removed due to two medication bags. Protocol committee on 1/26/22 removed the medication box. Equipment committee on 2/23/22 reduced the Labetalol per bag due to dual bags. More to come as we continue to fine tune the bags with the protocol and equipment committees. |
| 03/17/23 | | Updated links to NS. |
| 03/19/23 | | Changed link for Neosynephrine. |
| 03/19/23 | | Changed link for Narcan. |
| 03/19/23 | | Changed link to MagSulfate. |
| 03/19/23 | | Changed link to Lido. |
| 03/19/23 | | Changed link for Labetalol. |
| 03/20/23 | | Changed link for Ketamine. |
| 03/20/23 | | Changed link for Ibu. |
| 03/20/23 | | Changed link for Hydralazine. |
| 03/20/23 | | Changed link for Heparin. |
| 03/20/23 | | Changed link for Haldol. |
| 03/20/23 | | Changed link for Glucose. |
| 03/20/23 | | Changed link for Glucagon. |
| 03/20/23 | | Changed link for Fent. |
| 03/20/23 | | Changed link for Etomidate. |
| 03/20/23 | | Changed link for Racemic. |
| 03/20/23 | | Changed links for Epi. |
| 03/20/23 | | Changed link for Duoneb. |
| 03/20/23 | | Changed link for Dopamine. |
| 03/20/23 | | Changed link for Dextrose. |
| 03/20/23 | | Changed link for Decadron. |
| 03/20/23 | | Changed link for Cardizem. |

| | | |
|---|---|---|
| 03/20/23 | | Changed link to Captopril. |
| 03/20/23 | | Changed link for Calcium. |
| 03/20/23 | | Changed link for Benadryl. |
| 03/20/23 | | Changed links for Atropine. |
| 04/27/23 | pdf | Removed charcoal per Dr. Butvilas on 3/24/23. |

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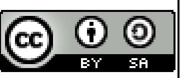
|---|---|---|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# Medication 7-011 - Acetaminophen (Tylenol)

**CMH EMS & MIH Protocols**

## Scope of Practice:

- Registered Nurse
- Paramedic
- Community Paramedic

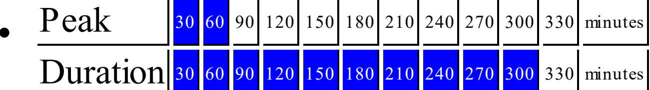
## Route(s):

- PO,

## Pharmacodynamics (class and mechanism of action):

- Analgesic (mechanism unknown).
- Antipyretic (through direct action on hypothalmus).

## Pharmacokinetics:

- **Half-life**: 1-4 hours.
- **Onset time**: 30-45 minutes.
- **Peak action time**: 30-60 minutes.
- **Duration of action**: 4-6 hours.
- 

| Peak | 30 | 60 | 90 | 120 | 150 | 180 | 210 | 240 | 270 | 300 | 330 | minutes |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Duration | 30 | 60 | 90 | 120 | 150 | 180 | 210 | 240 | 270 | 300 | 330 | minutes |

## Dosing:

- Refer to specific protocol(s) below for dose(s).

## Indications:

- Protocol 2-440 - Fever / Sepsis.
- Medication 7-450 - Ibuprofen.

## Contraindications:

- Hypersensitivity.

## Preganancy Risk Factor:

Category B
**No risk in other studies**: Animal reproduction studies have failed to demonstrate a risk to the fetus and there are no adequate and well-controlled studies in pregnant women, or animal studies have shown adverse effects, but adequate and well-controlled studies in pregnant women have failed to demonstrate a risk to the fetus in any trimester.

## Potential Incompatibilities:

- NA.

## Precautions and Adverse Effects:

- Avoid in patients with severe liver disease.
- Use caution with Chronic alcohol use.
- Use caution with Impaired renal function.
- Use caution with Phenylketonuria (PKU).
- May cause rash, uticaria, Nausea.

## Antidote:

- Acetylcysteine or mucomyst.

## Controlled Substance Information:

Not a scheduled drug
  - The DEA and FDA have not identified this drug with a schedule classification.
- **DEA number**: NA.
- **Narcotic**: No.
- **Street names**: NA.

## Change Log:

| Date | Link to previous version | Description of change |
|---|---|---|
| 11/11/13 | pdf | Added adult dose. |
| 04/29/20 | pdf | Added content (without substantive modification) from old Protocol 7-010 - Acetaminophen. |
| 06/09/21 | pdf | Moved to emsprotocols.online |
| 11/30/21 | | Renumbered from 7-010 to 7-011. |
| 03/17/23 | pdf | Added CP. |
| 03/20/23 | | Changed link for Ibu. |

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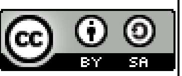
| CMH Pre-Hospital Services Mission: "*Provide safe, exceptional, and compassionate care to our communities with an emphasis on highly trained and empowered staff*." | CMH Mobile Integrated Healthcare Mission: "*Provide exceptional, compassionate, and patient-centered care by a mobile collaborative team to improve patient experience, improve quality outcomes, and reduce healthcare costs*." | |
|---|---|---|

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# Medication 7-022 - Activated Charcoal (Actidose)

**CMH EMS & MIH Protocols**

## Scope of Practice:

- Registered Nurse
- Paramedic
- Community Paramedic

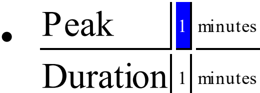
## Route(s):

- PO,

## Pharmacodynamics (class and mechanism of action):

- Adsorbent (adsorbs toxins by chemical binding and prevents gastrointestinal absorption).

## Pharmacokinetics:

- **Half-life**: Unknown.
- **Onset time**: Immediate.
- **Peak action time**: Unknown.
- **Duration of action**: Unknown.
- 

| Peak | 1 | minutes |
|---|---|---|
| Duration | 1 | minutes |

## Dosing:

- Refer to specific protocol(s) below for dose(s).

## Indications:

- Not in current protocols.

## Contraindications:

- No gag reflex.
- Any altered mental state.

- Ingestion of acids, alkalis, ethanol, methanol, Cyanide, iron salts, lithium, Pesticides, petroleum products.
- Acetaminophen overdose unless the receiving hospital has IV antidote.
- GI obstruction.

## Preganancy Risk Factor:

- Category C
- **Risk not ruled out**: Animal reproduction studies have shown an adverse effect on the fetus and there are no adequate and well-controlled studies in humans, but potential benefits may warrant use of the drug in pregnant women despite potential risks. FDA requires a relatively large amount of high-quality data on a pharmaceutical for it to be defined as Pregnancy Category A. As a result of this, many drugs that would be considered Pregnancy Category A in other countries are allocated to Category C by the FDA.

## Potential Incompatibilities:

- NA.

## Precautions and Adverse Effects:

- Aspiration may cause pneumonitis.
- May cause nausea, vomiting, constipation, diarrhea.

## Antidote:

- NA.

## Controlled Substance Information:

Not a scheduled drug
  - The DEA and FDA have not identified this drug with a schedule classification.
- **DEA number**: NA.
- **Narcotic**: No.
- **Street names**: NA.

# Change Log:

| Date | Link to previous version | Description of change |
|---|---|---|
| 11/17/15 | pdf | Modified contraindication from unconsciousness to any altered mental state. |
| 04/29/20 | pdf | Added content (without substantive modification) from old Protocol 7-020 - Activated Charcoal. |
| 06/09/21 | pdf | Moved to emsprotocols.online |
| 11/30/21 | | Updated link to Acetaminophen. |
| 11/30/21 | | Changed number from 7-020 to 7-022. |
| 03/17/23 | pdf | Added CP. |

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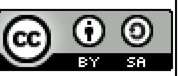
| CMH Pre-Hospital Services Mission: "*Provide safe, exceptional, and compassionate care to our communities with an emphasis on highly trained and empowered staff*." | CMH Mobile Integrated Healthcare Mission: "*Provide exceptional, compassionate, and patient-centered care by a mobile collaborative team to improve patient experience, improve quality outcomes, and reduce healthcare costs*." | |
|---|---|---|

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# Medication 7-033 - Adenosine (Adenocard)

**CMH EMS & MIH Protocols**

## Scope of Practice:

- Registered Nurse
- Paramedic
- Community Paramedic

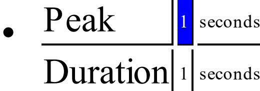
## Route(s):

- IO, IV,

## Pharmacodynamics (class and mechanism of action):

- Antiarrhythmic (slows AV conduction).

## Pharmacokinetics:

- **Half-life**: less than 10 seconds.
- **Onset time**: Immediate.
- **Peak action time**: Immediate.
- **Duration of action**: Unknown.
- 

| Peak | 1 | seconds |
|---|---|---|
| Duration | 1 | seconds |

## Dosing:

- Refer to specific protocol(s) below for dose(s).

## Indications:

- Protocol 2-858 - Supraventricular Tachycardia.
- Protocol 2-946 - Ventricular Tachycardia.

## Contraindications:

- 2nd or 3rd degree heart block.
- Sick Sinus Syndrome.
- Non-cardiac-related Tachycardia (i.e. hypovolemia, dehydration, etc.).

## Pregnancy Risk Factor:

- Category C
- **Risk not ruled out**: Animal reproduction studies have shown an adverse effect on the fetus and there are no adequate and well-controlled studies in humans, but potential benefits may warrant use of the drug in pregnant women despite potential risks. FDA requires a relatively large amount of high-quality data on a pharmaceutical for it to be defined as Pregnancy Category A. As a result of this, many drugs that would be considered Pregnancy Category A in other countries are allocated to Category C by the FDA.

## Potential Incompatibilities:

- NA.

## Precautions and Adverse Effects:

- Arrhythmias, including blocks, are common at the time of Cardioversion.
- Use caution in patients with Asthma.
- May cause flushing, headache, Shortness of Breath, dizziness, Nausea, sense of impending doom, Chest Pressure, and/or numbness.
- May be a brief episode of asystole after administration.

## Antidote:

- NA.

## Controlled Substance Information:

Not a scheduled drug
  - The DEA and FDA have not identified this drug with a schedule classification.
- **DEA number**: NA.
- **Narcotic**: No.
- **Street names**: NA.

## Change Log:

| Date | Link to previous version | Description of change |
|---|---|---|
| 07/23/19 | pdf | Specified contraindication of non-cardiac-related tachycardia. |
| 04/29/20 | pdf | Added content (without substantive modification) from old Protocol 7-030 - Adenosine. |
| 02/22/21 | pdf | Added indication for ventricular tachycardia. |
| 06/09/21 | pdf | Moved to emsprotocols.online |
| 11/30/21 | | Changed number from 7-030 to 7-033. |
| 03/17/23 | pdf | Added CP. |

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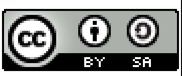
|---|---|---|



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# Medication 7-055 - Albuterol (Proventil, Ventolin)

**CMH EMS & MIH Protocols**

## Scope of Practice:

- Advanced Emergency Medical Technician
- Registered Nurse
- Paramedic
- Community Paramedic

## Route(s):

- Neb,

## Pharmacodynamics (class and mechanism of action):

- Beta-2 selective sympathomimetic (Binds and stimulates beta-2 receptors, resulting in relaxation of bronchial smooth muscle).

## Pharmacokinetics:

- **Half-life**: 1.6 hours.
- **Onset time**: 5-15 minutes.
- **Peak action time**: 30-120 minutes.
- **Duration of action**: 2-6 hours.
-

| Peak | 24 | 48 | 72 | 96 | 120 | 144 | 168 | 192 | 216 | 240 | 264 | minutes |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Duration | 24 | 48 | 72 | 96 | 120 | 144 | 168 | 192 | 216 | 240 | 264 | minutes |

## Dosing:

- Refer to specific protocol(s) below for dose(s).

## Indications:

- Protocol 2-396 - Extremity Trauma.
- Protocol 2-726 - Pulmonary Edema.
- Protocol 2-077 - Respiratory Distress.

# Contraindications:

- Angioedema.

## Pregnancy Risk Factor:

- Category C
- **Risk not ruled out**: Animal reproduction studies have shown an adverse effect on the fetus and there are no adequate and well-controlled studies in humans, but potential benefits may warrant use of the drug in pregnant women despite potential risks. FDA requires a relatively large amount of high-quality data on a pharmaceutical for it to be defined as Pregnancy Category A. As a result of this, many drugs that would be considered Pregnancy Category A in other countries are allocated to Category C by the FDA.

## Potential Incompatibilities:

- NA.

## Precautions and Adverse Effects:

- Potassium depleater and may cause hypokalemia.
- Blood pressure, pulse, and ECG should be monitored.
- Use caution in patients with known heart disease.
- May cause Palpitations, Anxiety, headache, dizziness, sweating, Hyperglycemia, insomnia, Tachycardia, Nausea, Vomiting, throat irritation, dry mouth, epistaxis, Hypertension, dyspepsia, and paradoxical Bronchospasm.

## Antidote:

- NA.

## Controlled Substance Information:

Not a scheduled drug
  - The DEA and FDA have not identified this drug with a schedule classification.
- **DEA number**: NA.
- **Narcotic**: No.
- **Street names**: NA.

# Change Log:

| Date | Link to previous version | Description of change |
|---|---|---|
| 07/23/19 | pdf | Added comment about potassium depletionhypokalemia. |
| 04/29/20 | pdf | Added content (without substantive modification) from old Protocol 7-040 - Albuterol. |
| 06/09/21 | pdf | Moved to emsprotocols.online |
| 11/30/21 | | Changed number from 7-040 to 7-055. |
| 03/17/23 | pdf | Added CP. |

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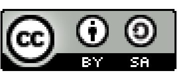
|---|---|---|



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# Medication 7-066 - Amiodarone (Cordarone)

**CMH EMS & MIH Protocols**

## Scope of Practice:

- Registered Nurse
- Paramedic
- Community Paramedic

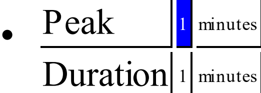
## Route(s):

- IO, IV,

## Pharmacodynamics (class and mechanism of action):

- Class III antiarrhythmic.
- Potassium channel blocker. Prolongs intranodal conduction. Prolongs refractoriness of the AV node.

## Pharmacokinetics:

- **Half-life**: 40-50 days.
- **Onset time**: Unknown.
- **Peak action time**: Unknown.
- **Duration of action**: Variable.
- 

| Peak | 1 | minutes |
| --- | --- | --- |
| Duration | 1 | minutes |

## Dosing:

- Refer to specific protocol(s) below for dose(s).

## Indications:

- Protocol 2-198 - Cardiac Arrest.
- Protocol 2-858 - Supraventricular Tachycardia.
- Protocol 2-946 - Ventricular Tachycardia.
- Protocol 2-968 - V-Fib / Pulseless V-Tach.

## Contraindications:

- Pregnancy.
- Cardiogenic shock.
- Sinus Bradycardia.
- 2nd or 3rd degree AV block.
- Sick Sinus Syndrome.
- Sensitivity to benzyl alcohol and iodine.

## Pregnancy Risk Factor:

Category D
**Positive evidence of risk**: There is positive evidence of human fetal risk based on adverse reaction data from investigational or marketing experience or studies in humans, but potential benefits may warrant use of the drug in pregnant women despite potential risks.

## Potential Incompatibilities:

- NA.

## Precautions and Adverse Effects:

- Use caution with Proarrhythmic with concurrent antiarrhythmic meds.
- Consider slower administration on patients with hepatic or renal dysfunction.
- May prolong QT interval. 12-lead is indicated after administration.
- May cause hypotension, Bradycardia (slow down the rate of infusion).

## Antidote:

- Medication 7-175 - Calcium Chloride.
- Medication 7-384 - Glucagon.

## Controlled Substance Information:

Not a scheduled drug
  - The DEA and FDA have not identified this drug with a schedule classification.

- **DEA number**: NA.
- **Narcotic**: No.
- **Street names**: NA.

## Change Log:

| Date | Link to previous version | Description of change |
|---|---|---|
| 04/01/15 | pdf | Added comment about prolonging QT interval and the need for 12-lead. |
| 08/24/18 | pdf | Added antidote option of Mag Sulfate if torsades. |
| 07/23/19 | pdf | Clarified potassium-channel blocker. |
| 11/27/19 | pdf | Added pregnancy as contraindication due to FDA risk category. |
| 04/29/20 | pdf | Added content (without substantive modification) from old Protocol 7-050 - Amiodarone. |
| 06/09/21 | pdf | Moved to emsprotocols.online |
| 11/30/21 | | Changed number from 7-050 to 7-066. |
| 03/17/23 | pdf | Comorgan Jones suggested research that indicates improved uptake if mixed with D5W instead of NS on 5/26/21. However, we do not carry D5W on ambulances, so it was not changed. Added CP. |
| 03/20/23 | | Changed link for Glucagon. |
| 03/20/23 | | Changed link for Calcium. |

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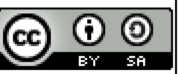
| CMH Pre-Hospital Services Mission: "*Provide safe, exceptional, and compassionate care to our communities with an emphasis on highly trained and empowered staff*." | CMH Mobile Integrated Healthcare Mission: "*Provide exceptional, compassionate, and patient-centered care by a mobile collaborative team to improve patient experience, improve quality outcomes, and reduce healthcare costs*." | |
|---|---|---|



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# Medication 7-099 - Aspirin (Bayer)

**CMH EMS & MIH Protocols**

## Scope of Practice:

- Emergency Medical Technician
- Advanced Emergency Medical Technician
- Registered Nurse
- Paramedic
- Community Paramedic

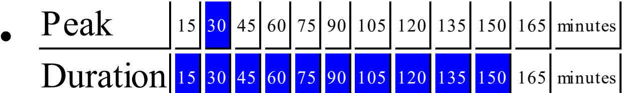
## Route(s):

- PO,

## Pharmacodynamics (class and mechanism of action):

- Platelet inhibitor (Prevents formation of thromboxane A2).
- Anti-inflammatory.
- Analgesic.

## Pharmacokinetics:

- **Half-life**: 15-20 minutes.
- **Onset time**: 5-30 minutes.
- **Peak action time**: 25-40 minutes.
- **Duration of action**: 1-4 hours.
- 

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Peak | 15 | 30 | 45 | 60 | 75 | 90 | 105 | 120 | 135 | 150 | 165 | minutes |
| Duration | 15 | 30 | 45 | 60 | 75 | 90 | 105 | 120 | 135 | 150 | 165 | minutes |

## Dosing:

- Refer to specific protocol(s) below for dose(s).

## Indications:

- Protocol 2-220 - Chest Pain / Suspected Cardiac Event.

## Contraindications:

- Pregnancy.
- GI bleeding.
- Active ulcer disease.
- Hemorrhagic Stroke.
- Bleeding disorders.
- Children with chickenpox or flu-like symptoms.

## Pregnancy Risk Factor:

Category D

**Positive evidence of risk**: There is positive evidence of human fetal risk based on adverse reaction data from investigational or marketing experience or studies in humans, but potential benefits may warrant use of the drug in pregnant women despite potential risks.

## Potential Incompatibilities:

- NA.

## Precautions and Adverse Effects:

- Aspirin may trigger Asthma attacks in certain individuals with sensitivity.
- Use caution with GI bleeding and upset stomach, trauma, decreased LOC of unknown origin.

## Antidote:

- Medication 7-823 - Sodium Bicarbonate.

## Controlled Substance Information:

Not a scheduled drug
  - The DEA and FDA have not identified this drug with a schedule classification.
- **DEA number**: NA.
- **Narcotic**: No.
- **Street names**: NA.

# Change Log:

| Date | Link to previous version | Description of change |
|---|---|---|
| 12/20/13 | pdf | Added EMT scope of practice statement. |
| 03/31/15 | pdf | Moved Asthma from contraindication to precautions. |
| 08/24/18 | pdf | Added antidote option of Sodium Bicarb. |
| 11/27/19 | pdf | Added pregnancy as contraindication due to FDA risk category. |
| 04/29/20 | pdf | Added content (without substantive modification) from old Protocol 7-060 - Aspirin. |
| 06/09/21 | pdf | Moved to emsprotocols.online |
| 11/30/21 | | Changed number from 7-060 to 7-099. |
| 02/28/22 | | Updated link to Sodium Bicarb. |
| 03/17/23 | pdf | Added CP. Removed Aspirin from the scope of practice from EMD and EMR to coincide with the change made back in 10/14/21 to Protocol 2-220 that just did not make it to this ASA document. |

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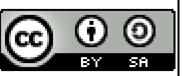
|---|---|---|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# Medication 7-110 - Ativan (Lorazapam)

**CMH EMS & MIH Protocols**

## Scope of Practice:

- Registered Nurse
- Paramedic
- Community Paramedic

## Route(s):

- IM/SQ, IV, PO, PR, SL,

## Pharmacodynamics (class and mechanism of action):

- Sedative (Benzodiazepine: Binds to benzodiazepine receptor and enhances effects of GABA).
- Anticonvulsant (Skeletal muscle relaxant).

## Pharmacokinetics:

- **Half-life**: 9-16 hours.
- **Onset time**:
  - **IM**: 15-30 minutes.
  - **IV**: 5 minutes.
  - **PO**: 1 hour.
- **Peak action time**:
  - **IM/IV**: 60-90 minutes.
  - **PO**: 2 hours.
- **Duration of action**:
  - **IM/IV**: 6-8 hours.
  - **PO**: 12-24 hours.
-

| Peak | 90 | 180 | 270 | 360 | 450 | 540 | 630 | 720 | 810 | 900 | 990 | minutes |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Duration | 90 | 180 | 270 | 360 | 450 | 540 | 630 | 720 | 810 | 900 | 990 | minutes |

## Dosing:

- Refer to specific protocol(s) below for dose(s).

## Indications:

- Protocol 2-198 - Cardiac Arrest.

## Contraindications:

- Pregnancy and nursing.
- Sensitivity to benzodiazepines, polyethylene glycol, benzyl alcohol.
- COPD.
- Shock.
- Coma.
- Closed angle glaucoma.

## Pregnancy Risk Factor:

Category D

**Positive evidence of risk**: There is positive evidence of human fetal risk based on adverse reaction data from investigational or marketing experience or studies in humans, but potential benefits may warrant use of the drug in pregnant women despite potential risks.

## Potential Incompatibilities:

- NA.

## Precautions and Adverse Effects:

- Use caution with Suicidal Tendencies, Depressive Disorders, Psychosis, acute alcohol intoxication, renal or hepatic impairment, organic brain syndrome, myasthenia gravis, GI disorders, elderly or debilitated, limited pulmonary reserve.
- May cause apnea, Nausea, Vomiting, drowsiness, restlessness, delirium, anterior grade amnesia, weakness, unsteadiness, depression, sleep disturbances, confusion, hallucinations, Hypertension, hypotension, blurred vision, Abdominal Discomfort.

## Antidote:

- Flumazenil.

## Controlled Substance Information:

Schedule IV
  - Moderate potential for abuse. Abusing the drug may lead to moderate mental or physical addiction.
- **DEA number**: 2885.
- **Narcotic**: No.
- **Street names**: Control, Silence.

# Change Log:

| Date | Link to previous version | Description of change |
|---|---|---|
| 10/09/13 | pdf | Added option for SL tablet. |
| 12/29/14 | pdf | Added DEA and street info. |
| 08/24/17 | pdf | Removed indications to all protocol references except Protocol 6-060 - Do Not Resuscitate (DNR). |
| 04/29/20 | pdf | Added content (without substantive modification) from old Protocol 7-070 - Ativan. |
| 06/09/21 | pdf | Moved to emsprotocols.online |
| 03/20/23 | | Changed number from 7-070 to 7-110. |

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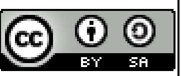


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# Medication 7-121 - Atropine (Sal-Tropine)

**CMH EMS & MIH Protocols**

## Scope of Practice:

- Registered Nurse
- Paramedic
- Community Paramedic

## Route(s):

- ET, IO, IV,

## Pharmacodynamics (class and mechanism of action):

- Anticholinergic / Parasympatholytic (Competes with acetylcholine at the site of muscarinic receptor. Increases heart rate).

## Pharmacokinetics:

- **Half-life**: 2 hours.
- **Onset time**: Immediate.
- **Peak action time**: 2-4 minutes.
- **Duration of action**: 4 hours.
-

| Peak | 24 | 48 | 72 | 96 | 120 | 144 | 168 | 192 | 216 | 240 | 264 | minutes |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Duration | 24 | 48 | 72 | 96 | 120 | 144 | 168 | 192 | 216 | 240 | 264 | minutes |

## Dosing:

- Refer to specific protocol(s) below for dose(s).

## Indications:

- Protocol 2-044 - Airway: RSI.
- Protocol 2-154 - Bradycardia.
- Protocol 2-198 - Cardiac Arrest.
- Protocol 2-374 - Exposure: Nerve Agents.
- Protocol 2-484 - Head Trauma.
- Protocol 2-748 - Pulselss Electrical Activity.

## Contraindications:

- None when used in emergency situations.

## Pregnancy Risk Factor:

- Category C
- **Risk not ruled out**: Animal reproduction studies have shown an adverse effect on the fetus and there are no adequate and well-controlled studies in humans, but potential benefits may warrant use of the drug in pregnant women despite potential risks. FDA requires a relatively large amount of high-quality data on a pharmaceutical for it to be defined as Pregnancy Category A. As a result of this, many drugs that would be considered Pregnancy Category A in other countries are allocated to Category C by the FDA.

## Potential Incompatibilities:

- Medication 7-417 - Heparin.

## Precautions and Adverse Effects:

- Use cautiously in the presence of myocardial ischemia and hypoxia because it increases oxygen demand on the heart and can worsen ischemia.
- May prolong QT interval. 12-lead is indicated after administration.
- May cause Hypertension and/or Bradycardia if dose is too low or administered too slowly.
- May cause palpitations, Tachycardia, headache, dizziness, anxiety, dry mouth, pupillary dilation, blurred vision, urinary retention (especially older males), hot skin temperature, intense facial flushing, and/or restlessness.

## Antidote:

- Physostigmine (Antilirium).

## Controlled Substance Information:

Not a scheduled drug
  - The DEA and FDA have not identified this drug with a schedule classification.
- **DEA number**: NA.
- **Narcotic**: No.
- **Street names**: NA.

## Change Log:

| Date | Link to previous version | Description of change |
|---|---|---|

| | | |
|---|---|---|
| 05/05/15 | pdf | Added Physostigmine as antidote. |
| 06/01/15 | | Added incidation for Protocol 6-025 - Cardiopulmonary Resuscitation (CPR). |
| 05/09/20 | pdf | Added content (without substantive modification) from old Protocol 7-080 - Atropine. |
| 06/09/21 | pdf | Moved to emsprotocols.online |
| 10/16/21 | pdf | Added comment per the request of Dr. Nicholes: Use atropine cautiously in the presence of MI due worsening ischemia. |
| 03/20/23 | | Changed link to Heparin. |
| 03/20/23 | | Changed number from 7-080 to 7-121. |
| 03/20/23 | pdf | Added CP. |

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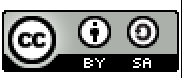
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# Medication 7-143 - Benadryl (Diphenhydramine)

### CMH EMS & MIH Protocols

## Scope of Practice:

- Registered Nurse
- Paramedic
- Community Paramedic

## Route(s):

- IM/SQ, IO, IV,

## Pharmacodynamics (class and mechanism of action):

- Antihistamine (Blocks H1 histamine receptors).
- Has some sedative effects.

## Pharmacokinetics:

- **Half-life**: 2.4-9.3 hours.
- **Onset time**: Immediate.
- **Peak action time**: 1-4 hours.
- **Duration of action**: 6-8 hours.
-

| Peak | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | hours |
|---|---|---|---|---|---|---|---|---|---|
| Duration | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | hours |

## Dosing:

- Refer to specific protocol(s) below for dose(s).

## Indications:

- Protocol 2-066 - Allergic Reaction.
- Protocol 2-110 - Behavioral.
- Protocol 2-660 - Pain Control.
- Protocol 2-990 - Vomiting.
- Medication 7-406 - Haldol.

- Medication 7-592 - Morphine.
- Medication 7-702 - Phenergan.
- Medication 7-801 - Reglan.

## Contraindications:

- Asthma.
- Nursing mothers.

## Pregnancy Risk Factor:

Category B
**No risk in other studies**: Animal reproduction studies have failed to demonstrate a risk to the fetus and there are no adequate and well-controlled studies in pregnant women, or animal studies have shown adverse effects, but adequate and well-controlled studies in pregnant women have failed to demonstrate a risk to the fetus in any trimester.

## Potential Incompatibilities:

- Medication 7-823 - Sodium Bicarbonate.

## Precautions and Adverse Effects:

- May prolong QT interval. 12-lead is indicated after administration.
- May cause dedation, drying and thickening of bronchial secretions, blurred vision, headache, palpitations, dizziness, excitability, wheezing, chest tightness, hypotension, dry mouth, Nausea, vomiting, and/or diarrhea.

## Antidote:

- Physostigmine (Antilirium).

## Controlled Substance Information:

Not a scheduled drug
  - The DEA and FDA have not identified this drug with a schedule classification.
- **DEA number**: NA.
- **Narcotic**: No.
- **Street names**: NA.

# Change Log:

| Date | Link to previous version | Description of change |
|---|---|---|
| 04/01/15 | pdf | Added comment about prolonging QT interval and the need for 12-lead. |
| 05/05/15 | pdf | Added Physostigmine as antidote. |
| 08/24/17 | pdf | Removed indication to Compazine. |
| 09/22/17 | | Added indication for nausea. |
| 07/23/19 | pdf | Added indication of Morphine with hypotension. |
| 05/09/20 | | Added content (without substantive modification) from old Protocol 7-090 - Benadryl. |
| 05/17/20 | pdf | Added indication for Reglan for EPS. |
| 06/09/21 | pdf | Moved to emsprotocols.online |
| 02/28/22 | | Updated link for Sodium Bicarb. |
| 02/28/22 | | Updated link for Reglan. |
| 02/28/22 | | Updated link to Phenergan. |
| 03/19/23 | | Changed link for Morphine. |
| 03/20/23 | | Changed link for Haldol. |
| 03/20/23 | | Changed number from 7-090 to 7-143. |
| 03/20/23 | pdf | Added CP. |

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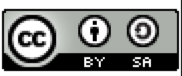

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# Medication 7-175 - Calcium Chloride (Calciject)

**CMH EMS & MIH Protocols**

## Scope of Practice:

- Registered Nurse
- Paramedic
- Community Paramedic

## Route(s):

- IO, IV,

## Pharmacodynamics (class and mechanism of action):

- Electrolyte (Facilitates cardiac contractility).

## Pharmacokinetics:

- **Half-life**: Unknown.
- **Onset time**: Immediate.
- **Peak action time**: Immediate.
- **Duration of action**: 0.5-2 hours.
-

| Peak | 9 | 18 | 27 | 36 | 45 | 54 | 63 | 72 | 81 | 90 | 99 | minutes |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Duration | 9 | 18 | 27 | 36 | 45 | 54 | 63 | 72 | 81 | 90 | 99 | minutes |

## Dosing:

- Refer to specific protocol(s) below for dose(s).

## Indications:

- Protocol 2-176 - Burns.
- Protocol 2-198 - Cardiac Arrest.
- Protocol 2-396 - Extremity Trauma.
- Protocol 2-638 - Overdose / Toxic Ingestion.
- Medication 7-066 - Amiodarone.
- Medication 7-559 - Magnesium Sulfate.

## Contraindications:

- Patients on Digitalis.

## Pregnancy Risk Factor:

- Category C
- **Risk not ruled out**: Animal reproduction studies have shown an adverse effect on the fetus and there are no adequate and well-controlled studies in humans, but potential benefits may warrant use of the drug in pregnant women despite potential risks. FDA requires a relatively large amount of high-quality data on a pharmaceutical for it to be defined as Pregnancy Category A. As a result of this, many drugs that would be considered Pregnancy Category A in other countries are allocated to Category C by the FDA.

## Potential Incompatibilities:

- Medication 7-823 - Sodium Bicarbonate.

## Precautions and Adverse Effects:

- May cause Bradycardia, Asystole, and hypotension.

## Antidote:

- NA.

## Controlled Substance Information:

Not a scheduled drug
  - The DEA and FDA have not identified this drug with a schedule classification.
- **DEA number**: NA.
- **Narcotic**: No.
- **Street names**: NA.

# Change Log:

| Date | Link to previous version | Description of change |
|---|---|---|
| 09/22/17 | pdf | Added indication for CPR. |
| 07/23/19 | pdf | Clarified facilitation of cardiac contractility. |
| 05/09/20 | pdf | Added content (without substantive modification) from old Protocol 7-100 - Calcium Chloride. |
| 06/09/21 | pdf | Moved to emsprotocols.online |
| 11/30/21 | | Updated link to Amiodarone. |
| 02/28/22 | | Updated link to Sodium Bicarb. |
| 03/19/23 | | Changed link for MagSulfate. |
| 03/20/23 | pdf | Added CP. |

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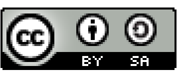

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# Medication 7-186 - Captopril (Capoten)

**CMH EMS & MIH Protocols**

## Scope of Practice:

- Registered Nurse
- Paramedic
- Community Paramedic

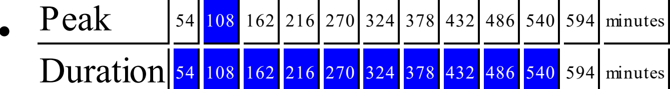
## Route(s):

- IO, IV, SL,

## Pharmacodynamics (class and mechanism of action):

- ACE inhibitor (Competitive inhibitor of Angiotension Converting Enzyme).

## Pharmacokinetics:

- **Half-life**: 1.9 hours.
- **Onset time**: 15-60 minutes.
- **Peak action time**: 60-90 minutes.
- **Duration of action**: 6-12 hours.
- 

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Peak | 54 | 108 | 162 | 216 | 270 | 324 | 378 | 432 | 486 | 540 | 594 | minutes |
| Duration | 54 | 108 | 162 | 216 | 270 | 324 | 378 | 432 | 486 | 540 | 594 | minutes |

## Dosing:

- Refer to specific protocol(s) below for dose(s).

## Indications:

- Protocol 2-726 - Pulmonary Edema.

## Contraindications:

- Pregnancy.
- Hypersensitivity to any ACE inhibitor.

## Pregnancy Risk Factor:

Category D

**Positive evidence of risk**: There is positive evidence of human fetal risk based on adverse reaction data from investigational or marketing experience or studies in humans, but potential benefits may warrant use of the drug in pregnant women despite potential risks.

## Potential Incompatibilities:

- NA.

## Precautions and Adverse Effects:

- Use caution with aortic stenosis, bilateral renal artery stenosis, hypertrophic obstructive cardiomyopathy, pericardial tamponade, elevated serum potassium levels, and acute kidney failure.
- May cause hyperkalemia, especially in patients with renal deficiency.
- May cause hypotension, angioedema, headache, dizziness, fatigue, depression, Chest Pain, palpitations, cough, Dyspnea, nausea, vomiting, rash, pruritus, and/or renal failure.

## Antidote:

- NA.

## Controlled Substance Information:

Not a scheduled drug
  - The DEA and FDA have not identified this drug with a schedule classification.
- **DEA number**: NA.
- **Narcotic**: No.
- **Street names**: NA.

# Change Log:

| Date | Link to previous version | Description of change |
|---|---|---|
| 08/24/17 | pdf | Added indication to Protocol 4-070 - Congestive Heart Failure (CHF). |
| 11/27/19 | pdf | Added pregnancy as contraindication due to FDA risk category. |
| 05/09/20 | pdf | Added content (without substantive modification) from old Protocol 7-110 - Captopril. |
| 06/09/21 | pdf | Moved to emsprotocols.online |
| 03/20/23 | | Changed number from 7-110 to 7-186. |
| 03/20/23 | pdf | Added CP. |

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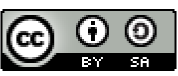
|---|---|---|



|  | Polk, Hickory, Cedar, & St Clair County EMS Protocols by Theron Becker is licensed under a Creative Commons Attribution-ShareAlike 4.0 International License. |
|---|---|

# Medication 7-197 - Cardizem (Diltiazem)

**CMH EMS & MIH Protocols**

## Scope of Practice:

- Registered Nurse
- Paramedic
- Community Paramedic

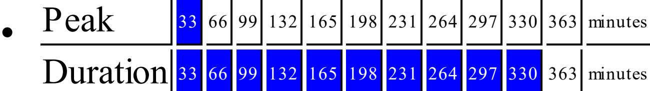
## Route(s):

- IO, IV,

## Pharmacodynamics (class and mechanism of action):

- Calcium channel blocker (Slows conduction through the AV node).

## Pharmacokinetics:

- **Half-life**: 3-9 hours.
- **Onset time**: 2 minutes.
- **Peak action time**: 2-7 minutes.
- **Duration of action**: 1-10 hours.
- 

| Peak | 33 | 66 | 99 | 132 | 165 | 198 | 231 | 264 | 297 | 330 | 363 | minutes |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Duration | 33 | 66 | 99 | 132 | 165 | 198 | 231 | 264 | 297 | 330 | 363 | minutes |

## Dosing:

- Refer to specific protocol(s) below for dose(s).

## Indications:

- Protocol 2-858 - Supraventricular Tachycardia.

## Contraindications:

- Heart blocks.
- Conduction disturbances.
- Wolff-Parkinson White. Perform a 12-lead to rule out WPW before administration.
- Congestive heart failure.

- Hypotension.
- Should not be used in patients receiving IV Beta-Blockers.

## Pregnancy Risk Factor:

- Category C
- **Risk not ruled out**: Animal reproduction studies have shown an adverse effect on the fetus and there are no adequate and well-controlled studies in humans, but potential benefits may warrant use of the drug in pregnant women despite potential risks. FDA requires a relatively large amount of high-quality data on a pharmaceutical for it to be defined as Pregnancy Category A. As a result of this, many drugs that would be considered Pregnancy Category A in other countries are allocated to Category C by the FDA.

## Potential Incompatibilities:

- NA.

## Precautions and Adverse Effects:

- May cause hypotension, Nausea, Vomiting, dizziness, Bradycardia, flushing, headache, heart block, and/or Cardiac Arrest.

## Antidote:

- Medication 7-175 - Calcium Chloride.
- Medication 7-384 - Glucagon.

## Controlled Substance Information:

- Not a scheduled drug
  - The DEA and FDA have not identified this drug with a schedule classification.
- **DEA number**: NA.
- **Narcotic**: No.
- **Street names**: NA.

## Change Log:

| Date | Link to previous version | Description of change |
|---|---|---|
| 06/08/15 | pdf | Added quick reference dosage chart. |
| 05/09/20 | pdf | Added content (without substantive modification) from old Protocol 7-120 - Cardizem. |
| 06/11/21 | pdf | Moved to emsprotocols.online |
| 03/20/23 | | Changed link for Glucagon. |
| 03/20/23 | | Changed number from 7-120 to 7-197. |
| 03/20/23 | | Changed link to Calcium. |
| 03/20/23 | pdf | Added CP. |

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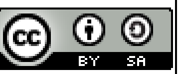
|---|---|---|

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# Medication 7-241 - Decadron (Dexamethasone)

**CMH EMS & MIH Protocols**

## Scope of Practice:

- Registered Nurse
- Paramedic
- Community Paramedic

## Route(s):

- IM/SQ, IO, IV, Neb, PO,

## Pharmacodynamics (class and mechanism of action):

- Steriod.
- Anti-inflammatory (Reduces inflammation and immune response).
- Increases pulmonary microcirculation.

## Pharmacokinetics:

- **Half-life**: 1-2 days.
- **Onset time**: 1-2 hours.
- **Peak action time**: 1-2 hours.
- **Duration of action**: 2-6 days.
-

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Peak | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 | hours |
| Duration | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 | hours |

## Dosing:

- Refer to specific protocol(s) below for dose(s).

## Indications:

- Protocol 2-770 - Respiratory Distress.

## Contraindications:

- None in emergency setting.

## Pregnancy Risk Factor:

- Category C
- **Risk not ruled out**: Animal reproduction studies have shown an adverse effect on the fetus and there are no adequate and well-controlled studies in humans, but potential benefits may warrant use of the drug in pregnant women despite potential risks. FDA requires a relatively large amount of high-quality data on a pharmaceutical for it to be defined as Pregnancy Category A. As a result of this, many drugs that would be considered Pregnancy Category A in other countries are allocated to Category C by the FDA.

## Potential Incompatibilities:

- NA.

## Precautions and Adverse Effects:

- Use with caution with Cushings, fungal infections, measles, and varicella.
- May cause Nausea, Vomiting, headache, vertigo, anxiety, hypokalemia, Hyperglycemia, tremors, Hypertension, and immunosuppression.

## Antidote:

- NA.

## Controlled Substance Information:

Not a scheduled drug
  - The DEA and FDA have not identified this drug with a schedule classification.
- **DEA number**: NA.
- **Narcotic**: No.
- **Street names**: NA.

## Change Log:

| Date | Link to previous version | Description of change |
|---|---|---|
| 11/11/13 | pdf | Added IV/IO/IM/PO and moved Neb to last resort. |
| 08/24/17 | pdf | Removed this section. |
| 07/23/19 | pdf | Added indications for AsthmaCroup. |
| 05/09/20 | pdf | Added content (without substantive modification) from old Protocol 7-140 - Decadron. |
| 06/11/21 | pdf | Moved to emsprotocols.online |
| 03/20/23 | | Changed number from 7-140 to 7-241. |
| 03/20/23 | pdf | Added CP. |

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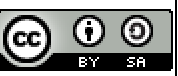
|---|---|---|



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# Medication 7-252 - Dextrose

**CMH EMS & MIH Protocols**

## Scope of Practice:

- Advanced Emergency Medical Technician
- Registered Nurse
- Paramedic
- Community Paramedic

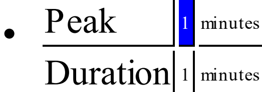
## Route(s):

- IO, IV,

## Pharmacodynamics (class and mechanism of action):

- Carbohydrate (Elevates blood sugar level rapidly).

## Pharmacokinetics:

- **Half-life**: Unknown.
- **Onset time**: Immediate.
- **Peak action time**: Immediate.
- **Duration of action**: Unknown.
- 

| | | |
|---|---|---|
| Peak | 1 | minutes |
| Duration | 1 | minutes |

## Dosing:

- Refer to specific protocol(s) below for dose(s).

## Indications:

- Protocol 2-198 - Cardiac Arrest.
- Protocol 2-396 - Extremity Trauma.
- Protocol 2-572 - Hypoglycemia.

## Contraindications:

- Intracranial hemorrhage.

## Pregnancy Risk Factor:

- Category C
- **Risk not ruled out**: Animal reproduction studies have shown an adverse effect on the fetus and there are no adequate and well-controlled studies in humans, but potential benefits may warrant use of the drug in pregnant women despite potential risks. FDA requires a relatively large amount of high-quality data on a pharmaceutical for it to be defined as Pregnancy Category A. As a result of this, many drugs that would be considered Pregnancy Category A in other countries are allocated to Category C by the FDA.

## Potential Incompatibilities:

- NA.

## Precautions and Adverse Effects:

- If alcohol abuse or malnourishment is suspected, then Thiamine should be administered to facilitate Dextrose use by cells.
- May cause local venous irritation, Hyperglycemia, warmth, and/or thrombosis.

## Antidote:

- NA.

## Controlled Substance Information:

Not a scheduled drug
  - The DEA and FDA have not identified this drug with a schedule classification.
- **DEA number**: NA.
- **Narcotic**: No.
- **Street names**: NA.

## Change Log:

| Date | Link to previous version | Description of change |
|---|---|---|
| 08/24/17 | pdf | Removed indication for Procainamide. Removed references to D50W and D25W. |
| 09/22/17 | | Fixed typo link to hyperglycemia instead of hypoglycemia. |
| 08/24/18 | pdf | Removed indication of WPW. Added comment about Thiamine administration. |
| 05/09/20 | pdf | Added content (without substantive modification) from old Protocol 7-150 - Dextrose. |
| 06/11/21 | pdf | Moved to emsprotocols.online |
| 02/28/22 | | Changed link for Thiamine. |
| 03/20/23 | | Changed number from 7-150 to 7-252. |
| 03/20/23 | pdf | Added CP. |

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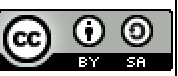
|---|---|---|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# Medication 7-263 - Dilaudid (Hydromorphone)

**CMH EMS & MIH Protocols**

## Scope of Practice:

- Registered Nurse
- Paramedic
- Community Paramedic

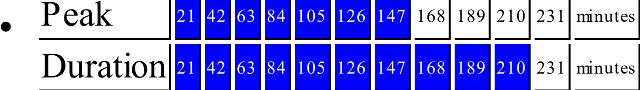
## Route(s):

- IM/SQ, IO, IV,

## Pharmacodynamics (class and mechanism of action):

- Narcotic analgesic (Analgesia and sedation. CNS depressant. Decreased sensitivity to pain.).

## Pharmacokinetics:

- **Half-life**: 2-4 hours.
- **Onset time**: 10-15 minutes.
- **Peak action time**:
  - **IM**: 30-60 minutes.
  - **IV**: 15-30 minutes.
- **Duration of action**:
  - **IM**: 4-5 hours.
  - **IV**: 2-3 hours.
- 

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Peak | 21 | 42 | 63 | 84 | 105 | 126 | 147 | 168 | 189 | 210 | 231 | minutes |
| Duration | 21 | 42 | 63 | 84 | 105 | 126 | 147 | 168 | 189 | 210 | 231 | minutes |

## Dosing:

- Refer to specific protocol(s) below for dose(s).

## Indications:

- Not in current standing order protocols.

## Contraindications:

- Hypersensitivity.

## Pregnancy Risk Factor:

- Category C
- **Risk not ruled out**: Animal reproduction studies have shown an adverse effect on the fetus and there are no adequate and well-controlled studies in humans, but potential benefits may warrant use of the drug in pregnant women despite potential risks. FDA requires a relatively large amount of high-quality data on a pharmaceutical for it to be defined as Pregnancy Category A. As a result of this, many drugs that would be considered Pregnancy Category A in other countries are allocated to Category C by the FDA.

## Potential Incompatibilities:

- Medication 7-417 - Heparin.

## Precautions and Adverse Effects:

- Respiratory depression may last longer than analgesia.
- May cause Bradycardia, respiratory depression, and/or euphoria.

## Antidote:

- Medication 7-603 - Narcan.

## Controlled Substance Information:

- Schedule II
  - High potential for abuse. Abusing the drug can cause severe physical and mental addiction.
- **DEA number**: 9150.
- **Narcotic**: Yes.
- **Street names**: Big D, Crazy 8, D, Dill, Dillies, Dilly, Drug Store Heroin, Dust, Footballs, Hillbilly Heroin, Hospital Heroin, Hydros, Juice, M2, M80s, Moose, Peaches, Shake and Bake, Smack, Super 8, White Triangles.

## Change Log:

| Date | Link to previous version | Description of change |
|---|---|---|
| 12/29/14 | pdf | Added DEA and street info. Clarified dosage. |
| 08/24/17 | pdf | Removed this section. |
| 05/09/20 | pdf | Added content (without substantive modification) from old Protocol 7-160 - Dilaudid. |
| 06/11/21 | pdf | Moved to emsprotocols.online |
| 03/19/23 | | Changed link for Narcan. |
| 03/20/23 | | Changed link for Heparin. |
| 03/20/23 | | Changed number from 7-160 to 7-263. |
| 03/20/23 | pdf | Added CP |

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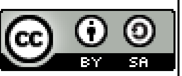

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# Medication 7-274 - Dopamine (Intropin)

**CMH EMS & MIH Protocols**

## Scope of Practice:

- Registered Nurse
- Paramedic
- Community Paramedic

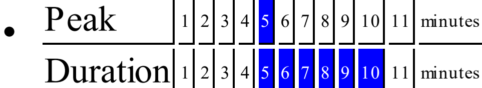
## Route(s):

- IO, IV,

## Pharmacodynamics (class and mechanism of action):

- Sympathomimetic (Stimulates alpha and beta adrenergic receptors. Increases cardiac contractility. Causes peripheral vasoconstriction.).

## Pharmacokinetics:

- **Half-life**: 2 minutes.
- **Onset time**: 5 minutes.
- **Peak action time**: Unknown.
- **Duration of action**: Less than 10 minutes.
- 

| Peak | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | minutes |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Duration | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | minutes |

## Dosing:

- Refer to specific protocol(s) below for dose(s).

## Indications:

- Protocol 2-154 - Bradycardia.
- Protocol 2-704 - Post Resuscitation.
- Protocol 2-726 - Pulmonary Edema.
- Protocol 2-748 - Pulseless Electrical Activity.

## Contraindications:

- Hypovolemic shock where complete fluid resuscitation has not occurred.
- Severe tachyarrhythmias such as Ventricular Fibrillation or Ventricular Arrhythmias.

## Pregnancy Risk Factor:

- Category C
- **Risk not ruled out**: Animal reproduction studies have shown an adverse effect on the fetus and there are no adequate and well-controlled studies in humans, but potential benefits may warrant use of the drug in pregnant women despite potential risks. FDA requires a relatively large amount of high-quality data on a pharmaceutical for it to be defined as Pregnancy Category A. As a result of this, many drugs that would be considered Pregnancy Category A in other countries are allocated to Category C by the FDA.

## Potential Incompatibilities:

- NA.

## Precautions and Adverse Effects:

- May cause Ventricular irritability, Ventricular Tachyarrhythmias, Hypertension, Angina, Dyspnea, Nausea, Vomiting, and/or headache.

## Antidote:

- Rigitine.

## Controlled Substance Information:

Not a scheduled drug
  - The DEA and FDA have not identified this drug with a schedule classification.
- **DEA number**: NA.
- **Narcotic**: No.
- **Street names**: NA.

# Change Log:

| Date | Link to previous version | Description of change |
|---|---|---|
| 06/08/15 | pdf | Added quick reference dosage chart. |
| 08/24/18 | pdf | Added indication of PEA. |
| 05/09/20 | pdf | Added content (without substantive modification) from old Protocol 7-170 - Dopamine. |
| 06/11/21 | pdf | Moved to emsprotocols.online |
| 03/20/23 | | Changed number from 7-170 to 7-274. |
| 03/20/23 | pdf | Added CP. |

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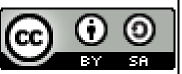
|---|---|---|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# Medication 7-296 - Duoneb (Ipratropium and Albuterol, Combivent)

**CMH EMS & MIH Protocols**

## Scope of Practice:

- Advanced Emergency Medical Technician
- Registered Nurse
- Paramedic
- Community Paramedic

## Route(s):

- Neb,

## Pharmacodynamics (class and mechanism of action):

- Anticholinergic (Beta adrenergic. Binds and stimulates beta-2 receptors, resulting in relaxation of bronchial smooth muscle. Antagonizes the acetylcholine receptor, producing bronchodilation.).

## Pharmacokinetics:

- **Half-life**: 1.6-2 hours.
- **Onset time**: 5-15 minutes.
- **Peak action time**: 0.5-2 hours.
- **Duration of action**: 2-6 hours.
-

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Peak | 24 | 48 | 72 | 96 | 120 | 144 | 168 | 192 | 216 | 240 | 264 | minutes |
| Duration | 24 | 48 | 72 | 96 | 120 | 144 | 168 | 192 | 216 | 240 | 264 | minutes |

## Dosing:

- Refer to specific protocol(s) below for dose(s).

## Indications:

- Protocol 2-770 - Respiratory Distress.

## Contraindications:

- Hypersensitivity to Ipratropium, Albuterol, or Atropine.
- Allergy to soybeans or peanuts.
- Closed angle glaucoma.
- Bladder neck obstruction.
- Prostatic hypertrophy.

## Pregnancy Risk Factor:

- Category C
- **Risk not ruled out**: Animal reproduction studies have shown an adverse effect on the fetus and there are no adequate and well-controlled studies in humans, but potential benefits may warrant use of the drug in pregnant women despite potential risks. FDA requires a relatively large amount of high-quality data on a pharmaceutical for it to be defined as Pregnancy Category A. As a result of this, many drugs that would be considered Pregnancy Category A in other countries are allocated to Category C by the FDA.

## Potential Incompatibilities:

- NA.

## Precautions and Adverse Effects:

- Use caution in patients with known heart disease.
- Blood pressure, pulse, and ECG should be monitored.
- May cause paradoxical acute bronchospasm, palpitations, anxiety, headache, dizziness, sweating, Tachycardia, cough, Nausea, arrhythmias, paradoxical acute Bronchospasm.

## Antidote:

- Physostigmine.

## Controlled Substance Information:

Not a scheduled drug
- The DEA and FDA have not identified this drug with a schedule classification.

- **DEA number**: NA.
- **Narcotic**: No.
- **Street names**: NA.

## Change Log:

| Date | Link to previous version | Description of change |
|---|---|---|
| 05/09/20 | pdf | Added content (without substantive modification) from old Protocol 7-180 - Duoneb. |
| 06/11/21 | pdf | Moved to emsprotocols.online |
| 11/30/21 | | Updated link to Albuterol. |
| 03/20/23 | | Changed link for Ipratropium. |
| 03/20/23 | | Changed number from 7-180 to 7-296. |
| 03/20/23 | | Changed link for Atropine. |
| 03/20/23 | pdf | Added CP. |

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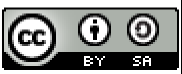
|---|---|---|



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# Medication 7-329 - Epinephrine (Adrenalin)

**CMH EMS & MIH Protocols**

## Scope of Practice:

- Emergency Medical Technician
- Advanced Emergency Medical Technician
- Registered Nurse
- Paramedic
- Community Paramedic

## Route(s):

- ET, IM/SQ, IO, IV, Neb,

## Pharmacodynamics (class and mechanism of action):

- Sympathomimetic (Binds with both alpha and beta receptors increasing chronotropy, dromotropy, inotropy, and bronchodilation.).

## Pharmacokinetics:

- **Half-life**: Unknown.
- **Onset time**:
  - **IM**: Variable
  - **IO/IV**: Immediate.
  - **Neb**: 1-5 minutes.
- **Peak action time**:
  - **IM**: Unknown.
  - **IO/IV**: 5 minutes.
  - **Neb**: Unknown.
- **Duration of action**:
  - **IM**: 1-4 hours.
  - **IO/IV**: Short.
  - **Neb**: 1-3 hours.
-

| Peak | 15 | 30 | 45 | 60 | 75 | 90 | 105 | 120 | 135 | 150 | 165 | minutes |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Duration | 15 | 30 | 45 | 60 | 75 | 90 | 105 | 120 | 135 | 150 | 165 | minutes |

## Dosing:

- Refer to specific protocol(s) below for dose(s).
- **Epinephrine 1:1,000** = 1 mg/ml (ampule or vial).
  - Do not administer IV or IO without dilution.
- **Epinephrine 1:10,000** = 0.1 mg/ml (pre-filled syringe).
- **Epinephrine 1:100,000** = 0.01 mg/ml (mixed push-dose pressor).
  - ## Instructions for preparing Push-Dose Epi:

    1. Waste 10 ml out of 100 ml NS bag.
    2. Push 10 ml (1 mg) of Epinephrine 1:10,000 into bag.
    3. You now have Epinephrine 1:100,000 (1,000 mcg in 100 ml) at a concentration of 10 mcg/ml.
    4. Do not hang bag or connect bag directly to a patient with a pulse.
    5. Draw 10 ml at a time for a typical push dose of 5-20 mcg (0.5-2 ml) every 2-5 minutes.

## Indications:

- Protocol 2-066 - Allergic Reaction.
- Protocol 2-154 - Bradycardia.
- Protocol 2-198 - Cardiac Arrest.
- Protocol 2-583 - Hypotension / Shock.
- Protocol 2-616 - Newly Born.
- Protocol 2-770 - Respiratory Distress.
- Medication 7-504 - Labetalol.

## Contraindications:

- **When used on patients with a pulse**:
  - Cardiovascular disease.
  - Cerebrovascular disease.
  - Severe Hypertension.
  - Pregnancy.
  - Patients with tachyarrhythmias.
- **When used for cardiac arrest**:
  - None when used in emergency setting.

## Pregnancy Risk Factor:

- Category C

- **Risk not ruled out**: Animal reproduction studies have shown an adverse effect on the fetus and there are no adequate and well-controlled studies in humans, but potential benefits may warrant use of the drug in pregnant women despite potential risks. FDA requires a relatively large amount of high-quality data on a pharmaceutical for it to be defined as Pregnancy Category A. As a result of this, many drugs that would be considered Pregnancy Category A in other countries are allocated to Category C by the FDA.

## Potential Incompatibilities:

- NA.

## Precautions and Adverse Effects:

- Use caution in patients with diabetic patients. Monitor blood sugar levels after administration.
- Medication should be protected from light.
- Blood pressure, pulse and ECG must be constantly monitored.
- Can be deactivated by alkaline solutions.
- May cause palpitations, Tachycardia, anxiousness, headache, tremor, Myocardial Ischemia in older patients, anxiety, Nausea, Vomiting, and/or Hypertension.

## Antidote:

- NA.

## Controlled Substance Information:

Not a scheduled drug
  - The DEA and FDA have not identified this drug with a schedule classification.
- **DEA number**: NA.
- **Narcotic**: No.
- **Street names**: NA.

## Change Log:

| Date | Link to previous version | Description of change |
|---|---|---|
| 10/06/13 | pdf | Added medication should be protected from light. |
| 10/06/13 | pdf | Added medication should be protected from light. |
| 12/20/13 | | Added EMT scope of practice statement. |
| 07/23/19 | pdf | Added contraindication of severe hypertension. Moved diabetes from contraindication to precaution with note to monitor blood sugar. |
| 07/23/19 | | Added this section on push-dose Epi for reference only if orders from medical control. |
| 08/27/19 | pdf | Modified mixing instructions from 10 ml saline flush to 100 ml saline bag to more accurately describe the process with equipment available on the ambulance. |
| 12/03/19 | | Added comment to NOT connect bag directly to a patient per Dr. Cauchi. |
| 05/09/20 | pdf | Added content (without substantive modification) from old Protocol 7-200 - Epinephrine 1:10,000. |
| 05/09/20 | pdf | Added content (without substantive modification) from old Protocol 7-205 - Epinephrine 1:100,000. |
| 05/09/20 | pdf | dded content (without substantive modification) from old Protocol 7-190 - Epinephrine 1:1,000. |
| 06/11/21 | pdf | Moved to emsprotocols.online |
| 10/16/21 | pdf | At the request of the protocol committee on 5/26/21, the section with instructions on how to prepare push-dose epi has been made to stand out for easier identification. Changed indications link from 2-440 (fever) to 2-583 (hypotension). |
| 03/17/23 | | Updated link to NS. |
| 03/19/23 | | Changed link for Labetalol. |
| 03/20/23 | | Changed number from 7-200 to 7-329. |
| 03/20/23 | pdf | Added CP. |

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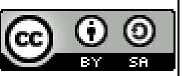
|---|---|---|

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# Medication 7-340 - Epinephrine Racemic (Micronefrin)

**CMH EMS & MIH Protocols**

## Scope of Practice:

- Registered Nurse
- Paramedic
- Community Paramedic

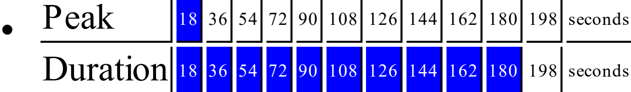
## Route(s):

- Neb,

## Pharmacodynamics (class and mechanism of action):

- Nonselective alpha and beta agonist (Arteriole constriction. Positive inotrope. Positive chronotrope. Bronchial smooth muscle relaxant. Blocks histamine release. Inhibits insulin secretion. Relaxes GI smooth muscle.).

## Pharmacokinetics:

- **Half-life**: 2 minutes.
- **Onset time**: Rapid.
- **Peak action time**: Unknown.
- **Duration of action**: 3 minutes.
- 

| Peak | 18 | 36 | 54 | 72 | 90 | 108 | 126 | 144 | 162 | 180 | 198 | seconds |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Duration | 18 | 36 | 54 | 72 | 90 | 108 | 126 | 144 | 162 | 180 | 198 | seconds |

## Dosing:

- Refer to specific protocol(s) below for dose(s).

## Indications:

- Protocol 2-770 - Respiratory Distress.

## Contraindications:

- Glaucoma.
- Elderly.
- Cardiac disease.
- Hypertension.
- Thyroid disease.
- Diabetes.
- Sensitivity to sulfites.

## Pregnancy Risk Factor:

- Category C
- **Risk not ruled out**: Animal reproduction studies have shown an adverse effect on the fetus and there are no adequate and well-controlled studies in humans, but potential benefits may warrant use of the drug in pregnant women despite potential risks. FDA requires a relatively large amount of high-quality data on a pharmaceutical for it to be defined as Pregnancy Category A. As a result of this, many drugs that would be considered Pregnancy Category A in other countries are allocated to Category C by the FDA.

## Potential Incompatibilities:

- NA.

## Precautions and Adverse Effects:

- Patient must be observed for 2-4 hours after administration.
- May cause palpitations, anxiety, headache, Hypertension, Nausea, Vomiting, arrhythmias, rebound edema, dizziness, tremors, and/or Tachycardia.

## Antidote:

- NA.

## Controlled Substance Information:

Not a scheduled drug
  - The DEA and FDA have not identified this drug with a schedule classification.
- **DEA number**: NA.
- **Narcotic**: No.
- **Street names**: NA.

# Change Log:

| Date | Link to previous version | Description of change |
|---|---|---|
| 05/10/20 | pdf | Added content (without substantive modification) from old Protocol 7-210 - Epinephrine Racemic. |
| 06/11/21 | pdf | Moved to emsprotocols.online |
| 03/20/23 | | Changed number from 7-210 to 7-340. |
| 03/20/23 | pdf | Added CP. |

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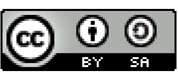
|---|---|---|



|  | Polk, Hickory, Cedar, & St Clair County EMS Protocols by Theron Becker is licensed under a Creative Commons Attribution-ShareAlike 4.0 International License. |
|---|---|

# Medication 7-351 - Etomidate (Amidate)

**CMH EMS & MIH Protocols**

## Scope of Practice:

- Registered Nurse
- Paramedic
- Community Paramedic

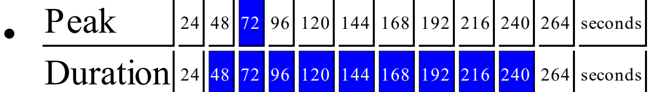
## Route(s):

- IO, IV,

## Pharmacodynamics (class and mechanism of action):

- Sedative, non-barbiturate hypnotic (Unknown GABA-like effects. No analgesic effects. Has few cardiovascular or respiratory effects. Cerebro-protective: Decreases ICP and IOP.).

## Pharmacokinetics:

- **Half-life**: 75 minutes.
- **Onset time**: 30-60 seconds.
- **Peak action time**: 1 minute.
- **Duration of action**: 3-5 minutes.
- 

| Peak | 24 | 48 | **72** | 96 | 120 | 144 | 168 | 192 | 216 | 240 | 264 | seconds |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Duration | 24 | **48** | **72** | **96** | **120** | **144** | **168** | **192** | **216** | **240** | 264 | seconds |

## Dosing:

- Refer to specific protocol(s) below for dose(s).

## Indications:

- Protocol 2-044 - Airway: RSI.
- Protocol 2-660 - Pain Control.
- Equipment 8-108 - Cardiac Monitor.

## Contraindications:

- Hypersensitivity.

## Pregnancy Risk Factor:

- Category C
- **Risk not ruled out**: Animal reproduction studies have shown an adverse effect on the fetus and there are no adequate and well-controlled studies in humans, but potential benefits may warrant use of the drug in pregnant women despite potential risks. FDA requires a relatively large amount of high-quality data on a pharmaceutical for it to be defined as Pregnancy Category A. As a result of this, many drugs that would be considered Pregnancy Category A in other countries are allocated to Category C by the FDA.

## Potential Incompatibilities:

- NA.

## Precautions and Adverse Effects:

- Use with caution in patients with Sepsis.
- Single dose only.
- May cause marked hypotension, Severe Asthma, myoclonic skeletal muscle movements, Apnea, Hypertension, dysrhythmias, Nausea, Vomiting, hiccups, snoring, adrenal insufficiency, laryngospasm, and/or cardiac arrhythmias.

## Antidote:

- NA.

## Controlled Substance Information:

Not a scheduled drug
  - The DEA and FDA have not identified this drug with a schedule classification.
- **DEA number**: NA.
- **Narcotic**: No.
- **Street names**: NA.

# Change Log:

| Date | Link to previous version | Description of change |
|---|---|---|
| 02/22/14 | pdf | Added contraindication of sepsis. |
| 08/24/18 | pdf | Added indication for Control of Pain. |
| 12/18/18 | pdf | Moved sepsis from contraindication to precaution per Dr. Carter. |
| 05/10/20 | pdf | Added content (without substantive modification) from old Protocol 7-220 - Etomidate. |
| 06/11/21 | pdf | Moved to emsprotocols.online |
| 03/20/23 | | Changed number from 7-220 to 7-351. |
| 03/20/23 | pdf | Added CP. |

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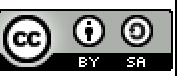
|---|---|---|

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# Medication 7-373 - Fentanyl (Sublimaze)

**CMH EMS & MIH Protocols**

## Scope of Practice:

- Registered Nurse
- Paramedic
- Community Paramedic

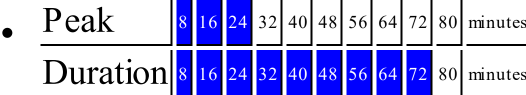
## Route(s):

- IM/SQ, IN, IO, IV,

## Pharmacodynamics (class and mechanism of action):

- Narcotic analgesic (Binds to opiate receptors. Analgesia and sedation. Central nervous system depressant. Decreased sensitivity to Pain.).

## Pharmacokinetics:

- **Half-life**: 3.5 hours.
- **Onset time**:
  - **IM**: 7-15 minutes.
  - **IN**: 5-15 minutes.
  - **IO/IV**: 1-2 minutes.
- **Peak action time**:
  - **IM/IN**: 20-30 minutes.
  - **IO/IV**: 3-5 minutes.
- **Duration of action**:
  - **IM**: 1-2 hours.
  - **IN**: Unknown.
  - **IO/IV**: 30-60 minutes.
- 

| Peak | 8 | 16 | 24 | 32 | 40 | 48 | 56 | 64 | 72 | 80 | minutes |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Duration | 8 | 16 | 24 | 32 | 40 | 48 | 56 | 64 | 72 | 80 | minutes |

## Dosing:

- Refer to specific protocol(s) below for dose(s).

## Indications:

- Protocol 2-044 - Airway: RSI.
- Protocol 2-220 - Chest Pain / Suspected Cardiac Event.
- Protocol 2-484 - Head Trauma.
- Protocol 2-660 - Pain Control.
- Equipment 8-288 - Endotracheal Tube.
- Equipment 8-486 - King Airway.
- Equipment 8-522 - Laryngeal Mask Airway (LMA).

## Contraindications:

- Hypersensitivity.

## Pregnancy Risk Factor:

- Category C
- **Risk not ruled out**: Animal reproduction studies have shown an adverse effect on the fetus and there are no adequate and well-controlled studies in humans, but potential benefits may warrant use of the drug in pregnant women despite potential risks. FDA requires a relatively large amount of high-quality data on a pharmaceutical for it to be defined as Pregnancy Category A. As a result of this, many drugs that would be considered Pregnancy Category A in other countries are allocated to Category C by the FDA.

## Potential Incompatibilities:

- Medication 7-417 - Heparin.

## Precautions and Adverse Effects:

- Respiratory depression may last longer than the analgesic effects.
- Narcan should be available.
- Give slowly, rapid injection could cause rigid chest syndrome (usually occurs when dose is greater than 200 mcg).
- Use with caution in Traumatic Brain Injury.
- May cause Bradycardia, respiratory depression, euphoria, hypotension, Nausea, Vomiting, dizziness, sedation, Tachycardia, palpitations, Hypertension, diaphoresis, syncope.
- There may be a possible beneficial effect in Pulmonary Edema.

## Antidote:

- Medication 7-603 - Narcan.

## Controlled Substance Information:

- Schedule II
  - High potential for abuse. Abusing the drug can cause severe physical and mental addiction.
- **DEA number**: 9801.
- **Narcotic**: Yes.
- **Street names**: Apache, China Girls, China Town, China White, Dance Fever, Fent, Friend, Goodfellas, Great Bear, HeMan, Jackpot, King Ivory, Magic, Murder 8, Perc-A-Pop, Poison, Tango and Cash, TNT.

## Change Log:

| Date | Link to previous version | Description of change |
|---|---|---|
| 01/29/14 | pdf | Coordinated with CMH policies. |
| 12/29/14 | pdf | Added DEA and street info. Added greater than 65 yr dose same as pediatric. |
| 10/21/15 | pdf | Added comment that rigid chest syndrome precaution usually occurs with doses greater than 200 mcg. |
| 11/17/15 | | Added comment for maximum single dose to be 50 mcg for adults. Clarified over 65 yr old dosage is 25-50 mcg with a max dose of 150 mcg. |
| 05/10/20 | pdf | Added content (without substantive modification) from old Protocol 7-230 - Fentanyl. |
| 06/11/21 | pdf | Moved to emsprotocols.online |
| 03/20/23 | | Changed link for Heparin. |
| 03/20/23 | | Changed number from 7-230 to 7-373. |
| 03/20/23 | pdf | Added CP. |

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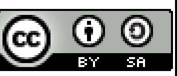
|---|---|---|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# Medication 7-384 - Glucagon

**CMH EMS & MIH Protocols**

## Scope of Practice:

- Advanced Emergency Medical Technician
- Registered Nurse
- Paramedic
- Community Paramedic

## Route(s):

- IM/SQ, IO, IV,

## Pharmacodynamics (class and mechanism of action):

- Other endocrine/metabolism (Converts hepatic glycogen to Glucose).

## Pharmacokinetics:

- **Half-life**: 8-18 minutes.
- **Onset time**:
  - **IM**: 4-10 minutes.
  - **IV**: Immediate.
- **Peak action time**:
  - **IM**: 13 minutes.
  - **IV**: 30 minutes.
- **Duration of action**:
  - **IM**: 12-32 minutes.
  - **IV**: 60-90 minutes.
-

| Peak | 5 | 10 | 15 | 20 | 25 | 30 | 35 | 40 | 45 | 50 | 55 | minutes |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Duration | 5 | 10 | 15 | 20 | 25 | 30 | 35 | 40 | 45 | 50 | 55 | minutes |

## Dosing:

- Refer to specific protocol(s) below for dose(s).

## Indications:

- Protocol 2-572 - Hypoglycemia.

- Protocol 2-638 - Overdose / Toxic Ingestion.

## Contraindications:

- Pheochromocytoma (adrenal tumor).
- Insulinoma (pancreas tumor).

## Pregnancy Risk Factor:

Category B
**No risk in other studies**: Animal reproduction studies have failed to demonstrate a risk to the fetus and there are no adequate and well-controlled studies in pregnant women, or animal studies have shown adverse effects, but adequate and well-controlled studies in pregnant women have failed to demonstrate a risk to the fetus in any trimester.

## Potential Incompatibilities:

- NA.

## Precautions and Adverse Effects:

- May cause severe rebound Hyperglycemia , hypotension, Nausea, Vomiting, Uticaria, Respiratory Distress, and/or Tachycardia.

## Antidote:

- NA.

## Controlled Substance Information:

Not a scheduled drug
- The DEA and FDA have not identified this drug with a schedule classification.

- **DEA number**: NA.
- **Narcotic**: No.
- **Street names**: NA.

## Change Log:

| Date | Link to previous version | Description of change |
|---|---|---|
| 09/22/17 | pdf | Fixed typo link to hyperglycemia instead of hypoglycemia. |
| 08/24/18 | pdf | Added clarifications for contraindications. Added indication of abdominal pain. |
| 05/10/20 | | Added content (without substantive modification) from old Protocol 7-240 - Glucagon. |
| 06/03/20 | pdf | Added comment to remove indication for abdominal pain. |
| 06/11/21 | pdf | Moved to emsprotocols.online |
| 11/05/21 | pdf | Removed abdominal pain as an indication for Glucagon. Approved by Dr. Nicholes on 6/8/21. |
| 05/25/22 | | Request to add intranasal option. Discussed with Dr. Nicholes who was indifferent. 5/25/22 protocol committee did not want to add intranasal option. |
| 03/20/23 | | Changed link for Glucose. |
| 03/20/23 | | Changed number from 7-240 to 7-384. |
| 03/20/23 | pdf | Added CP. |

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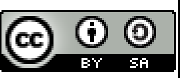
|---|---|---|



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# Medication 7-395 - Glucose

**CMH EMS & MIH Protocols**

## Scope of Practice:

- Emergency Medical Technician
- Advanced Emergency Medical Technician
- Registered Nurse
- Paramedic
- Community Paramedic

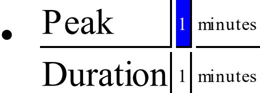
## Route(s):

- PO,

## Pharmacodynamics (class and mechanism of action):

- Carbohydrate (Elevates blood sugar levels).

## Pharmacokinetics:

- **Half-life**: NA.
- **Onset time**: NA.
- **Peak action time**: NA.
- **Duration of action**: NA.
- 

| Peak | 1 | minutes |
|---|---|---|
| Duration | 1 | minutes |

## Dosing:

- Refer to specific protocol(s) below for dose(s).

## Indications:

- Protocol 2-572 - Hypoglycemia.

## Contraindications:

- Patients with altered level of consciousness that cannot protect their airway.

## Pregnancy Risk Factor:

No Category
FDA has not yet classified the drug into a specified pregnancy category.

## Potential Incompatibilities:

- NA.

## Precautions and Adverse Effects:

- If alcohol abuse or malnourishment is suspected, then Thiamine should be administered to facilitate Glucose use by cells.

## Antidote:

- NA.

## Controlled Substance Information:

- Not a scheduled drug
  - The DEA and FDA have not identified this drug with a schedule classification.
- **DEA number**: NA.
- **Narcotic**: No.
- **Street names**: NA.

# Change Log:

| Date | Link to previous version | Description of change |
|---|---|---|
| 12/20/13 | pdf | Added EMT scope of practice statement. |
| 09/22/17 | pdf | Fixed typo link to hyperglycemia instead of hypoglycemia. |
| 08/24/18 | pdf | Removed Thiamine comment. |
| 05/10/20 | pdf | Added content (without substantive modification) from old Protocol 7-250 - Glucose. |
| 06/11/21 | pdf | Moved to emsprotocols.online |
| 02/28/22 | | Updated link for Thiamine. |
| 03/20/23 | | Changed number from 7-250 to 7-395. |
| 03/20/23 | pdf | Added CP. |

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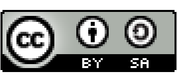
|---|---|---|


|  | Polk, Hickory, Cedar, & St Clair County EMS Protocols by Theron Becker is licensed under a Creative Commons Attribution-ShareAlike 4.0 International License. |
|---|---|

# Medication 7-406 - Haldol (Haloperidol)

**CMH EMS & MIH Protocols**

## Scope of Practice:

- Registered Nurse
- Paramedic
- Community Paramedic

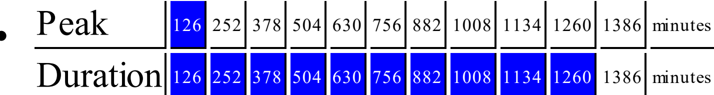
## Route(s):

- IM/SQ, IO, IV,

## Pharmacodynamics (class and mechanism of action):

- Antipsychotic (Competitive postsynaptic dopamine receptor blocker).

## Pharmacokinetics:

- **Half-life**: 21 hours.
- **Onset time**: Unknown.
- **Peak action time**:
  - **IM**: 10-20 minutes.
  - **IO/IV**: Unknown.
- **Duration of action**: Unknown.
- 

| Peak | 126 | 252 | 378 | 504 | 630 | 756 | 882 | 1008 | 1134 | 1260 | 1386 | minutes |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Duration | 126 | 252 | 378 | 504 | 630 | 756 | 882 | 1008 | 1134 | 1260 | 1386 | minutes |

## Dosing:

- Refer to specific protocol(s) below for dose(s).

## Indications:

- Protocol 2-110 - Behavioral.

## Contraindications:

- Parkinson’s disease.
- Severe CNS depression.

- Comatose states.

## Pregnancy Risk Factor:

- Category C
- **Risk not ruled out**: Animal reproduction studies have shown an adverse effect on the fetus and there are no adequate and well-controlled studies in humans, but potential benefits may warrant use of the drug in pregnant women despite potential risks. FDA requires a relatively large amount of high-quality data on a pharmaceutical for it to be defined as Pregnancy Category A. As a result of this, many drugs that would be considered Pregnancy Category A in other countries are allocated to Category C by the FDA.

## Potential Incompatibilities:

- NA.

## Precautions and Adverse Effects:

- Use caution with severe cardiovascular disorders due to possible hypotension. If vasopressor is needed, use Levophed.
- May prolong QT interval. 12-lead is indicated after administration.
- May cause drowsiness, tardive dyskinesia, hypotension, Hypertension, Tachycardia, and/or Torsades de Pointes.
- **Possible Extra-Pyramidal Symptoms (EPS) / dystonic reactions**:
  - EPS is a movement disorder such as the inability to move or restlessness.
  - Treat with Medication 7-143 - Benadryl.

## Antidote:

- Medication 7-143 - Benadryl.

## Controlled Substance Information:

- Not a scheduled drug
  - The DEA and FDA have not identified this drug with a schedule classification.
- **DEA number**: NA.
- **Narcotic**: No.
- **Street names**: NA.

## Change Log:

| Date | Link to previous version | Description of change |
|---|---|---|
| 04/01/15 | pdf | Added comment about prolonging QT interval and the need for 12-lead. |
| 08/24/18 | pdf | Added antidote option of Benadryl. |
| 05/10/20 | pdf | Added content (without substantive modification) from old Protocol 7-260 - Haldol. |
| 06/11/21 | pdf | Moved to emsprotocols.online |
| 03/20/23 | | Changed number from 7-260 to 7-406. |
| 03/20/23 | | Changed links for Benadryl. |
| 03/20/23 | pdf | Added CP. |

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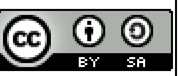
|---|---|---|



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# Medication 7-417 - Heparin

**CMH EMS & MIH Protocols**

## Scope of Practice:

- Registered Nurse
- Paramedic
- Community Paramedic

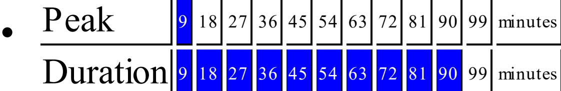
## Route(s):

- IV,

## Pharmacodynamics (class and mechanism of action):

- Anticoagulant (Inhibition of Thrombin. Acts on antithrombin III to reduce ability to clot.).

## Pharmacokinetics:

- **Half-life**: 1-2 hours.
- **Onset time**: Immediate.
- **Peak action time**: Unknown.
- **Duration of action**: Variable.
- 

| Peak | 9 | 18 | 27 | 36 | 45 | 54 | 63 | 72 | 81 | 90 | 99 | minutes |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Duration | 9 | 18 | 27 | 36 | 45 | 54 | 63 | 72 | 81 | 90 | 99 | minutes |

## Dosing:

- Refer to specific protocol(s) below for dose(s).

## Indications:

- Protocol 2-220 - Chest Pain / Suspected Cardiac Event.

## Contraindications:

- Previously given low molecular weight Heparin.
- Dissecting thoracic aortic aneurysm.
- Peptic ulceration.

## Pregnancy Risk Factor:

- Category C
- **Risk not ruled out**: Animal reproduction studies have shown an adverse effect on the fetus and there are no adequate and well-controlled studies in humans, but potential benefits may warrant use of the drug in pregnant women despite potential risks. FDA requires a relatively large amount of high-quality data on a pharmaceutical for it to be defined as Pregnancy Category A. As a result of this, many drugs that would be considered Pregnancy Category A in other countries are allocated to Category C by the FDA.

## Potential Incompatibilities:

- Medication 7-121 - Atropine.
- Medication 7-263 - Dilaudid.
- Medication 7-373 - Fentanyl.
- Medication 7-592 - Morphine.
- Medication 7-702 - Phenergan.
- Medication 7-954 - Versed.

## Precautions and Adverse Effects:

- Use caution with oral anticoagulants and bleeding.

## Antidote:

- NA.

## Controlled Substance Information:

Not a scheduled drug
  - The DEA and FDA have not identified this drug with a schedule classification.
- **DEA number**: NA.
- **Narcotic**: No.
- **Street names**: NA.

# Change Log:

| Date | Link to previous version | Description of change |
|---|---|---|
| 05/10/20 | pdf | Added content (without substantive modification) from old Protocol 7-270 - Heparin. |
| 06/11/21 | pdf | Moved to emsprotocols.online |
| 12/01/21 | | Updated link to Versed. |
| 02/28/22 | | Updated link to Phenergan. |
| 03/19/23 | | Changed link to Morphine. |
| 03/20/23 | | Changed number from 7-270 to 7-417. |
| 03/20/23 | | Changed link for Fent. |
| 03/20/23 | | Changed link for Dilaudid. |
| 03/20/23 | | Changed link for Atropine. |
| 03/20/23 | pdf | Added CP. |

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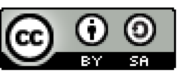
| --- | --- | --- |



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# Medication 7-428 - Hydralazine (Apresoline)

**CMH EMS & MIH Protocols**

## Scope of Practice:

- Registered Nurse
- Paramedic
- Community Paramedic

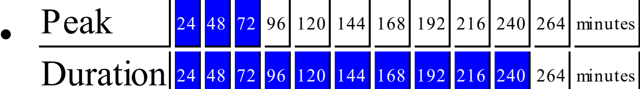
## Route(s):

- IM/SQ, IO, IV,

## Pharmacodynamics (class and mechanism of action):

- Vasodilator (Directly dilates peripheral blood vessels.).

## Pharmacokinetics:

- **Half-life**: 3-7 hours.
- **Onset time**:
    - **IM**: 10-30 minutes.
    - **IO/IV**: 5-20 minutes.
- **Peak action time**:
    - **IM**: 60 minutes.
    - **IO/IV**: 10-80 minutes.
- **Duration of action**: 2-6 hours.
- 

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Peak | 24 | 48 | 72 | 96 | 120 | 144 | 168 | 192 | 216 | 240 | 264 | minutes |
| Duration | 24 | 48 | 72 | 96 | 120 | 144 | 168 | 192 | 216 | 240 | 264 | minutes |

## Dosing:

- Refer to specific protocol(s) below for dose(s).

## Indications:

- Protocol 2-528 - Hypertension.

## Contraindications:

- Taking diazoxide or MAOIs.
- Coronary artery disease.
- Stroke.
- Angina.
- Aortic aneurysm.
- Heart disease.

## Pregnancy Risk Factor:

- Category C
- **Risk not ruled out**: Animal reproduction studies have shown an adverse effect on the fetus and there are no adequate and well-controlled studies in humans, but potential benefits may warrant use of the drug in pregnant women despite potential risks. FDA requires a relatively large amount of high-quality data on a pharmaceutical for it to be defined as Pregnancy Category A. As a result of this, many drugs that would be considered Pregnancy Category A in other countries are allocated to Category C by the FDA.

## Potential Incompatibilities:

- NA.

## Precautions and Adverse Effects:

- May cause reflex Tachycardia, headache, Angina, flushing, palpitations, anorexia, Nausea, Vomiting, diarrhea, hypotension, syncope, vasodilation, edema, and/or paresthesias.

## Antidote:

- NA.

## Controlled Substance Information:

Not a scheduled drug
  - The DEA and FDA have not identified this drug with a schedule classification.
- **DEA number**: NA.
- **Narcotic**: No.
- **Street names**: NA.

# Change Log:

| Date | Link to previous version | Description of change |
|---|---|---|
| 11/11/13 | pdf | Added adult dose. |
| 05/10/20 | pdf | Added content (without substantive modification) from old Protocol 7-280 - Hydralazine. |
| 06/11/21 | pdf | Moved to emsprotocols.online |
| 03/20/23 | | Changed number from 7-280 to 7-428. |
| 03/20/23 | pdf | Added CP. |

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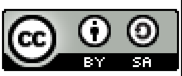
|---|---|---|

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# Medication 7-450 - Ibuprofen (Advil, Pediaprofen)

**CMH EMS & MIH Protocols**

## Scope of Practice:

- Registered Nurse
- Paramedic
- Community Paramedic

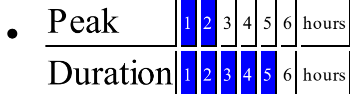
## Route(s):

- PO,

## Pharmacodynamics (class and mechanism of action):

- NSAID (Inhibits cyclooxygenase and lipoxygenase and reduces prostaglandin synthesis.).

## Pharmacokinetics:

- **Half-life**: 3-4 hours.
- **Onset time**:
  - **Analgesia**: 30-60 minutes.
  - **Anti-Inflammatory**: 7 days.
- **Peak action time**:
  - **Analgesia**: 1-2 hours.
  - **Anti-Inflammatory**: 1-2 weeks.
- **Duration of action**:
  - **Analgesia**: 4-6 hours.
  - **Anti-Inflammatory**: Unknown.
- 

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Peak | 1 | 2 | 3 | 4 | 5 | 6 | hours |
| Duration | 1 | 2 | 3 | 4 | 5 | 6 | hours |

## Dosing:

- Refer to specific protocol(s) below for dose(s).

## Indications:

- Protocol 2-440 - Fever / Sepsis.
- Medication 7-011 - Acetaminophen.

## Contraindications:

- Pregnancy.
- ASA/NSAID-induced Asthma.
- History of GI bleeds.
- Renal insufficiency.

## Pregnancy Risk Factor:

Category D

**Positive evidence of risk**: There is positive evidence of human fetal risk based on adverse reaction data from investigational or marketing experience or studies in humans, but potential benefits may warrant use of the drug in pregnant women despite potential risks.

## Potential Incompatibilities:

- NA.

## Precautions and Adverse Effects:

- Caution in Hypertension and CHF.
- Avoid in patients currently taking anticoagulants such as Coumadin.
- May cause Anaphylaxis, Abdominal Pain, Nausea, headache, dizziness, and/or rash.

## Antidote:

- NA.

## Controlled Substance Information:

Not a scheduled drug

- The DEA and FDA have not identified this drug with a schedule classification.

- **DEA number**: NA.
- **Narcotic**: No.
- **Street names**: NA.

## Change Log:

| Date | Link to previous version | Description of change |
|---|---|---|
| 11/27/19 | pdf | Added pregnancy as contraindication due to FDA risk category. |
| 05/10/20 | pdf | Added content (without substantive modification) from old Protocol 7-300 - Ibuprofen. |
| 06/11/21 | pdf | Moved to emsprotocols.online |
| 11/30/21 | | Changed link to Acetaminophen. |
| 03/20/23 | | Changed number from 7-300 to 7-450. |
| 03/20/23 | pdf | Added CP. |

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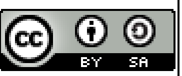
|---|---|---|



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# Medication 7-472 - Ipratropium (Atrovent)

**CMH EMS & MIH Protocols**

## Scope of Practice:

- Advanced Emergency Medical Technician
- Registered Nurse
- Paramedic
- Community Paramedic

## Route(s):

- Neb,

## Pharmacodynamics (class and mechanism of action):

- Acetylcholine antagonist via blockade of muscarinic cholinergic receptors. Blocking cholinergic receptors decreases the production of cyclic guanosine monophosphate (cGMP). This decrease in the lung airways will lead to decreased contraction of the smooth muscles. The actions of intranasal ipratropium mimic the action of atropine by inhibiting salivary and mucous glands secretions as well as dilating bronchial smooth muscle.
- Compared to atropine, orally inhaled ipratropium is a more potent antimuscarinic and bronchial dilator of smooth muscle. Intranasal ipratropium produces a local parasympathetic response, leading to decreased water secretions of mucosal glads of the nasal system alleviating symptoms of rhinorrhea.

## Pharmacokinetics:

- **Half-life**: 2 hours.
- **Onset time**: 5-15 minutes.
- **Peak action time**: 1-2 hours.
- **Duration of action**: 3-6 hours.
-

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Peak | 1 | 2 | 3 | 4 | 5 | 6 | hours |
| Duration | 1 | 2 | 3 | 4 | 5 | 6 | hours |

## Dosing:

- Refer to specific protocol(s) below for dose(s).

## Indications:

- Not in current standing order protocols.

## Contraindications:

- Hypersensitivity to Ipratropium, Albuterol, or Atropine.
- Allergy to soybeans or peanuts.
- Closed angle glaucoma.
- Bladder neck obstruction.
- Prostatic hypertrophy.

## Pregnancy Risk Factor:

Category B

**No risk in other studies**: Animal reproduction studies have failed to demonstrate a risk to the fetus and there are no adequate and well-controlled studies in pregnant women, or animal studies have shown adverse effects, but adequate and well-controlled studies in pregnant women have failed to demonstrate a risk to the fetus in any trimester.

## Potential Incompatibilities:

- NA.

## Precautions and Adverse Effects:

- Blood pressure, pulse, and ECG should be monitored.
- Use caution in patients with known heart disease.
- May cause paradoxical acute bronchospasm.
- May cause palpitations, Anxiety, headache, dizziness, sweating, Tachycardia, cough, Nausea, and/or arrhythmias.

## Antidote:

- Physostigmine (Antilirium).

## Controlled Substance Information:

Not a scheduled drug
  - The DEA and FDA have not identified this drug with a schedule classification.

- **DEA number**: NA.
- **Narcotic**: No.
- **Street names**: NA.

# Change Log:

| Date | Link to previous version | Description of change |
|---|---|---|
| 05/05/15 | pdf | Added Physostigmine as antidote. |
| 08/24/17 | pdf | Removed this section. |
| 05/11/20 | pdf | Added content (without substantive modification) from old Protocol 7-320 - Ipratropium. |
| 06/11/21 | pdf | Moved to emsprotocols.online |
| 11/30/21 | | Updated link to Albuterol. |
| 03/20/23 | | Changed number from 7-320 to 7-472. |
| 03/20/23 | | Changed link for Atropine. |
| 03/20/23 | pdf | Added CP. |

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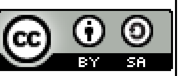
|---|---|---|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# Medication 7-494 - Ketamine (Ketalar)

**CMH EMS & MIH Protocols**

## Scope of Practice:

- Registered Nurse
- Paramedic
- Community Paramedic

## Route(s):

- IM/SQ, IO, IV,

## Pharmacodynamics (class and mechanism of action):

- Dissociative anesthetic (NMDA receptor antagonist. Produces state of anesthesia while maintaining airway reflexes, heart rate, and blood pressure. Acts on cortex and limbic receptors, producing dissociative analgesia and sedation. Higher doses act on the µ (Mu) opiod receptor.).

## Pharmacokinetics:

- **Half-life**: 2.5-3 hours.
- **Onset time**:
  - **IM**: 1-5 minutes.
  - **IV**: Seconds.
- **Peak action time**: Unknown.
- **Duration of action**:
  - **IM**: 0.5-2 hours.
  - **IV**: Unknown.
-

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Peak | 8 | 16 | 24 | 32 | 40 | 48 | 56 | 64 | 72 | 80 | minutes |
| Duration | 8 | 16 | 24 | 32 | 40 | 48 | 56 | 64 | 72 | 80 | minutes |

## Dosing:

- Use IDEAL body weight for analgesic dosing, NOT actual body weight.
- Refer to specific protocol(s) below for dose(s).

## Indications:

- Protocol 2-044 - Airway: RSI.
- Protocol 2-110 - Behavioral.
- Protocol 2-660 - Pain Control.

## Contraindications:

- Hypersensitivity.

## Pregnancy Risk Factor:

- Category C
- **Risk not ruled out**: Animal reproduction studies have shown an adverse effect on the fetus and there are no adequate and well-controlled studies in humans, but potential benefits may warrant use of the drug in pregnant women despite potential risks. FDA requires a relatively large amount of high-quality data on a pharmaceutical for it to be defined as Pregnancy Category A. As a result of this, many drugs that would be considered Pregnancy Category A in other countries are allocated to Category C by the FDA.

## Potential Incompatibilities:

- NA.

## Precautions and Adverse Effects:

- Calculate analgesic dose based on **IDEAL** body weight.
- Slow push to avoid apnea.
- Use caution in patients where significant Hypertension would be hazardous (i.e. Stroke, Head Trauma, ICP, MI).
- May cause glaucoma, hypovolemia, dehydration, cardiac disease, emergence phenomena, Hypertension, Tachycardia, hypotension, Bradycardia, arrhythmias, respiratory depression, apnea, laryngospasms, tonic/clonic movements, and/or Vomiting.

## Antidote:

- NA.

## Controlled Substance Information:

- Schedule III
  - Medium potential for abuse. Abusing the drug can cause severe mental addiction, or moderate physical addiction.
- **DEA number**: 7285.
- **Narcotic**: No.
- **Street names**: Black Hole, Bump, Cat Killer, Cat Valium, Coke, Green, Honey Oil, Jet, K Hole, K, Ket, Kit Kat, Kitty Flipping, Purple, Special K, Special LA, Super Acid, Super C, Vitamin K.

## Change Log:

| Date | Link to previous version | Description of change |
|---|---|---|
| 12/29/14 | pdf | Added DEA and street info. |
| 08/06/15 | pdf | Removed pediatric dosages. Added analgesic vs. dissociative doses. Reduced dissociative dosages. Added comment to half the dose if age over 65 yr. |
| 06/10/16 | pdf | Added dosing chart created by Brice Flynn. |
| 08/24/17 | pdf | Fixed calculation errors in the quick reference sheet. |
| 11/29/17 | pdf | Updated quick reference chart. |
| 08/24/18 | pdf | Added comment about slow push to avoid apnea. |
| 05/11/20 | pdf | Added content (without substantive modification) from old Protocol 7-330 - Ketamine. |
| 06/11/21 | pdf | Moved to emsprotocols.online |
| 11/05/21 | pdf | Specified the analgesic dose of Ketamine MUST be based on ideal body weight, not actual body weight. This is per Dr. Nicholes request on multiple occasion. Brought to protocol committee on 5/26/21 who requested confirmation from Dr. Nicholes who then confirmed again on 6/8/21. |
| 03/20/23 | | Changed number from 7-330 to 7-494. |
| 03/20/23 | pdf | Added CP. |

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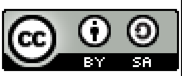
|  | Polk, Hickory, Cedar, & St Clair County EMS Protocols by Theron Becker is licensed under a Creative Commons Attribution-ShareAlike 4.0 International License. |
|---|---|

# Medication 7-504 - Labetalol (Nomadyne)

**CMH EMS & MIH Protocols**

## Scope of Practice:

- Registered Nurse
- Paramedic
- Community Paramedic

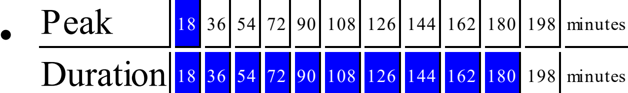
## Route(s):

- IO, IV,

## Pharmacodynamics (class and mechanism of action):

- Antihypertensive (Alpha and beta blockade. Binds with α1 (alpha-1), β1 (beta-1), and β2 (beta-2) receptors in vascular smooth muscle. Inhibits strength of heart’s contractions and rate.).

## Pharmacokinetics:

- **Half-life**: 5.5 hours.
- **Onset time**: 2-5 minutes.
- **Peak action time**: 5 minutes.
- **Duration of action**: 2-4 hours.
- 

| Peak | 18 | 36 | 54 | 72 | 90 | 108 | 126 | 144 | 162 | 180 | 198 | minutes |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Duration | 18 | 36 | 54 | 72 | 90 | 108 | 126 | 144 | 162 | 180 | 198 | minutes |

## Dosing:

- Refer to specific protocol(s) below for dose(s).

## Indications:

- Protocol 2-528 - Hypertension.

## Contraindications:

- Bronchial Asthma.
- Heart block.

- Cardiogenic shock.
- Bradycardia.
- Hypotension.
- Pulmonary Edema.
- Heart failure.
- Sick Sinus Syndrome.

## Pregnancy Risk Factor:

- Category C
- **Risk not ruled out**: Animal reproduction studies have shown an adverse effect on the fetus and there are no adequate and well-controlled studies in humans, but potential benefits may warrant use of the drug in pregnant women despite potential risks. FDA requires a relatively large amount of high-quality data on a pharmaceutical for it to be defined as Pregnancy Category A. As a result of this, many drugs that would be considered Pregnancy Category A in other countries are allocated to Category C by the FDA.

## Potential Incompatibilities:

- Medication 7-360 - Lasix.

## Precautions and Adverse Effects:

- Blood pressure should be constantly monitored.
- Cannot give at the same time with Lasix.
- May cause dizziness, flushing, Nausea, Vomiting, headaches, weakness, postural hypotension, hypotension, Bronchospasm, arrhythmia, Bradycardia, AV block

## Antidote:

- Medication 7-329 - Epinephrine.
- Medication 7-384 - Glucagon.

## Controlled Substance Information:

Not a scheduled drug
  - The DEA and FDA have not identified this drug with a schedule classification.
- **DEA number**: NA.
- **Narcotic**: No.
- **Street names**: NA.

# Change Log:

| Date | Link to previous version | Description of change |
|---|---|---|
| 08/24/17 | pdf | Removed reference to Lasix. |
| 05/15/20 | pdf | Added content (without substantive modification) from old Protocol 7-340 - Labetalol. |
| 06/11/21 | pdf | Moved to emsprotocols.online |
| 03/19/23 | | Changed number from 7-340 to 7-504. |
| 03/20/23 | | Changed link for Glucagon. |
| 03/20/23 | | Changed link for Epi. |
| 03/21/23 | pdf | Added CP. |

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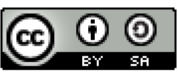
|---|---|---|



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# Medication 7-515 - Lactated Ringers (LR)

**CMH EMS & MIH Protocols**

## Scope of Practice:

- Advanced Emergency Medical Technician
- Registered Nurse
- Paramedic
- Community Paramedic

## Route(s):

- IO, IV,

## Pharmacodynamics (class and mechanism of action):

- Crystalloid solution.

## Pharmacokinetics:

- **Half-life**: NA.
- **Onset time**: NA.
- **Peak action time**: NA.
- **Duration of action**: NA.
-

| Peak | 1 | minutes |
|---|---|---|
| Duration | 1 | minutes |

## Dosing:

- Refer to specific protocol(s) below for dose(s).

## Indications:

- Virtually all protocols.

## Contraindications:

- None.

## Pregnancy Risk Factor:

No Category
FDA has not yet classified the drug into a specified pregnancy category.

## Potential Incompatibilities:

- None.

## Precautions and Adverse Effects:

- May cause Pulmonary Edema.
- May precipitate in IV line when mixed with other medications.

## Antidote:

- None.

## Controlled Substance Information:

Not a scheduled drug
  - The DEA and FDA have not identified this drug with a schedule classification.
- **DEA number**: NA.
- **Narcotic**: No.
- **Street names**: NA.

# Change Log:

| Date | Link to previous version | Description of change |
|---|---|---|
| 07/23/19 | pdf | Fixed typo. |
| 05/15/20 | | Added content (without substantive modification) from old Protocol 7-350 - Lactated Ringers. |
| 08/07/20 | pdf | Added precaution that it might precipitate. |
| 06/11/21 | pdf | Moved to emsprotocols.online |
| 03/19/23 | | Changed number from 7-350 to 7-515. |
| 03/21/23 | pdf | Added CP. |

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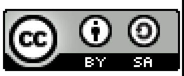
|---|---|---|



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# Medication 7-526 - Lasix (Furosemide)

**CMH EMS & MIH Protocols**

## Scope of Practice:

- Registered Nurse
- Paramedic
- Community Paramedic

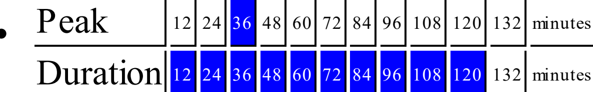
## Route(s):

- IM/SQ, IO, IV,

## Pharmacodynamics (class and mechanism of action):

- Potent diuretic (Inhibits reabsorption of sodium chloride. Promotes prompt diuresis. Vasodilation. Decreases absorption of water and increased production of urine.).

## Pharmacokinetics:

- **Half-life**: 30 minutes.
- **Onset time**: 5 minutes.
- **Peak action time**: 30 minutes.
- **Duration of action**: 2 hours.
- 

| Peak | 12 | 24 | 36 | 48 | 60 | 72 | 84 | 96 | 108 | 120 | 132 | minutes |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Duration | 12 | 24 | 36 | 48 | 60 | 72 | 84 | 96 | 108 | 120 | 132 | minutes |

## Dosing:

- Refer to specific protocol(s) below for dose(s).

## Indications:

- Not in current standing order protocols.

## Contraindications:

- Pregnancy.
- Dehydration.

## Pregnancy Risk Factor:

- Category C
- **Risk not ruled out**: Animal reproduction studies have shown an adverse effect on the fetus and there are no adequate and well-controlled studies in humans, but potential benefits may warrant use of the drug in pregnant women despite potential risks. FDA requires a relatively large amount of high-quality data on a pharmaceutical for it to be defined as Pregnancy Category A. As a result of this, many drugs that would be considered Pregnancy Category A in other countries are allocated to Category C by the FDA.

## Potential Incompatibilities:

- None.

## Precautions and Adverse Effects:

- Some studies suggest prehospital diagnosis of heart failure vs. pneumonia is only correct 60% of the time. Routine administration of Lasix to patients in suspected CHF should be discontinued.
- Should be protected from light.
- Use caution with dehydration.
- May prolong QT interval. 12-lead is indicated after administration.
- May cause hypotension.

## Antidote:

- None.

## Controlled Substance Information:

Not a scheduled drug
  - The DEA and FDA have not identified this drug with a schedule classification.
- **DEA number**: NA.
- **Narcotic**: No.
- **Street names**: NA.

# Change Log:

| Date | Link to previous version | Description of change |
| --- | --- | --- |

| | | |
|---|---|---|
| 04/01/15 | pdf | Added comment about prolonging QT interval and the need for 12-lead. |
| 08/24/17 | pdf | Removed this section. |
| 05/16/20 | pdf | Added content (without substantive modification) from old Protocol 7-360 - Lasix. |
| 06/11/21 | pdf | Moved to emsprotocols.online |
| 03/19/23 | | Changed number from 7-360 to 7-526. |
| 03/21/23 | pdf | Added CP. |

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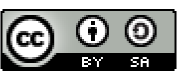
|---|---|---|

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# Medication 7-537 - Lidocaine (Xylocaine)

**CMH EMS & MIH Protocols**

## Scope of Practice:

- Registered Nurse
- Paramedic
- Community Paramedic

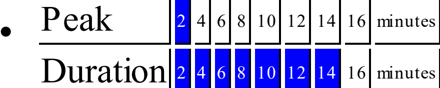
## Route(s):

- ET, IO, IV, Topical

## Pharmacodynamics (class and mechanism of action):

- Antiarrhythmic (Blocks sodium channels, increasing recovery period after repolarization. Suppresses automaticity in the His-Purkinje system and depolarization in the ventricles.).

## Pharmacokinetics:

- **Half-life**: 1.5-2 hours.
- **Onset time**: Immediate.
- **Peak action time**: Immediate.
- **Duration of action**: 10-20 minutes.
- 

| Peak | 2 | 4 | 6 | 8 | 10 | 12 | 14 | 16 | minutes |
|---|---|---|---|---|---|---|---|---|---|
| Duration | 2 | 4 | 6 | 8 | 10 | 12 | 14 | 16 | minutes |

## Dosing:

- Refer to specific protocol(s) below for dose(s).

## Indications:

- Protocol 2-968 - V-Fib / Pulseless V-Tach.
- Equipment 8-135 - Intraosseus Needle.

## Contraindications:

- High degree heart blocks.
- PVCs in conjunction with Bradycardia.

- Bleeding.

## Pregnancy Risk Factor:

Category B
**No risk in other studies**: Animal reproduction studies have failed to demonstrate a risk to the fetus and there are no adequate and well-controlled studies in pregnant women, or animal studies have shown adverse effects, but adequate and well-controlled studies in pregnant women have failed to demonstrate a risk to the fetus in any trimester.

## Potential Incompatibilities:

- None.

## Precautions and Adverse Effects:

- Monitor for CNS toxicity.
- Liver disease or greater than 70yrs old: reduce dosage by 50%.
- Use with caution in Bradycardia, hypovolemia, shock, Adams-Stokes, Wolff-Parkinson-White.
- May cause Anxiety, drowsiness, dizziness, confusion, Nausea, Vomiting, convulsions, widening of QRS, arrhythmias, and/or hypotension.

## Antidote:

- None.

## Controlled Substance Information:

Not a scheduled drug
- The DEA and FDA have not identified this drug with a schedule classification.

- **DEA number**: NA.
- **Narcotic**: No.
- **Street names**: NA.

## Change Log:

| Date | Link to previous version | Description of change |
|---|---|---|
| 06/01/15 | pdf | Added indication for Protocol 6-110 - Rapid/Delayed Sequence Intubation (RSI). |
| 06/08/15 | | Added quick reference dosage chart. |
| 11/11/17 | pdf | Removed indications for Protocol 5-070 - Head Trauma and Protocol 6-110 - Rapid/Delayed Sequence Intubation (RSI). |
| 05/16/20 | pdf | Added content (without substantive modification) from old Protocol 7-370 - Lidocaine. |
| 06/11/21 | pdf | Moved to emsprotocols.online |
| 11/05/21 | pdf | Removed the indication of VTach with a pulse from Lidocaine per specific request from Dr. Nicholes on 8/5/21. |
| 03/19/23 | | Changed number from 7-370 to 7-537. |
| 03/21/23 | pdf | Added CP. |

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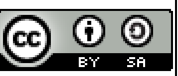
|---|---|---|



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# Medication 7-559 - Magnesium Sulfate

**CMH EMS & MIH Protocols**

## Scope of Practice:

- Registered Nurse
- Paramedic
- Community Paramedic

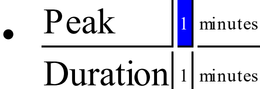
## Route(s):

- IO, IV,

## Pharmacodynamics (class and mechanism of action):

- Anticonvulsant. Smooth muscle relaxer. (CNS depressant. Cofactor in neurochemical transmission and muscular excitability. Controls Seizure by blocking peripheral neuromuscular transmission. Peripheral vasodilator and platelet inhibitor.).

## Pharmacokinetics:

- **Half-life**: Unknown.
- **Onset time**:
  - **IM**: 1 hour.
  - **IV**: 1-2 minutes.
- **Peak action time**: Unknown.
- **Duration of action**: Unknown.
- 

| Peak | 1 | minutes |
|---|---|---|
| Duration | 1 | minutes |

## Dosing:

- Refer to specific protocol(s) below for dose(s).

## Indications:

- Protocol 2-528 - Hypertension.
- Protocol 2-770 - Respiratory Distress.
- Protocol 2-946 - Ventricular Tachycardia.
- Protocol 2-968 - V-Fib / Pulseless V-Tach.

## Contraindications:

- Heart block.
- Recent MI.
- Renal insufficiency or renal failure.
- GI obstruction.

## Pregnancy Risk Factor:

Category A
**No risk in controlled human studies**: Adequate and well-controlled human studies have failed to demonstrate a risk to the fetus in the first trimester of pregnancy (and there is no evidence of risk in later trimesters).

## Potential Incompatibilities:

- None.

## Precautions and Adverse Effects:

- Do not exceed 1 g per minute dose rate. Monitor for Magnesium toxicity.
- Use caution with Digitalis and hypotension.
- May cause Respiratory depression and/or drowsiness.

## Antidote:

- Medication 7-175 - Calcium Chloride.
- Medication 7-384 - Glucagon.

## Controlled Substance Information:

- Not a scheduled drug
  - The DEA and FDA have not identified this drug with a schedule classification.
- **DEA number**: NA.
- **Narcotic**: No.
- **Street names**: NA.

## Change Log:

| Date | Link to previous version | Description of change |
|---|---|---|
| 09/22/17 | pdf | Added mixing instructions. |
| 11/11/17 | pdf | Removed reference to Section 7-040 - Albuterol (Proventil, Ventolin) and removed mixing instructions. |
| 08/24/18 | pdf | Fixed typo. |
| 05/16/20 | pdf | Added content (without substantive modification) from old Protocol 7-380 - Magnesium Sulfate. |
| 06/11/21 | pdf | Moved to emsprotocols.online |
| 03/19/23 | | Changed number from 7-380 to 7-559. |
| 03/20/23 | | Changed link for Glucagon. |
| 03/20/23 | | Changed link for Calcium. |
| 03/21/23 | pdf | Added CP. |

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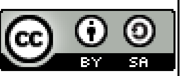
|---|---|---|

|  | Polk, Hickory, Cedar, & St Clair County EMS Protocols by Theron Becker is licensed under a Creative Commons Attribution-ShareAlike 4.0 International License. |
|---|---|

# Medication 7-592 - Morphine

**CMH EMS & MIH Protocols**

## Scope of Practice:

- Registered Nurse
- Paramedic
- Community Paramedic

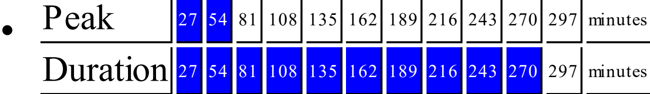
## Route(s):

- IM/SQ, IO, IV,

## Pharmacodynamics (class and mechanism of action):

- Opiate. (CNS depressant. Causes peripheral vasodilation. Decreases sensitivity to Pain. Binds with opiod receptors. Depresses vasomotor centers of brain. Releases histamine. Reduces stimulation of sympathetic nervous system.).

## Pharmacokinetics:

- **Half-life**: 2-3 hours.
- **Onset time**:
  - **IM**: 10-30 minutes.
  - **IV**: 5 minutes.
- **Peak action time**:
  - **IM**: 30-60 minutes.
  - **IV**: 20 minutes.
- **Duration of action**: 4-5 hours.
- 

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Peak | 27 | 54 | 81 | 108 | 135 | 162 | 189 | 216 | 243 | 270 | 297 | minutes |
| Duration | 27 | 54 | 81 | 108 | 135 | 162 | 189 | 216 | 243 | 270 | 297 | minutes |

## Dosing:

- Refer to specific protocol(s) below for dose(s).

## Indications:

- Protocol 2-220 - Chest Pain / Suspected Cardiac Event.
- Protocol 2-660 - Pain Control.

## Contraindications:

- Head Injury.
- Volume depletion.

## Pregnancy Risk Factor:

- Category C
- **Risk not ruled out**: Animal reproduction studies have shown an adverse effect on the fetus and there are no adequate and well-controlled studies in humans, but potential benefits may warrant use of the drug in pregnant women despite potential risks. FDA requires a relatively large amount of high-quality data on a pharmaceutical for it to be defined as Pregnancy Category A. As a result of this, many drugs that would be considered Pregnancy Category A in other countries are allocated to Category C by the FDA.

## Potential Incompatibilities:

- Medication 7-417 - Heparin.
- Medication 7-702 - Phenergan.

## Precautions and Adverse Effects:

- May worsen Bradycardia and heart block in patients with acute inferior wall MI.
- Use caution with acute Asthma.
- May cause dizziness, ALOC, respiratory depression, hypotension, Nausea, Vomiting, lightheadedness, sedation, diaphoresis, euphoria, and/or dysphoria.
- Possible beneficial effect in Pulmonary Edema.

## Antidote:

- Medication 7-143 - Benadryl may be used to reduce the histamine reaction caused by Morphine and reduce the incidence and severity of hypotension.
- Medication 7-603 - Narcan.

## Controlled Substance Information:

- Schedule II
  - High potential for abuse. Abusing the drug can cause severe physical and mental addiction.
- **DEA number**: 9300.
- **Narcotic**: Yes.
- **Street names**: C & M, Cotton Brothers, Dreamer, Emsel, First Line, God's Drug, Hows, M, Miss Emma, Mister Blue, Morf, Morpho, MS, New Jack Swing, Unkie.

## Change Log:

| Date | Link to previous version | Description of change |
|---|---|---|
| 01/29/14 | pdf | Coordinated with CMH policies. |
| 12/29/14 | pdf | Added DEA and street info. |
| 10/21/15 | pdf | Added 1-2 minute onset time. |
| 08/24/18 | pdf | Removed contraindication of abdominal pain. |
| 07/23/19 | pdf | Added conversation about Benadryl for hypotension. |
| 05/16/20 | pdf | Added content (without substantive modification) from old Protocol 7-390 - Morphine. |
| 06/11/21 | pdf | Moved to emsprotocols.online |
| 02/28/22 | | Updated link to Phenergan. |
| 03/19/23 | | Changed link for Narcan. |
| 03/19/23 | | Changed number from 7-390 to 7-592. |
| 03/20/23 | | Changed link for Heparin. |
| 03/20/23 | | Changed link for Benadryl. |
| 03/21/23 | pdf | Added CP. |

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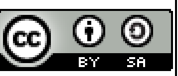
|---|---|---|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# Medication 7-603 - Narcan (Naloxone)

**CMH EMS & MIH Protocols**

## Scope of Practice:

- Emergency Medical Responder
- Emergency Medical Technician
- Advanced Emergency Medical Technician
- Registered Nurse
- Paramedic
- Community Paramedic

## Route(s):

- ET, IM/SQ, IN, IO, IV,

## Pharmacodynamics (class and mechanism of action):

- Narcotic antagonist. (Binds to opiod receptor and blocks the effect of Narcotics.).

## Pharmacokinetics:

- **Half-life**:
  - **Adults**: 80-90 minutes.
  - **Neonates**: 3 hours.
- **Onset time**:
  - **IM**: 2-5 minutes.
  - **IV**: 1-2 minutes.
- **Peak action time**: 5-15 minutes.
- **Duration of action**: Variable.
-

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Peak | 9 | 18 | 27 | 36 | 45 | 54 | 63 | 72 | 81 | 90 | minutes |
| Duration | 9 | 18 | 27 | 36 | 45 | 54 | 63 | 72 | 81 | 90 | minutes |

## Dosing:

- Refer to specific protocol(s) below for dose(s).

## Indications:

- Protocol 2-198 - Cardiac Arrest.

- Protocol 2-616 - Newly Born.
- Protocol 2-638 - Overdose / Toxic Ingestion.
- Medication 7-373 - Fentanyl.
- Medication 7-592 - Morphine.

## Contraindications:

- Hypersensitivity.

## Pregnancy Risk Factor:

Category B
**No risk in other studies**: Animal reproduction studies have failed to demonstrate a risk to the fetus and there are no adequate and well-controlled studies in pregnant women, or animal studies have shown adverse effects, but adequate and well-controlled studies in pregnant women have failed to demonstrate a risk to the fetus in any trimester.

## Potential Incompatibilities:

- None.

## Precautions and Adverse Effects:

- Short acting, should be augmented every 5 minutes.
- Monitor airway and ventilatory status.
- Patients who have gone from a state of somnolence from a Narcotic Overdose may become wide awake and Combative.
- May cause withdrawal effects, Nausea, Vomiting, restlessness, diaphoresis, Tachycardia, Hypertension, tremulousness, Seizure, and/or Cardiac Arrest.

## Antidote:

- None.

## Controlled Substance Information:

Not a scheduled drug
- The DEA and FDA have not identified this drug with a schedule classification.

- **DEA number**: NA.
- **Narcotic**: No.
- **Street names**: NA.

# Change Log:

| Date | Link to previous version | Description of change |
|---|---|---|
| 06/01/15 | pdf | Added indication for Protocol 6-025 - Cardiopulmonary Resuscitation (CPR). |
| 08/24/17 | pdf | Removed indication to Dilaudid. |
| 05/16/20 | pdf | Added content (without substantive modification) from old Protocol 7-400 - Narcan. |
| 02/20/21 | pdf | Added EMR to the scope of practice. |
| 06/11/21 | pdf | Moved to emsprotocols.online |
| 03/19/23 | | Changed document number from 7-400 to 7-603. |
| 03/19/23 | | Changed link for Morphine. |
| 03/20/23 | | Changed link for Fent. |
| 03/21/23 | pdf | Added CP. |

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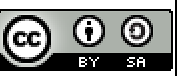


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# Medication 7-614 - Neo-Synephrine (Phenylephrine)

**CMH EMS & MIH Protocols**

## Scope of Practice:

- Registered Nurse
- Paramedic
- Community Paramedic

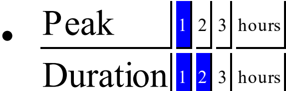
## Route(s):

- IN,

## Pharmacodynamics (class and mechanism of action):

- Vasoconstrictor. (α (alpha) agonist. Topical vasoconstriction.).

## Pharmacokinetics:

- **Half-life**: 2.1-3.4 hours.
- **Onset time**: Rapid.
- **Peak action time**: Unknown.
- **Duration of action**: 0.5-4 hours.
- 

| | | | | |
|---|---|---|---|---|
| Peak | 1 | 2 | 3 | hours |
| Duration | 1 | 2 | 3 | hours |

## Dosing:

- Refer to specific protocol(s) below for dose(s).

## Indications:

- Protocol 2-451 - General Trauma Management.
- Equipment 8-288 - Endotracheal Tube.

## Contraindications:

- Hypertension.

- Thyroid disease.

## Pregnancy Risk Factor:

- Category C
- **Risk not ruled out**: Animal reproduction studies have shown an adverse effect on the fetus and there are no adequate and well-controlled studies in humans, but potential benefits may warrant use of the drug in pregnant women despite potential risks. FDA requires a relatively large amount of high-quality data on a pharmaceutical for it to be defined as Pregnancy Category A. As a result of this, many drugs that would be considered Pregnancy Category A in other countries are allocated to Category C by the FDA.

## Potential Incompatibilities:

- None.

## Precautions and Adverse Effects:

- Use caution with enlarged prostate with dysuria.
- May cause nasal burning, stinging, sneezing, and/or increased nasal discharge.

## Antidote:

- None.

## Controlled Substance Information:

Not a scheduled drug
  - The DEA and FDA have not identified this drug with a schedule classification.
- **DEA number**: NA.
- **Narcotic**: No.
- **Street names**: NA.

## Change Log:

| Date | Link to previous version | Description of change |
|---|---|---|
| 05/16/20 | pdf | Added content (without substantive modification) from old Protocol 7-410 - Neo-Synephrine. |
| 02/22/21 | pdf | Added indication for universal patient care. 1/27/21 protocol committee requested neosynephrine use for nose bleeds. |
| 06/11/21 | pdf | Moved to emsprotocols.online |
| 03/19/23 | | Changed number from 7-410 to 7-614. |
| 03/21/23 | pdf | Added CP. Changed indication link from Universal to General Trauma. |

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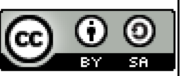
|---|---|---|

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# Medication 7-636 - Nitroglycerin (Nitrostat, Nitrolingual, Tridil)

**CMH EMS & MIH Protocols**

## Scope of Practice:

- Advanced Emergency Medical Technician
- Registered Nurse
- Paramedic
- Community Paramedic

## Route(s):

- IO, IV, PO, SL, Topical

## Pharmacodynamics (class and mechanism of action):

- Nitrate vasodilator. (Smooth muscle relaxant. Dilates coronary and systemic arteries.).

## Pharmacokinetics:

- **Half-life**: 1-4 hours.
- **Onset time**:
  - **IV**: Immediate.
  - **PO**: 20-45 minutes.
  - **SL**: 1-3 minutes.
  - **Topical**: 30 minutes.
- **Peak action time**: Unknown.
- **Duration of action**:
  - **IV**: 3-5 minutes.
  - **PO**: 3-8 hours.
  - **SL**: 30-60 minutes.
  - **Topical**: 2-24 hours.
-

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Peak | 5 | 10 | 15 | 20 | 25 | 30 | 35 | 40 | 45 | 50 | minutes |
| Duration | 5 | 10 | 15 | 20 | 25 | 30 | 35 | 40 | 45 | 50 | minutes |

## Dosing:

- Refer to specific protocol(s) below for dose(s).

## Indications:

- Protocol 2-220 - Chest Pain / Suspected Cardiac Event.
- Protocol 2-528 - Hypertension.
- Protocol 2-726 - Pulmonary Edema.

## Contraindications:

- Age less than 12 yrs.
- Hypotension.
- Severe Bradycardia or Tachycardia.
- ICP.
- Patients taking erectile dysfunction medications: Phosphodiesterase inhibitor within 48 hours (i.e. Viagra, Levitra, Cialis).

## Pregnancy Risk Factor:

- Category C
- **Risk not ruled out**: Animal reproduction studies have shown an adverse effect on the fetus and there are no adequate and well-controlled studies in humans, but potential benefits may warrant use of the drug in pregnant women despite potential risks. FDA requires a relatively large amount of high-quality data on a pharmaceutical for it to be defined as Pregnancy Category A. As a result of this, many drugs that would be considered Pregnancy Category A in other countries are allocated to Category C by the FDA.

## Potential Incompatibilities:

- None.

## Precautions and Adverse Effects:

- Patients with inferior wall MI and right ventricular involvement may have more pronounced hemodynamic response. Preferred to have IV access prior to administration. Monitor blood pressure.
- Drug must be protected from light.
- Expires quickly once bottle is opened.
- May cause syncope, headache, dizziness, hypotension, Bradycardia, lightheadedness, and/or flushing.

## Antidote:

- None.

## Controlled Substance Information:

- Not a scheduled drug
  - The DEA and FDA have not identified this drug with a schedule classification.
- **DEA number**: NA.
- **Narcotic**: No.

- **Street names**: NA.

# Change Log:

| Date | Link to previous version | Description of change |
|---|---|---|
| 12/29/14 | pdf | Added differentiation for Chest Pain dose and CHF dose. |
| 06/08/15 | pdf | Added quick reference dosage chart. |
| 09/22/17 | pdf | Added contraindication to phosphodiesterase inhibitor within 48 hours. |
| 05/16/20 | pdf | Added content (without substantive modification) from old Protocol 7-420 - Nitroglycerin. |
| 06/11/21 | pdf | Moved to emsprotocols.online |
| 03/19/23 | | Changed document number from 7-420 to 7-636. |
| 03/21/23 | pdf | Added CP. Changed terminology from MUST have IV to PREFERRED to have IV per protocol committee on 1/26/2022. |

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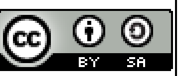
|---|---|---|



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# Medication 7-647 - Norepinephrine (Levophed)

**CMH EMS & MIH Protocols**

## Scope of Practice:

- Registered Nurse
- Paramedic
- Community Paramedic

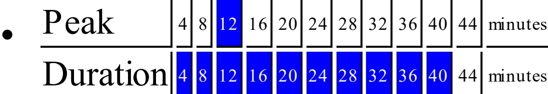
## Route(s):

- IO, IV,

## Pharmacodynamics (class and mechanism of action):

- Sympathomimetic amine. (Stimulates α (alpha) and β (beta) adrenergic receptors. Increases cardiac contractility. Causes peripheral vasoconstriction. Limited chronotropic effects.).

## Pharmacokinetics:

- **Half-life**: 1-2 minutes.
- **Onset time**: 1-2 minutes.
- **Peak action time**: 10 minutes.
- **Duration of action**: 20-60 minutes.
- 

| Peak | 4 | 8 | 12 | 16 | 20 | 24 | 28 | 32 | 36 | 40 | 44 | minutes |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Duration | 4 | 8 | 12 | 16 | 20 | 24 | 28 | 32 | 36 | 40 | 44 | minutes |

## Dosing:

- Refer to specific protocol(s) below for dose(s).

## Indications:

- Protocol 2-583 - Hypotension / Shock

## Contraindications:

- Allergies to sulfa.
- Patients taking MAOIs or triptyline/imipramine antidepressants.
- Hypotension due to hypovolemia (trauma or dehydration).

## Pregnancy Risk Factor:

- Category C
- **Risk not ruled out**: Animal reproduction studies have shown an adverse effect on the fetus and there are no adequate and well-controlled studies in humans, but potential benefits may warrant use of the drug in pregnant women despite potential risks. FDA requires a relatively large amount of high-quality data on a pharmaceutical for it to be defined as Pregnancy Category A. As a result of this, many drugs that would be considered Pregnancy Category A in other countries are allocated to Category C by the FDA.

## Potential Incompatibilities:

- None.

## Precautions and Adverse Effects:

- Only administer through at least an 18 gauge IV in the AC space or more proximal location. An IO, PICC, or Port may also be used.
- May cause ischemic injury due to vasoconstriction, Bradycardia, arrhythmias, Anxiety, headaches, Respiratory Difficulty, and/or extravasation necrosis at injection site.

## Antidote:

- Rigitine.

## Controlled Substance Information:

Not a scheduled drug
  - The DEA and FDA have not identified this drug with a schedule classification.
- **DEA number**: NA.
- **Narcotic**: No.
- **Street names**: NA.

## Change Log:

| Date | Link to previous version | Description of change |
|---|---|---|
| 08/27/19 | | Added this section for referencepossible future adding of this medication for septic shock treatment. |
| 05/16/20 | pdf | Added content (without substantive modification) from old Protocol 7-430 - Norepinephrine. |
| 06/11/21 | pdf | Moved to emsprotocols.online |
| 03/19/23 | | Changed from 7-430 to 7-647. |
| 03/21/23 | pdf | Added CP. Added hypotension protocol as indication. Also added precautions by Dr Nicholes on 6/8/21. All approved by protocol committee on 1/26/22. |

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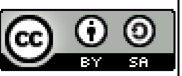
|---|---|---|



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# Medication 7-658 - Normal Saline (NS, Sodium Chloride)

**CMH EMS & MIH Protocols**

## Scope of Practice:

- Emergency Medical Responder
- Emergency Medical Technician
- Advanced Emergency Medical Technician
- Registered Nurse
- Paramedic
- Community Paramedic

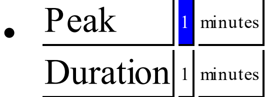
## Route(s):

- Inhalation, IO, IV, Neb, Topical

## Pharmacodynamics (class and mechanism of action):

- Crystalloid solution.

## Pharmacokinetics:

- **Half-life**: NA.
- **Onset time**: NA.
- **Peak action time**: NA.
- **Duration of action**: NA.
- 

| | | |
|---|---|---|
| Peak | 1 | minutes |
| Duration | 1 | minutes |

## Dosing:

- Refer to specific protocol(s) below for dose(s).

## Indications:

- Virtually all protocols for IV access and irrigation.

## Contraindications:

- None.

## Pregnancy Risk Factor:

No Category
FDA has not yet classified the drug into a specified pregnancy category.

## Potential Incompatibilities:

- None.

## Precautions and Adverse Effects:

- May cause Pulmonary Edema.

## Antidote:

- Rigitine.

## Controlled Substance Information:

Not a scheduled drug
  - The DEA and FDA have not identified this drug with a schedule classification.

- **DEA number**: NA.
- **Narcotic**: No.
- **Street names**: NA.

## Change Log:

| Date | Link to previous version | Description of change |
|---|---|---|
| 12/20/13 | pdf | Added EMT scope of practice statement. |
| 05/16/20 | pdf | Added content (without substantive modification) from old Protocol 7-440 - Normal Saline. |
| 06/11/21 | pdf | Moved to emsprotocols.online |
| 03/17/23 | | Changed number from 7-440 to 7-658. |

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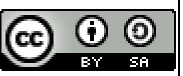

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# Medication 7-669 - Oxygen

**CMH EMS & MIH Protocols**

## Scope of Practice:

- Emergency Medical Responder
- Emergency Medical Technician
- Advanced Emergency Medical Technician
- Registered Nurse
- Paramedic
- Community Paramedic

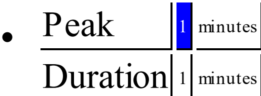
## Route(s):

- ET, IN, Inhalation, Neb,

## Pharmacodynamics (class and mechanism of action):

- Necessary for aerobic cellular metabolism.

## Pharmacokinetics:

- **Half-life**: NA.
- **Onset time**: NA.
- **Peak action time**: NA.
- **Duration of action**: NA.
- 

| Peak | 1 | minutes |
| --- | --- | --- |
| Duration | 1 | minutes |

## Dosing:

- Refer to specific protocol(s) for dose(s).
- **Generalized dosing chart**:
  - | Condition | Target SpO2 |
    | --- | --- |
    | Anaphylaxis | 100% |
    | Anemia | 100% |
    | Toxin (i.e. Carbon Monoxide, Cyanide, Smoke Inhalation, etc. | 100% |
    | Cardiac Chest Pain | 90% - 99% |
    | Dyspnea | 88% - 99% |

| | |
|---|---|
| ROSC | 92% - 98% |
| Stroke | 94% - 99% |
| Trauma | 100% |

## Indications:

- Virtually all protocols where SpO2 is less than 88%. The overall goal of Oxygen therapy is to avoid tissue hypoxia.
- Arterial hypoxemia or a failure of the Oxygen-hemoglobin transport system.
  - **Arterial hypoxemia**: Oxygen saturation of less than 88% and may result from impaired gas exchange in the lung, inadequate alveolar ventilation or a shunt that allows venous blood into the arterial circulation
  - **Failure of the Oxygen-hemoglobin transport system**: Reduced Oxygen carrying capacity in blood (i.e. anemia, carbon monoxide poisoning) or reduced tissue perfusion (i.e. shock).

  . .

## Contraindications:

- Known Paraquat Poisoning unless SpO2 is less than 88%.

## Pregnancy Risk Factor:

> No Category
> FDA has not yet classified the drug into a specified pregnancy category.

## Potential Incompatibilities:

- None.

## Precautions and Adverse Effects:

- Humidify when providing high-flow rates over extended periods of time.
- Hyperoxia resulting from high FiO2 administration producing saturations higher than 94-96% can cause structural damage to the lungs and post reperfusion tissue damage.
- Use caution with patients who are chronically hypoxic (i.e. COPD, ALS, MS) have shifted their Oxygen dissociation curve and require lower Oxygen saturations. Prolonged Oxygen therapy may depress ventilator drive
- High blood Oxygen levels may disrupt the ventilation / perfusion balance and cause an increase in dead space to tidal volume ratio and increase PCO2.
- May cause drying of mucous membranes.

## Antidote:

- NA.

## Controlled Substance Information:

Not a scheduled drug
- The DEA and FDA have not identified this drug with a schedule classification.

- **DEA number**: NA.
- **Narcotic**: No.
- **Street names**: NA.

## Change Log:

| Date | Link to previous version | Description of change |
|---|---|---|
| 10/09/13 | | Modification to most documents to include Oxygen titration based on Mercy Life Line protocols. |
| 10/09/13 | pdf | Major modification to include titration based on Mercy Life Line protocols. |
| 12/20/13 | | Added EMT scope of practice statement. |
| 01/29/14 | | Coordinated with CMH policies. |
| 02/22/14 | pdf | Added unresponsive ROSC dosage and cleaned graphic of SpO2 titration rates. |
| 05/16/20 | pdf | Added content (without substantive modification) from old Protocol 7-460 - Oxygen. |
| 02/22/21 | pdf | Simplified dosing chart and made corrections according to AHA 2020 update. |
| 06/11/21 | pdf | Moved to emsprotocols.online |
| 02/28/22 | pdf | Changed number from 7-460 to 7-669. Also changed all the links in all protocols to new number. |
| 03/21/23 | pdf | Added CP. |

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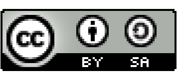
| --- | --- | --- |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# Medication 7-680 - Oxytocin (Pitocin)

**CMH EMS & MIH Protocols**

## Scope of Practice:

- Registered Nurse
- Paramedic
- Community Paramedic

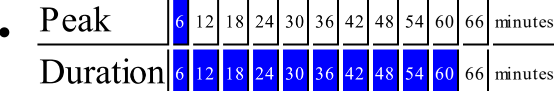
## Route(s):

- IO, IV,

## Pharmacodynamics (class and mechanism of action):

- Hormone. (Causes uterine contraction. Causes lactation. Slows postpartum Vaginal Bleeding.)

## Pharmacokinetics:

- **Half-life**: 3-5 minutes.
- **Onset time**: Immediate.
- **Peak action time**: Unknown.
- **Duration of action**: 1 hour.
- 

| Peak | 6 | 12 | 18 | 24 | 30 | 36 | 42 | 48 | 54 | 60 | 66 | minutes |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Duration | 6 | 12 | 18 | 24 | 30 | 36 | 42 | 48 | 54 | 60 | 66 | minutes |

## Dosing:

- Refer to specific protocol(s) below for dose(s).

## Indications:

- Protocol 2-462 - Gynecologic Emergencies.

## Contraindications:

- Any condition other than postpartum bleeding.
- Cesarean section.

## Pregnancy Risk Factor:

No Category
FDA has not yet classified the drug into a specified pregnancy category.

## Potential Incompatibilities:

- None.

## Precautions and Adverse Effects:

- It is essential to assure that the placenta has delivered and that there is not another fetus present before administering.
- Overdosage can cause uterine rupture.
- Use caution with Hypertension.
- May prolong QT interval. 12-lead is indicated after administration.
- May cause Anaphylaxis and/or cardiac arrhythmias.

## Antidote:

- None.

## Controlled Substance Information:

Not a scheduled drug
  - The DEA and FDA have not identified this drug with a schedule classification.
- **DEA number**: NA.
- **Narcotic**: No.
- **Street names**: NA.

## Change Log:

| Date | Link to previous version | Description of change |
|---|---|---|
| 04/01/15 | pdf | Added comment about prolonging QT interval and the need for 12-lead. |
| 05/16/20 | pdf | Added content (without substantive modification) from old Protocol 7-470 - Oxytocin. |
| 06/11/21 | pdf | Moved to emsprotocols.online |
| 02/28/22 | pdf | Changed number from 7-470 to 7-680. |
| 03/21/23 | pdf | Added CP. |

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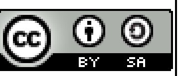
|---|---|---|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# Medication 7-702 - Phenergan (Promethazine)

**CMH EMS & MIH Protocols**

## Scope of Practice:

- Registered Nurse
- Paramedic
- Community Paramedic

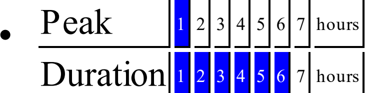
## Route(s):

- IM/SQ, IO, IV,

## Pharmacodynamics (class and mechanism of action):

- Anti-emetic. (Decreases Nausea and Vomiting by antagonizing H1 receptors.)

## Pharmacokinetics:

- **Half-life**: 16-19 hours.
- **Onset time**:
  - **IM**: 20 minutes.
  - **IV**: 3-5 minutes.
- **Peak action time**: Unknown.
- **Duration of action**: Less than 12 hours.
- 


## Dosing:

- Refer to specific protocol(s) below for dose(s).

## Indications:

- Protocol 2-990 - Vomiting.

## Contraindications:

- ALOC.
- Jaundice.

## Pregnancy Risk Factor:

- Category C
- **Risk not ruled out**: Animal reproduction studies have shown an adverse effect on the fetus and there are no adequate and well-controlled studies in humans, but potential benefits may warrant use of the drug in pregnant women despite potential risks. FDA requires a relatively large amount of high-quality data on a pharmaceutical for it to be defined as Pregnancy Category A. As a result of this, many drugs that would be considered Pregnancy Category A in other countries are allocated to Category C by the FDA.

## Potential Incompatibilities:

- Medication 7-417 - Heparin.
- Medication 7-592 - Morphine.

## Precautions and Adverse Effects:

- Use caution with Seizure Disorder.
- May prolong QT interval. 12-lead is indicated after administration.
- May cause Excitation.
- **Possible Extra-Pyramidal Symptoms (EPS) / dystonic reactions**:
  - EPS is a movement disorder such as the inability to move or restlessness.
  - Treat with Medication 7-143 - Benadryl.

## Antidote:

- None.

## Controlled Substance Information:

Not a scheduled drug
  - The DEA and FDA have not identified this drug with a schedule classification.
- **DEA number**: NA.
- **Narcotic**: No.
- **Street names**: NA.

## Change Log:

| Date | Link to previous version | Description of change |
|---|---|---|

| | | |
|---|---|---|
| 12/29/14 | pdf | Added clarification for pediatric dosage. |
| 04/01/15 | | Added comment about prolonging QT interval and the need for 12-lead. |
| 08/24/18 | pdf | Added indication of abdominal pain. |
| 05/16/20 | pdf | Added content (without substantive modification) from old Protocol 7-480 - Phenergan. |
| 06/11/21 | pdf | Moved to emsprotocols.online |
| 02/28/22 | pdf | Changed number from 7-480 to 7-702. |
| 03/19/23 | | Changed link for Morphine. |
| 03/20/23 | | Changed link for Heparin. |
| 03/20/23 | | Changed link for Benadryl. |
| 03/21/23 | pdf | Added CP. |

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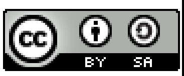

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# Medication 7-768 - Procainamide (Pronestyl)

**CMH EMS & MIH Protocols**

## Scope of Practice:

- Registered Nurse
- Paramedic
- Community Paramedic

## Route(s):

- IO, IV,

## Pharmacodynamics (class and mechanism of action):

- Antiarrhythmic. (Slows conduction through myocardium. Elevates Ventricular Fibrillation threshold. Suppresses Ventricular Ectopy.)

## Pharmacokinetics:

- **Half-life**: 2.5-4.5 hours.
- **Onset time**: Immediate.
- **Peak action time**: Immediate.
- **Duration of action**: Unknown.
-

| Peak | 1 | minutes |
|---|---|---|
| Duration | 1 | minutes |

## Dosing:

- Refer to specific protocol(s) below for dose(s).

## Indications:

- Not in current standing order protocols.

## Contraindications:

- High degree heart blocks.
- PVCs in conjunction with Bradycardia.

## Pregnancy Risk Factor:

- Category C
- **Risk not ruled out**: Animal reproduction studies have shown an adverse effect on the fetus and there are no adequate and well-controlled studies in humans, but potential benefits may warrant use of the drug in pregnant women despite potential risks. FDA requires a relatively large amount of high-quality data on a pharmaceutical for it to be defined as Pregnancy Category A. As a result of this, many drugs that would be considered Pregnancy Category A in other countries are allocated to Category C by the FDA.

## Potential Incompatibilities:

- None.

## Precautions and Adverse Effects:

- Dosage should not exceed 17 mg/kg.
- Monitor for CNS toxicity.
- May prolong QT interval. 12-lead is indicated after administration.
- May cause Anxiety, Nausea, Convulsions, and/or widening QRS.

## Antidote:

- None.

## Controlled Substance Information:

Not a scheduled drug
  - The DEA and FDA have not identified this drug with a schedule classification.
- **DEA number**: NA.
- **Narcotic**: No.
- **Street names**: NA.

# Change Log:

| Date | Link to previous version | Description of change |
|---|---|---|
| 12/29/14 | pdf | Added NS as option for WPW dilution. |
| 04/01/15 | | Added comment about prolonging QT interval and the need for 12-lead. |
| 08/24/17 | pdf | Removed this section. |
| 05/16/20 | pdf | Added content (without substantive modification) from old Protocol 7-490 - Procainamide. |
| 06/11/21 | pdf | Moved to emsprotocols.online |
| 02/28/22 | pdf | Changed number from 7-490 to 7-768. |
| 03/21/23 | pdf | Added CP. |

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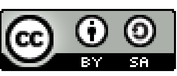


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# Medication 7-779 - Propofol (Diprivan)

**CMH EMS & MIH Protocols**

## Scope of Practice:

- Registered Nurse
- Paramedic
- Community Paramedic

## Route(s):

- IO, IV,

## Pharmacodynamics (class and mechanism of action):

- Anesthetic. (Produces rapid and brief state of general anesthesia.)

## Pharmacokinetics:

- **Half-life**:
  - **Initial phase (distribution)**: 2-10 minutes.
  - **Second phase (redistribution)**: 21-70 minutes.
  - **Terminal phase (elimination)**: 1.5-31 hours.
- **Onset time**: Less than 40 seconds.
- **Peak action time**: Unknown.
- **Duration of action**: 10-15 minutes.
-

| Peak | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | minutes |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Duration | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | minutes |

## Dosing:

- Refer to specific protocol(s) below for dose(s).

## Indications:

- Not in current standing order protocols.

## Contraindications:

- Hypovolemia.

- Sensitivity to soybean oil or eggs.

## Pregnancy Risk Factor:

Category B

**No risk in other studies**: Animal reproduction studies have failed to demonstrate a risk to the fetus and there are no adequate and well-controlled studies in pregnant women, or animal studies have shown adverse effects, but adequate and well-controlled studies in pregnant women have failed to demonstrate a risk to the fetus in any trimester.

## Potential Incompatibilities:

- None.

## Precautions and Adverse Effects:

- May cause apnea, arrhythmias, Asystole, hypotension, and/or Hypertension.

## Antidote:

- None.

## Controlled Substance Information:

Not a scheduled drug

  - The DEA and FDA have not identified this drug with a schedule classification.

- **DEA number**: NA.
- **Narcotic**: No.
- **Street names**: NA.

## Change Log:

| Date | Link to previous version | Description of change |
|---|---|---|
| 08/24/17 | pdf | Removed this section. |
| 05/17/20 | pdf | Added content (without substantive modification) from old Protocol 7-500 - Propofol. |
| 06/11/21 | pdf | Moved to emsprotocols.online |
| 02/28/22 | pdf | Changed number from 7-500 to 7-779. |
| 03/21/23 | pdf | Added CP. |

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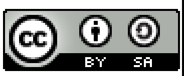
|  | Polk, Hickory, Cedar, & St Clair County EMS Protocols by Theron Becker is licensed under a Creative Commons Attribution-ShareAlike 4.0 International License. |
|---|---|

# Medication 7-801 - Reglan (Metoclopramide)

**CMH EMS & MIH Protocols**

## Scope of Practice:

- Registered Nurse
- Paramedic
- Community Paramedic

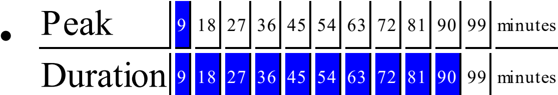
## Route(s):

- IO, IV,

## Pharmacodynamics (class and mechanism of action):

- Gut motility stimulator. (Increases muscle contractions in the upper digestive tract. This speeds up the rate at which the stomach empties into the intestines. Also blocks dopamine receptors in the brain.)

## Pharmacokinetics:

- **Half-life**: 4-6 hours.
- **Onset time**: 1-3 minutes.
- **Peak action time**: Unknown.
- **Duration of action**: 1-2 hours.
- 

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Peak | 9 | 18 | 27 | 36 | 45 | 54 | 63 | 72 | 81 | 90 | 99 | minutes |
| Duration | 9 | 18 | 27 | 36 | 45 | 54 | 63 | 72 | 81 | 90 | 99 | minutes |

## Dosing:

- Refer to specific protocol(s) below for dose(s).

## Indications:

- Not in current standing order protocols.

## Contraindications:

- Bleeding or blockage in stomach or intestines.
- Epilepsy or other Seizure disorder.

- Adrenal gland tumor (pheochromocytoma).

## Pregnancy Risk Factor:

Category B

**No risk in other studies**: Animal reproduction studies have failed to demonstrate a risk to the fetus and there are no adequate and well-controlled studies in pregnant women, or animal studies have shown adverse effects, but adequate and well-controlled studies in pregnant women have failed to demonstrate a risk to the fetus in any trimester.

## Potential Incompatibilities:

- None.

## Precautions and Adverse Effects:

- High doses or long-term use can cause serious movement disorders that may not be reversible.
- Causes increased aldosterone and fluid retention.
- Use with caution with renal impairment, Hypertension, CHF, and cirrhosis.
- May cause neuroleptic malignant syndrome, Hyperthermia, muscle rigidity, and/or akathisia (fidgeting).
- **Possible Extra-Pyramidal Symptoms (EPS) / dystonic reactions**:
  - EPS is a movement disorder such as the inability to move or restlessness.
  - Treat with Medication 7-143 - Benadryl.

## Antidote:

- None.

## Controlled Substance Information:

Not a scheduled drug
  - The DEA and FDA have not identified this drug with a schedule classification.
- **DEA number**: NA.
- **Narcotic**: No.
- **Street names**: NA.

# Change Log:

| Date | Link to previous version | Description of change |
|---|---|---|
| 12/29/14 | | Added protocol. |
| 08/24/17 | pdf | Removed this section. |
| 05/17/20 | | Added content from old Protocol 7-505 - Reglan. Added discussion about EPS similar to other protocols that reference EPS. Further notes in next edition revision. |
| 05/17/20 | pdf | Added EPS informationlink to Benadryl. |
| 06/11/21 | pdf | Moved to emsprotocols.online |
| 02/28/22 | pdf | Changed number from 7-505 to 7-801. |
| 03/20/23 | | Changed link for Benadryl. |
| 03/21/23 | pdf | Added CP. |

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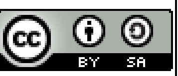

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# Medication 7-812 - Rocuronium (Zemuron)

**CMH EMS & MIH Protocols**

## Scope of Practice:

- Registered Nurse
- Paramedic
- Community Paramedic

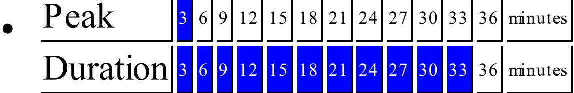
## Route(s):

- IO, IV,

## Pharmacodynamics (class and mechanism of action):

- Non-depolarizing paralytic. (Neuromuscular blockade. Binds to post-synaptic muscle receptor sites. Antagonizes acetylcholine at the motor end plate, producing skeletal muscle paralysis.)

## Pharmacokinetics:

- **Half-life**: 66-80 minutes.
- **Onset time**: 1 minute.
- **Peak action time**:
  - **Adults**: 1-3.7 minutes.
  - **Pediatrics**: 0.5-1 minute.
- **Duration of action**:
  - **Adults**: 31 minutes.
  - **Pediatrics**: 26-40 minutes.
- 

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Peak | 3 | 6 | 9 | 12 | 15 | 18 | 21 | 24 | 27 | 30 | 33 | 36 | minutes |
| Duration | 3 | 6 | 9 | 12 | 15 | 18 | 21 | 24 | 27 | 30 | 33 | 36 | minutes |

## Dosing:

- Use IDEAL body weight for dosing, NOT actual body weight.
- Refer to specific protocol(s) below for dose(s).

## Indications:

- Protocol 2-044 - Airway: RSI.

## Contraindications:

- Unable to ventilate the patient.
- Sensitivity to bromides.

## Pregnancy Risk Factor:

- Category C
- **Risk not ruled out**: Animal reproduction studies have shown an adverse effect on the fetus and there are no adequate and well-controlled studies in humans, but potential benefits may warrant use of the drug in pregnant women despite potential risks. FDA requires a relatively large amount of high-quality data on a pharmaceutical for it to be defined as Pregnancy Category A. As a result of this, many drugs that would be considered Pregnancy Category A in other countries are allocated to Category C by the FDA.

## Potential Incompatibilities:

- None.

## Precautions and Adverse Effects:

- Calculate dose based on **IDEAL** body weight.
- Patient will be paralyzed and apneic for up to 30 minutes.
- Use caution with heart disease and liver disease.
- May cause muscle paralysis, apnea, Dyspnea, respiratory depression, Tachycardia, and/or uticaria.

## Antidote:

- None.

## Controlled Substance Information:

Not a scheduled drug
  - The DEA and FDA have not identified this drug with a schedule classification.
- **DEA number**: NA.
- **Narcotic**: No.
- **Street names**: NA.

# Change Log:

| Date | Link to previous version | Description of change |
|---|---|---|
| 08/24/17 | pdf | Adjusted doses from adult/pediatric to rapid/delayed. |
| 07/23/19 | pdf | Added note to use ideal body weight for dosing calculations. |
| 05/17/20 | pdf | Added content (without substantive modification) from old Protocol 7-520 - Rocuronium. |
| 06/11/21 | pdf | Moved to emsprotocols.online |
| 11/05/21 | pdf | Added greater emphasis on dosing based on ideal body weight. |
| 02/28/22 | pdf | Changed number from 7-520 to 7-812. |
| 03/21/23 | pdf | Added CP. |

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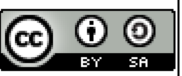


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# Medication 7-823 - Sodium Bicarbonate (Soda)

**CMH EMS & MIH Protocols**

## Scope of Practice:

- Registered Nurse
- Paramedic
- Community Paramedic

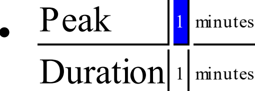
## Route(s):

- IO, IV,

## Pharmacodynamics (class and mechanism of action):

- Alkalinizing agent. (Combines with excessive acids to form a weak volatile acid. Increases pH.)

## Pharmacokinetics:

- **Half-life**: Unknown.
- **Onset time**: Immediate.
- **Peak action time**: Immediate.
- **Duration of action**: Unknown
- 

| Peak | 1 | minutes |
|---|---|---|
| Duration | 1 | minutes |

## Dosing:

- Refer to specific protocol(s) below for dose(s).

## Indications:

- Protocol 2-198 - Cardiac Arrest.
- Protocol 2-396 - Extremity Trauma.
- Protocol 2-638 - Overdose / Toxic Ingestion.

## Contraindications:

- Alkalotic states.

## Pregnancy Risk Factor:

- Category C
- **Risk not ruled out**: Animal reproduction studies have shown an adverse effect on the fetus and there are no adequate and well-controlled studies in humans, but potential benefits may warrant use of the drug in pregnant women despite potential risks. FDA requires a relatively large amount of high-quality data on a pharmaceutical for it to be defined as Pregnancy Category A. As a result of this, many drugs that would be considered Pregnancy Category A in other countries are allocated to Category C by the FDA.

## Potential Incompatibilities:

- Medication 7-143 - Benadryl.
- Medication 7-175 - Calcium Chloride.

## Precautions and Adverse Effects:

- Correct dosage is essential.
- Can deactivate catecholamines (i.e. Dopamine, Epinephrine, Norepinephrine).
- Delivers large Sodium load.
- Can worsen acidosis if not Intubated and adequately ventilated.
- May cause alkalosis, hypernatremia, fluid retention, and/or peripheral edema.

## Antidote:

- None.

## Controlled Substance Information:

Not a scheduled drug
  - The DEA and FDA have not identified this drug with a schedule classification.
- **DEA number**: NA.
- **Narcotic**: No.
- **Street names**: NA.

# Change Log:

| Date | Link to previous version | Description of change |
|---|---|---|
| 09/22/17 | pdf | Added indication to poisoning. |
| 05/17/20 | pdf | Added content (without substantive modification) from old Protocol 7-530 - Sodium Bicarbonate. |
| 06/11/21 | pdf | Moved to emsprotocols.online |
| 02/28/22 | pdf | Changed number from 7-530 to 7-823. |
| 03/19/23 | | Changed link for norepi. |
| 03/20/23 | | Changed link for Epi. |
| 03/20/23 | | Changed link for Dopamine. |
| 03/20/23 | | Changed link to Calcium. |
| 03/20/23 | | Changed link for Benadryl. |
| 03/21/23 | pdf | Added CP. |

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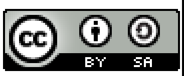
|---|---|---|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# Medication 7-844 - Solu-Medrol (Methylprednisolone)

**CMH EMS & MIH Protocols**

## Scope of Practice:

- Registered Nurse
- Paramedic
- Community Paramedic

## Route(s):

- IM/SQ, IO, IV,

## Pharmacodynamics (class and mechanism of action):

- Corticosteroid. (Anti-inflammatory. Immune suppressant.)

## Pharmacokinetics:

- **Half-life**: 18-36 hours.
- **Onset time**: 2-5 hours.
- **Peak action time**: Immediate.
- **Duration of action**: 1 week.
-

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Peak | 17 | 34 | 51 | 68 | 85 | 102 | 119 | 136 | 153 | 170 | hours |
| Duration | 17 | 34 | 51 | 68 | 85 | 102 | 119 | 136 | 153 | 170 | hours |

## Dosing:

- Refer to specific protocol(s) below for dose(s).

## Indications:

- Protocol 2-066 - Allergic Reaction.
- Protocol 2-770 - Respiratory Distress.

## Contraindications:

- None in emergency setting.

## Pregnancy Risk Factor:

- Category C
- **Risk not ruled out**: Animal reproduction studies have shown an adverse effect on the fetus and there are no adequate and well-controlled studies in humans, but potential benefits may warrant use of the drug in pregnant women despite potential risks. FDA requires a relatively large amount of high-quality data on a pharmaceutical for it to be defined as Pregnancy Category A. As a result of this, many drugs that would be considered Pregnancy Category A in other countries are allocated to Category C by the FDA.

## Potential Incompatibilities:

- None.

## Precautions and Adverse Effects:

- Must be reconstituted and used properly.
- Use caution with Cushing's syndrome, fungal infection, measles, varicella, active Infections, renal disease, penetrating Spinal Cord Injury, Hypertension, Seizure, and CHF.
- May cause GI bleeding, prolonged wound healing, suppression of natural steroids, Depression, Euphoria, headache, restlessness, Hypertension, Bradycardia, Nausea, Vomiting, swelling, diarrhea, and/or weakness.

## Antidote:

- None.

## Controlled Substance Information:

Not a scheduled drug
  - The DEA and FDA have not identified this drug with a schedule classification.
- **DEA number**: NA.
- **Narcotic**: No.
- **Street names**: NA.

# Change Log:

| Date | Link to previous version | Description of change |
|---|---|---|
| 08/24/18 | pdf | Fixed typo. Moved contraindications to precautions. |
| 05/17/20 | pdf | Added content (without substantive modification) from old Protocol 7-540 - Solu-Medrol. |
| 06/11/21 | pdf | Moved to emsprotocols.online |
| 02/28/22 | pdf | Changed number from 7-540 to 7-844. |
| 03/21/23 | pdf | Added CP. |

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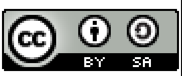
|  | Polk, Hickory, Cedar, & St Clair County EMS Protocols by Theron Becker is licensed under a Creative Commons Attribution-ShareAlike 4.0 International License. |
|---|---|

# Medication 7-855 - Succinylcholine (Anectine)

**CMH EMS & MIH Protocols**

## Scope of Practice:

- Registered Nurse
- Paramedic
- Community Paramedic

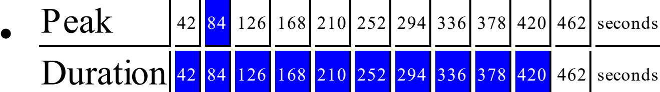
## Route(s):

- IO, IV,

## Pharmacodynamics (class and mechanism of action):

- Depolarizing neuromuscular blocker. (Ultra-short acting. Competes with the acetylcholine receptor of the motor end plate on the muscle cell, resulting in muscle paralysis.)

## Pharmacokinetics:

- **Half-life**: 24-70 seconds.
- **Onset time**: 30-60 seconds.
- **Peak action time**: 1-2 minutes.
- **Duration of action**: 4-10 minutes.
- 

| Peak | 42 | 84 | 126 | 168 | 210 | 252 | 294 | 336 | 378 | 420 | 462 | seconds |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Duration | 42 | 84 | 126 | 168 | 210 | 252 | 294 | 336 | 378 | 420 | 462 | seconds |

## Dosing:

- Use IDEAL body weight for dosing, NOT actual body weight.
- Refer to specific protocol(s) below for dose(s).

## Indications:

- Not in current standing order protocols.

## Contraindications:

- Family history of malignant Hyperthermia.
- Penetrating Eye Injuries.

- Narrow angle glaucoma.
- Severe Burns or Crush Injuries more than 48 hours old.
- CVA more than three days old.
- Rhabdomyolysis.
- Pseudo cholinesterase deficiency.
- Hyperkalemia.
- Neuromuscular disorder (i.e. muscular dystrophy).

## Pregnancy Risk Factor:

- Category C
- **Risk not ruled out**: Animal reproduction studies have shown an adverse effect on the fetus and there are no adequate and well-controlled studies in humans, but potential benefits may warrant use of the drug in pregnant women despite potential risks. FDA requires a relatively large amount of high-quality data on a pharmaceutical for it to be defined as Pregnancy Category A. As a result of this, many drugs that would be considered Pregnancy Category A in other countries are allocated to Category C by the FDA.

## Potential Incompatibilities:

- None.

## Precautions and Adverse Effects:

- Calculate dose based on **IDEAL** body weight.
- Use caution with electrolyte imbalances, renal, hepatic, pulmonary, metabolic, cardiovascular disorders, fractures, Spinal Cord Injuries, severe anemia, dehydration, collagen disorders, or porphyria.
- Causes initial transient contractions and fasciculations followed by sustained flaccid skeletal muscle paralysis.
- May increase Vagal Tone, especially in children.
- May cause Apnea, Hypertension, hypotension, dysrhythmias, Nausea, Vomiting, hiccups, snoring, and/or malignant Hyperthermia.

## Antidote:

- Dantroline.

## Controlled Substance Information:

Not a scheduled drug
  - The DEA and FDA have not identified this drug with a schedule classification.
- **DEA number**: NA.
- **Narcotic**: No.

- **Street names**: NA.

## Change Log:

| Date | Link to previous version | Description of change |
|---|---|---|
| 07/26/16 | pdf | At the request of Dr. Merk, added contraindication of neuromuscular disorders such as MS. |
| 08/24/17 | pdf | Removed this section. |
| 07/23/19 | pdf | Added note to use ideal body weight for dosing calculations. |
| 05/17/20 | pdf | Added content (without substantive modification) from old Protocol 7-550 - Succinylcholine. |
| 06/11/21 | pdf | Moved to emsprotocols.online |
| 11/05/21 | pdf | Added greater emphasis on dosing based on ideal body wieght. |
| 02/28/22 | pdf | Changed number from 7-550 to 7-855. |
| 03/21/23 | pdf | Added CP. |

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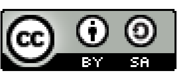
|  | Polk, Hickory, Cedar, & St Clair County EMS Protocols by Theron Becker is licensed under a Creative Commons Attribution-ShareAlike 4.0 International License. |
|---|---|

# Medication 7-877 - Tetracaine

**CMH EMS & MIH Protocols**

## Scope of Practice:

- Registered Nurse
- Paramedic
- Community Paramedic

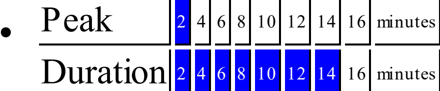
## Route(s):

- Topical

## Pharmacodynamics (class and mechanism of action):

- Anesthetic. (Local anesthesia.)

## Pharmacokinetics:

- **Half-life**: 1.8 hours.
- **Onset time**: 15 seconds.
- **Peak action time**: Unknown.
- **Duration of action**: 10-20 minutes.
- 

| Peak | 2 | 4 | 6 | 8 | 10 | 12 | 14 | 16 | minutes |
|---|---|---|---|---|---|---|---|---|---|
| Duration | 2 | 4 | 6 | 8 | 10 | 12 | 14 | 16 | minutes |

## Dosing:

- Refer to specific protocol(s) below for dose(s).

## Indications:

- Protocol 2-418 - Eye Trauma.
- Equipment 8-576 - Morgan Lens.

## Contraindications:

- Hypersensitivity.

## Pregnancy Risk Factor:

- Category C
- **Risk not ruled out**: Animal reproduction studies have shown an adverse effect on the fetus and there are no adequate and well-controlled studies in humans, but potential benefits may warrant use of the drug in pregnant women despite potential risks. FDA requires a relatively large amount of high-quality data on a pharmaceutical for it to be defined as Pregnancy Category A. As a result of this, many drugs that would be considered Pregnancy Category A in other countries are allocated to Category C by the FDA.

## Potential Incompatibilities:

- None.

## Precautions and Adverse Effects:

- Patient will be unaware of objects touching their Eye. Be careful to protect the eye from foreign debris and from the patient rubbing eyes.
- May cause Burning, conjunctival redness, photophobia, and/or lacrimation.

## Antidote:

- Dantroline.

## Controlled Substance Information:

Not a scheduled drug
  - The DEA and FDA have not identified this drug with a schedule classification.
- **DEA number**: NA.
- **Narcotic**: No.
- **Street names**: NA.

# Change Log:

| Date | Link to previous version | Description of change |
| --- | --- | --- |
| 02/28/22 | pdf | Changed number from 7-560 to 7-877. |
| 03/21/23 | pdf | Added CP. |

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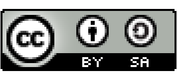
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# Medication 7-888 - Thiamine (Vitamin B1)

**CMH EMS & MIH Protocols**

## Scope of Practice:

- Registered Nurse
- Paramedic
- Community Paramedic

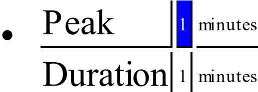
## Route(s):

- IM/SQ, IO, IV,

## Pharmacodynamics (class and mechanism of action):

- Vitamin. (Allows normal breakdown of Glucose. Thiamine combines with adenosine triphosphate to produce thiamine diphosphate, which acts as a coenzyme in carbohydrate metabolism. Used to prevent Wernicke's encephalopathy in patients with a history of alcohol dependence and Hypoglycemia.)

## Pharmacokinetics:

- **Half-life**: NA.
- **Onset time**: NA.
- **Peak action time**: NA.
- **Duration of action**: NA.
- 

| Peak | 1 | minutes |
|---|---|---|
| Duration | 1 | minutes |

## Dosing:

- Refer to specific protocol(s) below for dose(s).

## Indications:

- Protocol 2-572 - Hypoglycemia.
- Medication 7-252 - Dextrose.

## Contraindications:

- Known sensitivity.

## Pregnancy Risk Factor:

Category A
**No risk in controlled human studies**: Adequate and well-controlled human studies have failed to demonstrate a risk to the fetus in the first trimester of pregnancy (and there is no evidence of risk in later trimesters).

## Potential Incompatibilities:

- None.

## Precautions and Adverse Effects:

- May cause rare Anaphylactic Reactions, itching, and/or rash.

## Antidote:

- Dantroline.

## Controlled Substance Information:

Not a scheduled drug
  - The DEA and FDA have not identified this drug with a schedule classification.
- **DEA number**: NA.
- **Narcotic**: No.
- **Street names**: NA.

# Change Log:

| Date | Link to previous version | Description of change |
|---|---|---|
| 09/22/17 | pdf | Fixed typo link to hyperglycemia instead of hypoglycemia. |
| 05/17/20 | pdf | Added content (without substantive modification) from old Protocol 7-570 - Thiamine. |
| 06/11/21 | pdf | Moved to emsprotocols.online |
| 02/28/22 | pdf | Changed number from 7-570 to 7-888. |
| 03/20/23 | | Changed link for Glucose. |
| 03/20/23 | | Changed link to Dextrose. |
| 03/21/23 | pdf | Added CP. |

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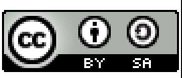

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# Medication 7-899 - Toradol (Ketorolac)

**CMH EMS & MIH Protocols**

## Scope of Practice:

- Registered Nurse
- Paramedic
- Community Paramedic

## Route(s):

- IM/SQ, IO, IV,

## Pharmacodynamics (class and mechanism of action):

- Non-Steroidal Anti-Inflamatory (NSAID). (Inhibit prostaglandin synthesis by decreasing the activity of the enzyme, cyclooxygenase, which results in decreased formation of prostaglandin precursors.)

## Pharmacokinetics:

- **Half-life**: 4-6 hours.
- **Onset time**:
  - **IM**: 10 minutes.
  - **IV**: Immediate.
- **Peak action time**:
  - **IM**: 30-60 minutes.
  - **IV**: 1-3 minutes.
- **Duration of action**: 6-8 hours.
-

| Peak | 42 | 84 | 126 | 168 | 210 | 252 | 294 | 336 | 378 | 420 | 462 | minutes |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Duration | 42 | 84 | 126 | 168 | 210 | 252 | 294 | 336 | 378 | 420 | 462 | minutes |

## Dosing:

- Refer to specific protocol(s) below for dose(s).

## Indications:

- Protocol 2-660 - Pain Control.

## Contraindications:

- Pregnant or nursing women.
- Allergies to Aspirin, Ibuprofen, or NSAIDs.
- Advanced renal impairment.
- Suspected CVA.
- GI bleeds.
- Peptic ulcers.
- Surgical candidates.

## Pregnancy Risk Factor:

Category D
**Positive evidence of risk**: There is positive evidence of human fetal risk based on adverse reaction data from investigational or marketing experience or studies in humans, but potential benefits may warrant use of the drug in pregnant women despite potential risks.

## Potential Incompatibilities:

- None.

## Precautions and Adverse Effects:

- Toradol inhibits platelet function.
- Hypersensitivity reactions have occurred (Bronchospasm and Anaphylaxis).
- Avoid in patients currently taking anticoagulants such as Coumadin.
- Can cause peptic ulcers, gastrointestinal bleeding and/or perforation.
- May adversely affect fetal circulation and the uterus.

## Antidote:

- None.

## Controlled Substance Information:

Not a scheduled drug
  - The DEA and FDA have not identified this drug with a schedule classification.
- **DEA number**: NA.
- **Narcotic**: No.
- **Street names**: NA.

## Change Log:

| Date | Link to previous version | Description of change |
|---|---|---|
| 12/29/14 | | Added protocol. |
| 09/16/15 | pdf | Corrected misspelling of Ketorolac. |
| 08/24/17 | pdf | Moved contraindication for pregnant women to the top and bolded it. |
| 05/17/20 | pdf | Added content (without substantive modification) from old Protocol 7-575 - Toradol. |
| 06/11/21 | pdf | Moved to emsprotocols.online |
| 11/30/21 | | Updated link to Aspirin. |
| 02/28/22 | pdf | Changed number from 7-575 to 7-899. |
| 03/20/23 | | Changed link for Ibu. |
| 03/21/23 | pdf | Added CP. |

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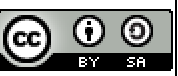
|  | Polk, Hickory, Cedar, & St Clair County EMS Protocols by Theron Becker is licensed under a Creative Commons Attribution-ShareAlike 4.0 International License. |
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# Medication 7-910 - tPA (Tissue Plasminogen Activator)

**CMH EMS & MIH Protocols**

## Scope of Practice:

- Registered Nurse
- Paramedic
- Community Paramedic

## Route(s):

- IO, IV,

## Pharmacodynamics (class and mechanism of action):

- tPA attaches to the fibrin on the clot surface and activates the fibrin-bound plasminogen. Plasmin is subsequenty cleaved from the plasminogen affiliated with the fibrin. The plasmin breaks up the molecules of fibrin, and the clot dissolves.

## Pharmacokinetics:

- **Half-life**: 5-10 min.
- **Onset time**: 30 min.
- **Peak action time**: 60 min.
- **Duration of action**: Unknown.
-

| Peak | 7 | 14 | 21 | 28 | 35 | 42 | 49 | 56 | 63 | 70 | 77 | minutes |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Duration | 7 | 14 | 21 | 28 | 35 | 42 | 49 | 56 | 63 | 70 | 77 | minutes |

## Dosing:

- Refer to specific protocol(s) below for dose(s).

## Indications:

- Protocol 2-880 - Suspected Stroke.

## Contraindications:

- If the risk of bleeding and serious complications are greater than the potential benefit of tPA therapy. These include patients with current intracranial hemorrhage (ICH), subarachnoid hemorrhage, and those who have active internal bleeding.
- If the patient underwent recent (less than three months ago) intracranial or intraspinal surgery or suffered a serious head trauma.
- Evidence of intracranial conditions that may increase the risk of bleeding.
- Bleeding diathesis (hemorrhagic diathesis).
- Patients with severe uncontrolled hypertension.
- Do not administer tPA in any patient who had a hypersensitivity reaction to a previous dose of tPA (urticarial or anaphylactic reactions).

## Pregnancy Risk Factor:

- Category C
- **Risk not ruled out**: Animal reproduction studies have shown an adverse effect on the fetus and there are no adequate and well-controlled studies in humans, but potential benefits may warrant use of the drug in pregnant women despite potential risks. FDA requires a relatively large amount of high-quality data on a pharmaceutical for it to be defined as Pregnancy Category A. As a result of this, many drugs that would be considered Pregnancy Category A in other countries are allocated to Category C by the FDA.

## Potential Incompatibilities:

- Monitor closely with any drug that causes anticoagulation as there is an increased risk of bleeding.
- Defibrotide: Through pharmacodynamic synergism, defibrotide increases the effects of tPA drugs and is thus contraindicated.
- Prothrombin complex concentrate, human: This can cause pharmacodynamic antagonism of the tPA drugs.
- Apixaban: Apixaban and tPA drugs increase anticoagulation and can lead to an increased bleeding risk.
- Nitroglycerin: This could decrease the serum concentration of tPA drugs.
- Salicylates: These could enhance the toxic effects of thrombolytic drugs. Monitor therapy, as there is an increased risk of bleeding.

## Precautions and Adverse Effects:

- The most common adverse effect is bleeding, and the most serious is a stroke. Other side effects include bruising, pulmonary edema, arterial embolism, deep vein thrombosis, orolingual angioedema, intracranial hemorrhage, shock, hypersensitivity, nausea/vomiting, seizure, ischemic stroke, thromboembolism, and sepsis.

- Perform a regular neurologic assessment on the patient.
- Check thoroughly for major or minor bleeding.
- Continuously monitor the blood pressure of the patient.
- Check for the signs and symptoms of ICH.
- Check for the signs of orolingual angioedema.
- Discontinue tPA infusion and order an emergency CT scan if the patient develops a severe headache, severe hypertension, nausea/vomiting, or a worsening neurologic examination.
- If a hypersensitivity reaction occurs in the patient, stop the tPA administration and immediately initiate supportive therapy with antihistamines and corticosteroids.

## Antidote:

- Aminocaproic Acid (Amicar)

## Controlled Substance Information:

- Not a scheduled drug
  - The DEA and FDA have not identified this drug with a schedule classification.
- **DEA number**: NA.
- **Narcotic**: No.
- **Street names**: NA.

## Change Log:

| Date | Link to previous version | Description of change |
|---|---|---|
| 05/18/20 | | Added placeholder for future revision. |
| 06/11/21 | pdf | Moved to emsprotocols.online |
| 02/28/22 | | Changed number from 7-577 to 7-910 |
| 03/21/23 | pdf | Added substantial content. Added CP. |

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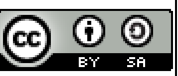

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# Medication 7-921 - TXA (Tranexamic Acid)

**CMH EMS & MIH Protocols**

## Scope of Practice:

- Registered Nurse
- Paramedic
- Community Paramedic

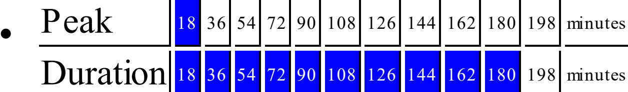
## Route(s):

- IO, IV,

## Pharmacodynamics (class and mechanism of action):

- Antifibrinolytic. (Synthetic derivative of the amino acid lysine that inhibits fibrinolysis by blocking the lysine binding sites on plasminogen.)

## Pharmacokinetics:

- **Half-life**: 2 hours.
- **Onset time**: 5-15 minutes.
- **Peak action time**: Unknown.
- **Duration of action**: 3 hours.
- 

| Peak | 18 | 36 | 54 | 72 | 90 | 108 | 126 | 144 | 162 | 180 | 198 | minutes |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Duration | 18 | 36 | 54 | 72 | 90 | 108 | 126 | 144 | 162 | 180 | 198 | minutes |

## Dosing:

- Refer to specific protocol(s) below for dose(s).

## Indications:

- Protocol 2-451 - General Trauma Management.

## Contraindications:

- Age less than 16 years.
- Renal failure.
- Hypersensitivity.

- History of thromboembolism.
- Known subarachnoid aneurysm.
- Injury greater than three (3) hours old.
- Isolated Head Injury.
- Colorblindness.

## Pregnancy Risk Factor:

Category B

**No risk in other studies**: Animal reproduction studies have failed to demonstrate a risk to the fetus and there are no adequate and well-controlled studies in pregnant women, or animal studies have shown adverse effects, but adequate and well-controlled studies in pregnant women have failed to demonstrate a risk to the fetus in any trimester.

## Potential Incompatibilities:

- None.

## Precautions and Adverse Effects:

- Rapid infusion may cause hypotension. If hypotension occurs, slow down infusion rate.
- If TXA is administered, transport destination must be a level I, level II, or level III trauma center.
- Avoid concurrent use with coagulation factors.
- Use caution in patients with DIC.
- Use caution in patients with renal impairment.
- May cause visual defects, Seizures, Nausea, Vomiting, and/or diarrhea.

## Antidote:

- None.

## Controlled Substance Information:

Not a scheduled drug
  - The DEA and FDA have not identified this drug with a schedule classification.
- **DEA number**: NA.
- **Narcotic**: No.
- **Street names**: NA.

## Change Log:

| Date | Link to previous version | Description of change |
|---|---|---|
| 12/29/14 | pdf | Added protocol. |
| 05/31/15 | | Added content. |
| 08/06/15 | | Added colorblindness contraindication. Added precaution for rapid infusion. Added requirement to transport to LI, LII, or LIII trauma center. |
| 11/11/17 | pdf | Added indication for Protocol 4-180 - Vaginal Bleeding. |
| 11/14/17 | | Added comment to all locations of TXA that it can be mixed with LR. |
| 05/18/20 | pdf | Added content (without substantive modification) from old Protocol 7-578 - TXA. |
| 06/11/21 | pdf | Moved to emsprotocols.online |
| 12/01/21 | | Changed number from 7-578 to 7-921. |
| 03/21/23 | pdf | Updated indication link from UNIVERSAL to GENERAL TRAUMA. Added CP. |

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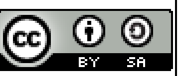

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# Medication 7-932 - Valium (Diazepam)

**CMH EMS & MIH Protocols**

## Scope of Practice:

- Registered Nurse
- Paramedic
- Community Paramedic

## Route(s):

- IM/SQ, IN, IO, IV,

## Pharmacodynamics (class and mechanism of action):

- Tranquilizer. Anticonvulsant. Skeletal muscle relaxant. Sedative. (Binds to benzodiazepine receptor and enhances effects of GABA.)

## Pharmacokinetics:

- **Half-life**: 1-12 days.
- **Onset time**: 1-5 minutes.
- **Peak action time**:
  - **IM**: 2 hours.
  - **IV**: 1-5 minutes.
- **Duration of action**: 15-60 minutes.
-

| Peak | 4 | 8 | 12 | 16 | 20 | 24 | 28 | 32 | 36 | 40 | minutes |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Duration | 4 | 8 | 12 | 16 | 20 | 24 | 28 | 32 | 36 | 40 | minutes |

## Dosing:

- Refer to specific protocol(s) below for dose(s).

## Indications:

- Not in current standing order protocols.

## Contraindications:

- Pregnancy.

- Age less than six months.
- Acute-angle glaucoma.
- CNS depression.
- Alcohol intoxication.

## Pregnancy Risk Factor:

Category D

**Positive evidence of risk**: There is positive evidence of human fetal risk based on adverse reaction data from investigational or marketing experience or studies in humans, but potential benefits may warrant use of the drug in pregnant women despite potential risks.

## Potential Incompatibilities:

- May precipitate with other drugs.

## Precautions and Adverse Effects:

- Short duration of effect.
- May cause local venous irritation, drowsiness, hypotension, respiratory depression, fatigue, headache, confusion, Nausea, and sedation.

## Antidote:

- Romazicon.

## Controlled Substance Information:

Schedule IV

- Moderate potential for abuse. Abusing the drug may lead to moderate mental or physical addiction.

- **DEA number**: 2765.
- **Narcotic**: No.
- **Street names**: Benzos, Blue Vs, Dead Flower, Downers, Drunk Pills, FooFoo, Howards, Ludes, Old Joes, Powers, Sleep Away, Tranks, Vs, Yellow Vs.

# Change Log:

| Date | Link to previous version | Description of change |
|---|---|---|
| 01/29/14 | pdf | Coordinated with CMH policies. |
| 12/29/14 | pdf | Added DEA and street info. |
| 08/24/17 | pdf | Removed link to Romazicon. |
| 09/22/17 | | Removed this section. |
| 11/27/19 | pdf | Added pregnancy as contraindication due to FDA risk category. |
| 05/18/20 | pdf | Added content (without substantive modification) from old Protocol 7-580 - Valium. |
| 06/11/21 | pdf | Moved to emsprotocols.online |
| 12/01/21 | | Changed number from 7-580 to 7-932. |
| 03/21/23 | pdf | Added CP. |

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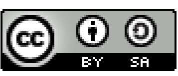
|---|---|---|



|  | Polk, Hickory, Cedar, & St Clair County EMS Protocols by Theron Becker is licensed under a Creative Commons Attribution-ShareAlike 4.0 International License. |
|---|---|

# Medication 7-943 - Vecuronium (Norcuron)

**CMH EMS & MIH Protocols**

## Scope of Practice:

- Registered Nurse
- Paramedic
- Community Paramedic

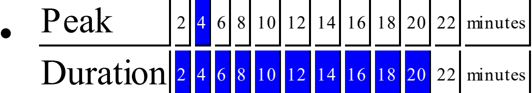
## Route(s):

- IO, IV,

## Pharmacodynamics (class and mechanism of action):

- Paralytic (Non-depolarizing neuromuscular blocker).

## Pharmacokinetics:

- **Half-life**: 51-80 minutes.
- **Onset time**: 1 minute.
- **Peak action time**: 3-5 minutes.
- **Duration of action**: 15-25 minutes.
- 

| Peak | 2 | 4 | 6 | 8 | 10 | 12 | 14 | 16 | 18 | 20 | 22 | minutes |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Duration | 2 | 4 | 6 | 8 | 10 | 12 | 14 | 16 | 18 | 20 | 22 | minutes |

## Dosing:

- Use IDEAL body weight for dosing, NOT actual body weight.
- Refer to specific protocol(s) below for dose(s).

## Indications:

- Not in current standing order protocols.

## Contraindications:

- Unable to ventilate.
- Sensitivity to bromides.

## Pregnancy Risk Factor:

- Category C
- **Risk not ruled out**: Animal reproduction studies have shown an adverse effect on the fetus and there are no adequate and well-controlled studies in humans, but potential benefits may warrant use of the drug in pregnant women despite potential risks. FDA requires a relatively large amount of high-quality data on a pharmaceutical for it to be defined as Pregnancy Category A. As a result of this, many drugs that would be considered Pregnancy Category A in other countries are allocated to Category C by the FDA.

## Potential Incompatibilities:

- None.

## Precautions and Adverse Effects:

- Calculate dose based on **IDEAL** body weight.
- Does not have any analgesic or sedative effects. Sedation must accompany paralysis.
- Use caution with impaired liver function, severe obesity, and impaired respiratory function.
- May cause arrhythmias, Bronchospasm, Hypertension, hypotension, apnea, Dyspnea, Tachycardia, and Uticaria.

## Antidote:

- None.

## Controlled Substance Information:

Not a scheduled drug
  - The DEA and FDA have not identified this drug with a schedule classification.
- **DEA number**: NA.
- **Narcotic**: No.
- **Street names**: NA.

# Change Log:

| Date | Link to previous version | Description of change |
|---|---|---|
| 08/24/17 | pdf | Removed this section. |
| 07/23/19 | pdf | Fixed typo. Added note to use ideal body weight for dosing calculations. |
| 05/18/20 | pdf | Added content (without substantive modification) from old Protocol 7-590 - Vecuronium. |
| 06/11/21 | pdf | Moved to emsprotocols.online |
| 11/05/21 | pdf | Added greater emphasis on using ideal body weight. |
| 12/01/21 | | Changed number from 7-590 to 7-943. |
| 03/21/23 | pdf | Added CP. |

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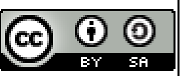
|---|---|---|


|  | Polk, Hickory, Cedar, & St Clair County EMS Protocols by Theron Becker is licensed under a Creative Commons Attribution-ShareAlike 4.0 International License. |
|---|---|

# Medication 7-954 - Versed (Midazolam)

**CMH EMS & MIH Protocols**

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## Scope of Practice:

- Registered Nurse
- Paramedic
- Community Paramedic

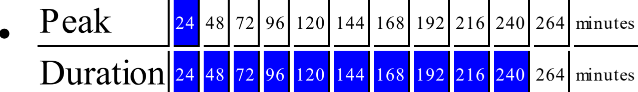
## Route(s):

- IM/SQ, IN, IO, IV,

## Pharmacodynamics (class and mechanism of action):

- Benzodiazepine (Sedative, anxiolytic, amnesic (2-3x more potent than Valium). Binds to benzodiazepine receptor and enhances effects of GABA).

## Pharmacokinetics:

- **Half-life**: 1.8-6.4 hours.
- **Onset time**: 1.5-5 minutes.
- **Peak action time**: Rapid.
- **Duration of action**: 2-6 hours.
- 

| Peak | 24 | 48 | 72 | 96 | 120 | 144 | 168 | 192 | 216 | 240 | 264 | minutes |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Duration | 24 | 48 | 72 | 96 | 120 | 144 | 168 | 192 | 216 | 240 | 264 | minutes |

## Dosing:

- Refer to specific protocol(s) below for dose(s).

## Indications:

- Protocol 2-044 - Airway: RSI.
- Protocol 2-638 - Overdose / Toxic Ingestion.
- Protocol 2-660 - Pain Control.
- Protocol 2-792 - Seizure.
- Equipment 8-198 - Continuous Positive Airway Pressure.
- Equipment 8-288 - Endotracheal Tube.
- Equipment 8-486 - King Airway.

- Equipment 8-108 - Cardiac Monitor.

## Contraindications:

- Pregnancy.
- Hypotension.
- Acute-angle glaucoma.

## Pregnancy Risk Factor:

Category D

**Positive evidence of risk**: There is positive evidence of human fetal risk based on adverse reaction data from investigational or marketing experience or studies in humans, but potential benefits may warrant use of the drug in pregnant women despite potential risks.

## Potential Incompatibilities:

- Medication 7-417 - Heparin.

## Precautions and Adverse Effects:

- Use caution with COPD, acute alcohol intoxication, narcotics, barbiturates, elderly, and neonates.
- May cause hypoventilation, respiratory depression, respiratory arrest, hypotension, laryngospasm, Nausea, Vomiting, headache, hiccups, and/or Cardiac Arrest.

## Antidote:

- Romazicon.

## Controlled Substance Information:

Schedule IV

- Moderate potential for abuse. Abusing the drug may lead to moderate mental or physical addiction.

- **DEA number**: 2884.
- **Narcotic**: No.
- **Street names**: Dazzle.

# Change Log:

| Date | Link to previous version | Description of change |
|---|---|---|
| 01/29/14 | pdf | Coordinated with CMH policies. |
| 12/29/14 | pdf | Added DEA and street info. |
| 08/24/17 | pdf | Removed link to Romazicon. |
| 09/22/17 | | Added indication to poisoning. Modified pediatric dosages. |
| 08/24/18 | pdf | Highlighted the importance of pregnancy being a contraindication. |
| 05/18/20 | pdf | Added content (without substantive modification) from old Protocol 7-600 - Versed. |
| 06/11/21 | pdf | Moved to emsprotocols.online |
| 12/01/21 | | Changed number from 7-600 to 7-954. |
| 12/01/21 | | Updated link to Valium. |
| 03/20/23 | | Changed link for Heparin. |
| 03/21/23 | pdf | Added CP. |

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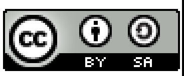
|---|---|---|



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# Medication 7-965 - Xopenex (Levalbuterol)

**CMH EMS & MIH Protocols**

## Scope of Practice:

- Advanced Emergency Medical Technician
- Registered Nurse
- Paramedic
- Community Paramedic

## Route(s):

- Neb,

## Pharmacodynamics (class and mechanism of action):

- β2 (Beta-2) Agonist (β2 Beta-2 receptor agonist with some β1 Beta-1 activity).

## Pharmacokinetics:

- **Half-life**: 3.25-4 hours.
- **Onset time**: 5-15 minutes.
- **Peak action time**: 1 hour.
- **Duration of action**: 3-4 hours.
-

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Peak | 21 | 42 | 63 | 84 | 105 | 126 | 147 | 168 | 189 | 210 | 231 | minutes |
| Duration | 21 | 42 | 63 | 84 | 105 | 126 | 147 | 168 | 189 | 210 | 231 | minutes |

## Dosing:

- Refer to specific protocol(s) below for dose(s).

## Indications:

- Protocol 2-770 - Respiratory Distress.

## Contraindications:

- Hypersensitivity to Levalbuterol or Racemic Albuterol.

## Pregnancy Risk Factor:

- Category C
- **Risk not ruled out**: Animal reproduction studies have shown an adverse effect on the fetus and there are no adequate and well-controlled studies in humans, but potential benefits may warrant use of the drug in pregnant women despite potential risks. FDA requires a relatively large amount of high-quality data on a pharmaceutical for it to be defined as Pregnancy Category A. As a result of this, many drugs that would be considered Pregnancy Category A in other countries are allocated to Category C by the FDA.

## Potential Incompatibilities:

- None.

## Precautions and Adverse Effects:

- Use caution with arrhythmias, Hypertension, paradoxical Bronchospasm.
- May cause rhinitis, headache, tremor, sinusitis, Tachycardia, nervousness, edema, Hyperglycemia, and/or hypokalemia.

## Antidote:

- Romazicon.

## Controlled Substance Information:

Not a scheduled drug
  - The DEA and FDA have not identified this drug with a schedule classification.
- **DEA number**: NA.
- **Narcotic**: No.
- **Street names**: NA.

# Change Log:

| Date | Link to previous version | Description of change |
|---|---|---|
| 05/18/20 | pdf | Added content (without substantive modification) from old Protocol 7-610 - Xopenex. |
| 06/11/21 | pdf | Moved to emsprotocols.online |
| 11/30/21 | | Updated link to Albuterol. |
| 12/01/21 | | Changed number from 7-610 to 7-965. |
| 03/21/23 | pdf | Added CP. |

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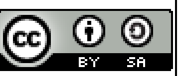


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# Medication 7-987 - Zofran (Ondansetron)

**CMH EMS & MIH Protocols**

## Scope of Practice:

- Registered Nurse
- Paramedic
- Community Paramedic

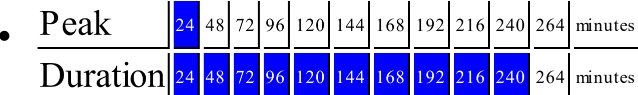
## Route(s):

- IM/SQ, IN, Neb, PO, SL,

## Pharmacodynamics (class and mechanism of action):

- Antiemetic (Selective Serotonin 5-HT receptor antagonist).

## Pharmacokinetics:

- **Half-life**: 4 hours.
- **Onset time**: Immediate.
- **Peak action time**:
  - **IM**: 41 minutes.
  - **IV**: 10 minutes.
- **Duration of action**: Unknown.
- 

| Peak | 24 | 48 | 72 | 96 | 120 | 144 | 168 | 192 | 216 | 240 | 264 | minutes |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Duration | 24 | 48 | 72 | 96 | 120 | 144 | 168 | 192 | 216 | 240 | 264 | minutes |

## Dosing:

- Refer to specific protocol(s) below for dose(s).

## Indications:

- Protocol 2-990 - Vomiting.

## Contraindications:

- Hypersensitivity.

## Pregnancy Risk Factor:

Category B
**No risk in other studies**: Animal reproduction studies have failed to demonstrate a risk to the fetus and there are no adequate and well-controlled studies in pregnant women, or animal studies have shown adverse effects, but adequate and well-controlled studies in pregnant women have failed to demonstrate a risk to the fetus in any trimester.

## Potential Incompatibilities:

- None.

## Precautions and Adverse Effects:

- May prolong QT interval. 12-lead is indicated after administration.

## Antidote:

- None.

## Controlled Substance Information:

Not a scheduled drug
  - The DEA and FDA have not identified this drug with a schedule classification.
- **DEA number**: NA.
- **Narcotic**: No.
- **Street names**: NA.

# Change Log:

| Date | Link to previous version | Description of change |
| --- | --- | --- |
| 12/29/14 | pdf | Added pediatric dosage clarification. |
| 04/01/15 | | Added comment about prolonging QT interval and the need for 12-lead. |
| 07/23/19 | pdf | Specified serotonin in the pharmacodynamics. |
| 05/18/20 | pdf | Added content (without substantive modification) from old Protocol 7-620 - Zofran. |
| 06/11/21 | pdf | Moved to emsprotocols.online |
| 12/01/21 | | Changed number from 7-620 to 7-987. |
| 03/21/23 | pdf | Added CP. |

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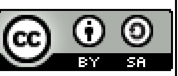
|---|---|---|



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# Part 8-000 - Equipment

**CMH EMS & MIH Protocols**

## Contents:


- 8-001 - Equipment on Response Vehicles
- 8-018 - Automated External Defibrillator (AED)
  - 8-018-01 - AED Agency Requirements
- 8-036 - Blood Draw Kit
  - 8-036-01 - Blood Draw for Alcohol Analysis
- 8-054 - Ballistic Gear
- 8-072 - Bougie
- 8-090 - Capnometer
- 8-108 - Cardiac Monitor
  - 8-108-01 - ECG Interpretation Guide
  - 8-108-66 - Cardiac Monitor Programming Standards
- 8-126 - Chest Compressor
- 8-144 - Chest Seal
- 8-162 - Cold Pack
- 8-180 - Computer
- 8-198 - Continuous Positive Airway Pressure (CPAP)
- 8-216 - Cot
- 8-234 - Cricothyrotomy Kit
- 8-252 - Decompression Needle
- 8-270 - Doppler
- 8-288 - Endotracheal Tube (ET)
- 8-294 - Feeding Tube
- 8-300 - Foley Cathether
- 8-306 - Gastric Tube
- 8-324 - Glucometer
- 8-342 - Hemostatic Agent
- 8-360 - Hot Pack
- 8-378 - I-Gel Airway
- 8-387 - i-STAT
- 8-396 - Intranasal (IN) Device
- 8-414 - Intraosseous (IO) Needle
- 8-432 - Intravascular (IV) Needle
- 8-450 - IV Pump
- 8-468 - Kendrick Extrication Device (KED)
- 8-486 - King Airway
- 8-504 - Lactate Meter

- 8-522 - Laryngeal Mask Airway (LMA)
- 8-540 - Laryngoscope
- 8-558 - Meconium Aspirator
- 8-576 - Morgan Lens
- 8-594 - Naso-Pharyngeal Airway (NPA)
- 8-612 - Nebulizer
- 8-621 - Ophthalmoscope
- 8-630 - Oro-Pharyngeal Airway (OPA)
- 8-636 - Otoscope
- 8-642 - Peak Flow Meter
- 8-648 - Pelvic Binder
- 8-666 - Physical Restraint
- 8-684 - PICC and Central Line Access Kit
- 8-702 - Port Access Kit
- 8-720 - Radio
- 8-738 - Respirator
- 8-756 - Splint Backboard
- 8-774 - Splint C-Collar
- 8-792 - Splint General
- 8-810 - Splint Traction
- 8-828 - Stair Chair
- 8-846 - Suction
- 8-855 - Telemedicine
- 8-864 - Thermometer
- 8-882 - Tourniquet
- 8-900 - Ultrasound
- 8-918 - Vehicle Tracker
- 8-936 - Ventilator
- 8-954 - Warming Blanket

## Change Log:

| Date | Link to previous version | Description of change |
|---|---|---|
| 12/29/14 | | Removed call for orders from all titles. |
| 07/24/16 | | Clarified scope of practice in each equipment protocol. |
| 06/11/21 | pdf | Moved to emsprotocols.online |
| 03/21/23 | pdf | Added section links for iStat, Otoscope, Foley catheter, Feeding tube, Telemedicine, Peak flow meter, ophthalmoscope. |

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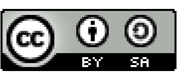
|---|---|---|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# Equipment 8-001 - Equipment on Response Vehicles

**CMH EMS & MIH Protocols**

19 CSR 30-40.303(2)(C) states "the medical director, in cooperation with the ambulance service administrator, shall develop, implement, and annually review medications and medical equipment to be utilized." This section fulfils that requirement for equipment.

Refer to Medication 7-001 - Medication on Response Vehicles for medications.

Non-medication supplies that are still within a sealed package and do not appear damaged or aged may still be used up to five (5) years after the package expiration date. Packaging must be unopened, intact, and no discoloration. Exceptions (must dispose after expiration) include the following items:

- All medications.
- Electrode patches and combination pads.
- Hemostatic gauze.
- Irrigation fluid such as saline and sterile water.
- KY Jelly.

## BLS Ambulance:

| Equipment | Quantity |
|---|---|
| **Bag, Airway** | |
| Same as ALS Ambulance | |
| **Bag, Medication** | |
| Same as ALS Ambulance | |
| **Bag, Small** | |
| Same as ALS Ambulance | |
| **Bag, SMR** | |
| Same as ALS Ambulance | |
| **Cab** | |
| Same as ALS Ambulance | |
| **Cabinets** | |
| Bag, Airway | 1 |
| Bag, IV | 1 |

| | |
|---|---|
| Bag, Medication | 1 |
| Bandage Ace Wrap 4" | 1 |
| Bandage Coban | 1 |
| Bandage Kerlix | 2 |
| Bandage King | 2 |
| Bandage Triangular | 2 |
| Battery 9V | 1 |
| Battery AA | 4 |
| Battery AAA | 4 |
| Battery C | 2 |
| Bed Pans | 1 |
| Blankets | 6 |
| Blankets Survival | 2 |
| Blankets Thermal | 2 |
| BP Cuff Kit | |
| BVM Infant | 1 |
| BVM, Adult | 1 |
| BVM, Ped | 1 |
| Chest Seal | 1 set |
| Chux | 4 |
| CO2 intubation adapter | 1 |
| Cold Pack | 2 |
| Combo Pads, Adult | 1 |
| Combo Pads, Ped | 1 |
| Cot Battery | 1 |
| Cot belt extensions | 5 |
| CPAP mask large | 1 |
| CPAP mask medium | 1 |
| CPAP mask small | 1 |
| CPAP variable adapter | 1 |
| Decompression Needle | 1 |
| Dressing ABD Pads | 2 |
| Dressing Celox | 1 |
| Dressing Non sterile 4X4 | |
| Dressing Sterile 4X4 | 2 |
| ECG Defib Tester | 1 |
| ECG Monitor Batteries | 2 |

| | |
|---|---|
| ECG Monitor Paper | 1 |
| ECG Patches | 1 bag |
| Emesis Bag | 4 |
| Glucometer with supplies | |
| Hand Sanitizer | 1 |
| Hot Pack | 2 |
| Irrigation Bottle NS | 1 |
| Irrigation Bottle Sterile Water | 1 |
| Nasal Cannula CO2 Adult | 1 |
| Nasal Cannula CO2 Ped | 1 |
| Nasal Cannula, Adult | 1 |
| Nebulizer Mask, Adult | 1 |
| Nebulizer Mask, Ped | 1 |
| NRB Mask, Adult | 1 |
| NRB Mask, Ped | 1 |
| OB Kit | 1 |
| Pillow | 2 |
| Pillow Case | 6 |
| PPE Face Shields | 2 |
| PPE Gowns | 2 |
| PPE N95 Mask | 2 |
| Pt belonging bags | 3 |
| Restraint Blue Wrist Set | 1 |
| Restraint Red Ankle Set | 1 |
| Ring Cutter | 1 |
| Sani Cloths Grey | 1 |
| Sani Cloths Yellow | 1 |
| Sheets | 12 |
| Splint Sam | 1 |
| Suction Tip | 1 |
| Suction Tubing & Canisters | 1 |
| Suction Unit | 1 |
| Tape 1" | 1 roll |
| Tape 2" | 1 roll |
| Tape 3" | 1 roll |
| Tourniquet | 1 |
| Towels | 6 |

| | |
|---|---|
| Urinal | 1 |
| Wash Cloth | 6 |
| **Compartments, Outside** | |
| Adult Traction Splint | 1 |
| Backboard | 1 |
| Ped Traction Splint | 1 |
| PFD | 2 |
| Scoop Stretcher | 1 |
| Scoop Stretcher Straps | 3 |
| SMR Bag | 2 |
| Surgi-Lift | 1 |
| **Cot** | |
| Adult Nasal Cannula | 1 |
| Adult NRB | 1 |
| Blanket | 1 |
| CO2 Nasal Cannula | 1 |
| Emesis bag | 1 |
| Nebulizer Handheld | 1 |
| Nebulizer Mask | 1 |
| Ped NRB Pillow | 1 |
| Sheet | 1 |
| **Glucometer Kit** | |
| Same as ALS Ambulance | |
| **IV Start Kit** | |
| Same as ALS Ambulance | |
| **Monitor** | |
| Same as ALS Ambulance | |
| **OB Kit** | |
| Same as ALS Ambulance | |
| **Triage Kit** | |
| Same as ALS Ambulance | |

## ALS Ambulance:

| Equipment | Quantity |
|---|---|
| **Bag, Airway** | |
| ET Holder | 2 |
| ETCO2 adapter | 2 |

| | |
|---|---|
| King Airway size 3 | 1 |
| King Airway size 4 | 1 |
| King Airway size 5 | 1 |
| NPA 6.0 | 1 |
| NPA 6.5 | 1 |
| NPA 7.0 | 1 |
| NPA 7.5 | 1 |
| NPA 8.0 | 1 |
| NPA 8.5 | 1 |
| OPA 100mm | 1 |
| OPA 60mm | 1 |
| OPA 70mm | 1 |
| OPA 80mm | 1 |
| OPA 90mm | 1 |
| Suction catheter 14fr | 1 |
| Suction OG 14fr | 1 |
| **Bag, Big** | |
| BAMM | 1 |
| Bandage Coban | 2 |
| Bandage Kerlex | 2 |
| Bandage Kling 4" | 2 |
| Bandage Triangular | 2 |
| Blood Pressure Cuff | 1 |
| Bougie | 1 |
| BVM Adult | 1 |
| Chest Seal | 1 set |
| Decompression Needle | 1 |
| Dressing 4X4 non sterile | |
| Dressing ABD pad | 2 |
| Dressing Hemostatic | 1 |
| Dressing Multi Trauma | 1 |
| Emesis Bag | 1 |
| ET 6.0 Endotrol | 1 |
| ET 6.5 | 1 |
| ET 7.0 Endotrol | 1 |
| ET 7.5 | 1 |
| ET 8.0 Endotrol | 1 |

| | |
|---|---|
| ET 8.5 | 1 |
| ET Stylet 12fr | 1 |
| ET Stylet 14fr | 1 |
| FaceShields | 2 |
| IO Flush | 1 |
| IO Needle 45mm Yellow | 1 |
| IO Needle 15mm Red | 1 |
| IO Needle 25mm Blue | 1 |
| IV Cath 14g | 2 |
| IV Cath 16g | 2 |
| IV Cath 18g | 2 |
| IV Cath 20g | 2 |
| IV Cath 22g | 2 |
| IV Cath 24g | 2 |
| IV Flush | 1 |
| IV Primary Tubing | 1 |
| IV Start Kit | 1 |
| Laryngoscope Handle | 1 |
| Laryngoscope Mac 2 | 1 |
| Laryngoscope Mac 3 | 1 |
| Laryngoscope Mac 4 | 1 |
| Laryngoscope Miller 2 | 1 |
| Laryngoscope Miller 3 | 1 |
| Laryngoscope Miller 4 | 1 |
| Magill Forceps Adult | 1 |
| Pressure Infuser Bag | 1 |
| Sam Splint | 1 |
| Surgi-lube | 4 |
| Survival Blanket | 1 |
| Syringe 10ml | 1 |
| Tape 1" | 1 roll |
| Torpedo Sharp Container | 1 |
| Tourniquet | 1 |
| **Bag, Medication** | |
| Alcohol prep pads | 10 |
| IV Saline Lock | 2 |
| Needle 18ga | 2 |

| | |
|---|---|
| Needle 22g | 1 |
| Needle 25g | 1 |
| Needle Filter Straw | 2 |
| Needle Smart Tip | 2 |
| Syringe 1ml | 1 |
| Syringe 3ml | 1 |
| Syringe 5ml | 1 |
| **Bag, Oxygen** | |
| Adult Nasal Cannula | 1 |
| Adult NRB | 1 |
| EtCO2 Nasal Cannula | 1 |
| Emesis bag | 1 |
| Nebulizer Handheld | 1 |
| Nebulizer Mask | 1 |
| Pediatric NRB | 1 |
| **Bag, Pediatric** | |
| Broslow Tape | 1 |
| BVM Child | 1 |
| BVM Infant | 1 |
| Chlorascrub swab | 6 |
| ET Holder Child | 1 |
| EtCO2 Adapter Child | 1 |
| G-Tubes 10 Fr | 1 |
| G-Tubes 12 Fr | 1 |
| G-Tubes 14 Fr | 1 |
| G-Tubes 18Fr | 1 |
| G-Tubes 8 Fr | 1 |
| IV Cath 14g | 2 |
| IV Cath 16g | 2 |
| IV Cath 18g | 2 |
| IV Cath 20g | 2 |
| IV Cath 22g | 2 |
| IV Cath 24g | 2 |
| IV Flush | 1 |
| IV Primary Tubing | 1 |
| IV Start Kit | 1 |
| Laryngoscope handle | 1 |

| | |
|---|---|
| Laryngoscope Mac Blade 0 | 1 |
| Laryngoscope Mac Blade 1 | 1 |
| Laryngoscope Mac Blade 2 | 1 |
| Laryngoscope Miller Blade 00 | 1 |
| Laryngoscope Miller Blade 0 | 1 |
| Laryngoscope Miller Blade 1 | 1 |
| Laryngoscope Miller Blade 2 | 1 |
| LMA Size 1 & 5ml syringe | 1 |
| LMA Size 2 & 10ml syringe | 1 |
| Magill Forceps Child | 1 |
| Normal Saline 1000ml | 1 |
| OPA 40mm | 1 |
| OPA 60mm | 1 |
| OPA 70mm | 1 |
| OPA 80mm | 1 |
| Suction Bulb Syringe | 1 |
| Suction Cath 6 Fr | 1 |
| Suction Cath 8 Fr | 1 |
| Suction Cath 10 Fr | 1 |
| Suction Cath 12 Fr | 1 |
| **Bag, Pediatric (Red/Pink Pouch)** | |
| 4X4 Sterile single | 1 |
| ET 2.5 uncuffed | 1 |
| ET 3.0 uncuffed | 1 |
| ET 3.5 uncuffed | 1 |
| Stylet 6 Fr | 1 |
| Surgi-lube | 1 |
| **Bag, Pediatric (Purple Pouch)** | |
| 4X4 Sterile single | 1 |
| ET 4.0 uncuffed | 1 |
| Stylet 6 Fr | 1 |
| Surgi-lube | 1 |
| **Bag, Pediatric (Yellow Pouch)** | |
| 4X4 Sterile single | 1 |
| ET 4.5 uncuffed | 1 |

| | |
|---|---|
| Stylet 10 Fr | 1 |
| Surgi-lube | 1 |
| **Bag, Pediatric (White Pouch)** | |
| 4X4 Sterile single | 1 |
| ET 5.0 uncuffed | 1 |
| Stylet 10 Fr | 1 |
| Surgi-lube | 1 |
| **Bag, Pediatric (Blue Pouch)** | |
| 4X4 Sterile single | 1 |
| ET 5.5 uncuffed | 1 |
| Stylet 10 Fr | 1 |
| Surgi-lube | 1 |
| **Bag, Pediatric (Orange Pouch)** | |
| 4X4 Sterile single | 1 |
| ET 6.0 cuffed | 1 |
| Stylet 10 Fr | 1 |
| Surgi-lube | 1 |
| Syringe 10 ml | 1 |
| **Bag, Pediatric (Green Pouch)** | |
| 4X4 Sterile single | 1 |
| ET 6.5 cuffed | 1 |
| Stylet 10 Fr | 1 |
| Surgi-lube | 1 |
| Syringe 10 ml | 1 |
| **Bag, Small** | |
| Bandage Kerlex | 2 |
| Bandage Kling 4" | 2 |
| Bandage Triangular | 2 |
| Blood Pressure Cuff | 1 |
| BVM Adult | 1 |
| Dressing 4X4 non sterile | 1 |
| Dressing ABD pad | 2 |
| Emesis Bag | 1 |
| Glucometer | space for it |

| | |
|---|---|
| IV Cath 14g | 2 |
| IV Cath 16g | 2 |
| IV Cath 18g | 2 |
| IV Cath 20g | 2 |
| IV Cath 22g | 2 |
| IV Cath 24g | 2 |
| IV Flush | 1 |
| IV Primary Tubing | 1 |
| IV Start Kit | 1 |
| Normal Saline 1000ml | 1 |
| NPA 6.5 | 1 |
| NPA 7.5 | 1 |
| OPA 100mm | 1 |
| OPA 90mm | 1 |
| Splint Sam | 1 |
| Surgi-lube | 4 |
| Survival Blanket | 1 |
| Tape 1" | 1 |
| Torpedo Sharp Container | 1 |
| **Bag, SMR** | |
| C-Collar Infant | 1 |
| C-Collar Multi Size | 4 |
| C-Collar Pediatric | 1 |
| Spider Straps | 1 |
| Stable Block | 2 |
| Tape 2" | 1 |
| Towels | 2 |
| **Box, Glucometer** | |
| Alcohol pads | 10+ |
| Band aids | 6+ |
| Control solutions | 2 |
| Glucometer | 1 |
| Glucometer Check Strips | 6+ |
| Lancets | 6+ |
| **Cab** | |
| Garage Door Remotes | varies |
| Emergency Response Guidebook | 1 |

| | |
|---|---|
| Flash Light | 1 |
| Gloves box Large | 1 |
| Gloves box Medium | 1 |
| Gloves box Small | 1 |
| Gloves box X Large | 1 |
| GPS with Charger | 1 |
| Hand Sanitizer | 1 |
| High-Viz Vest Spares | 2 |
| Maps | varies |
| Triage Kit | 2 |
| Fuel Cards | varies |
| **Cabinets** | |
| 15mm x 22mm adapter | 1 |
| Bag, Medication | 1 |
| Bag, Pediatric | 1 |
| Bag, SMR | 1 |
| Bandage Ace Wrap 4-inch | 2 |
| Bandage Coban | 4 |
| Bandage Kerlix | 4 |
| Bandage Kling 4" | 4 |
| Bandage Triangular | 2 |
| Battery 9V | 1 |
| Battery AA | 4 |
| Battery C | 2 |
| Bed Pans | 2 |
| Blankets | 6 |
| Blankets, Ready Heat | 2 |
| Blankets Survival | 2 |
| Blankets Thermal | 2 |
| Bougie | 1 |
| BP Cuff Kit | 1 |
| Burn Sheets | 2 |
| Burn Towels | 2 |
| BVM Infant | 1 |
| BVM, Adult | 1 |
| BVM, Ped | 1 |
| Chest Seal | 1 set |

| | |
|---|---|
| Chux | 4 |
| Cold Pack | 4 |
| Combo Pads, Adult | 1 |
| Combo Pads, Ped | 1 |
| Cot Battery | 1 |
| Cot belt extensions | 5 |
| Cot Belts: Extra | 1 set |
| CPAP 50 PSI adapter | 1 |
| CPAP Kit with Large mask | 2 |
| CPAP mask medium | 1 |
| CPAP mask small | 1 |
| CPAP variable adapter | 1 |
| Cricothyrotomy kit | 1 |
| Decompression Needle | 1 |
| Doppler | 1 [Cedar Co ONLY] |
| Doppler Gel | 1 [Cedar Co ONLY] |
| Dressing ABD Pads | 4 |
| Dressing Celox | 1 |
| Dressing Non sterile 4X4 | ? |
| Dressing Sterile 4X4 | 6 |
| Dressing Sterile 4X4 tubs | 4 |
| Dressing Trauma | 2 |
| ECG Defib Tester | 1 |
| ECG Monitor Batteries | 2 |
| ECG Monitor Paper | 1 |
| ECG Patches | 1 bag |
| Emesis Bag | 6 |
| EtCO2 intubation adapter | 2 |
| EtCO2/SpO2 monitor | 1 |
| EtCO2/SpO2 monitor charger | 1 |
| Fish Hook/Wire Cutter | 1 |
| Glucometer with supplies | 1 |
| Hand Sanitizer | 1 |
| Hot Pack | 4 |
| Irrigation Bottle NS | 2 |
| Irrigation Bottle Sterile Water | 2 |
| IV Blood Tubing | 1 |

| | |
|---|---|
| IV Pump | 1 |
| IV Pump Tubing | 2 |
| IV tubing | 6 |
| IV Tray | 1 |
| Lactated Ringers 1000ml | 2 |
| Morgan Lens | 1 set |
| Nasal Cannula CO2 Adult | 4 |
| Nasal Cannula CO2 Ped | 2 |
| Nasal Cannula, Adult | 4 |
| Nebulizer Handhelds | 4 |
| Nebulizer Mask, Adult | 2 |
| Nebulizer Mask, Ped | 2 |
| NPA set 6.0-8.5 | 1 |
| NRB Mask, Adult | 4 |
| NRB Mask, Ped | 2 |
| OB Drape | 1 |
| OB Kit | 1 |
| OPA set 60-100mm | 1 |
| PediMate Plus | 1 |
| Pillow | 2 |
| Pillow Case | 6 |
| Port-A-Cath Kit | 1 |
| PPE Face Shields | 4 |
| PPE Gowns | 4 |
| PPE N95 Mask | 4 |
| Pt belonging bags | 6 |
| Pt Gowns | 4 |
| Razor | 1 |
| Restraint (Blue) Wrist Set | 1 |
| Restraint (Red) Ankle Set | 1 |
| Ring Cutter | 1 |
| Sani Cloths Grey | 1 |
| Sani Cloths Yellow | 1 |
| Sharps Container | 1 |
| Sheets | 6 |
| Splint Sam | 2 |
| SPO2 finger wrap for Nelcor | 1 |

| | |
|---|---|
| Suction Cath 14 Fr | 1 |
| Suction Cath 16fr | 1 |
| Suction NG 14fr | 1 |
| Suction NG 18fr | 1 |
| Suction Tip | 2 |
| Suction Tubing & Canisters | 2 |
| Suction Unit | 1 |
| Suction unit battery | 1 |
| Surgilube | 6 |
| Syringe Toomey 60ml | 1 |
| Tape 1-inch | 4 rolls |
| Tape 2-inch | 2 rolls |
| Tape 3-inch | 2 rolls |
| Thermometer | 1 |
| Thermometer Covers Box | 1 |
| Tourniquet | 1 |
| Towels | 6 |
| Trash Bag | 6 |
| Urinal | 2 |
| Wash Cloth | 6 |
| **Compartments, Outside** | |
| Adult Traction Splint | 1 |
| Backboard | 2 |
| KED | 1 |
| Lucas II | 1 [Cedar County Only] |
| Ped Traction Splint | 1 |
| PFD | 2 |
| Scoop Stretcher | 1 |
| Scoop Stretcher Straps | 3 |
| SMR Bag | 2 |
| Stair Chair | 1 |
| Surgi-Lift | 1 |
| **Cot** | |
| Blanket | varies |
| Pillow | varies |
| Sheet | varies |
| **IV Start Kit** | |

| | |
|---|---|
| 4x4 Non-Sterile | 1 |
| Chlorascrub swab | 2 |
| Extension Set | 1 |
| SorbaView Shield | 1 |
| Tourniquet | 1 |
| **IV Tray** | |
| 3-Way Stop Cock | 1 |
| Alcohol prep pads | 10 |
| Band aid | 10 |
| Chlorascrub swab | 10 |
| Filter straw | 2 |
| IV Cath 14 g | 2 |
| IV Cath 16 g | 4 |
| IV Cath 18 g | 6 |
| IV Cath 20 g | 6 |
| IV Cath 22 g | 6 |
| IV Cath 24 g | 6 |
| IV Saline Lock | 2 |
| MAD Device | 2 |
| Needle 18 g | 4 |
| Needle 22 g | 4 |
| Needle 25 g | 2 |
| Needle Smart tip | 10 |
| Non Sterile 4x4s | varies |
| Razor | 1 |
| Sharps Container | 1 |
| Start Kits | 6 |
| Syringe 1 ml | 2 |
| Syringe 3 ml | 6 |
| Syringe 5 ml | 2 |
| Syringe 10 ml | 2 |
| Syringe 20 ml | 2 |
| Tape 1" | 1 |
| **Monitor** | |
| BP Cuff (SM/RG/Long/XL) | 1 each |
| Cables 12 lead | 1 |
| Cables 4 lead | 1 |

| | |
|---|---|
| Combo Pads, Adult | 2 |
| Combo Pads, Pediatric | 1 |
| Download cable | 1 |
| ECG Patches | 1 bag |
| Modem | 1 |
| Monitor Paper | 1 roll |
| Razor | 1 |
| Sgarbossa Card | 1 |
| SPO2 Cable | 1 |
| **OB Kit** | |
| 4X4 Sterile Tubs | 2 |
| Bulb Syringe 2oz | 1 |
| Disposable ½ Drape | 3 |
| Drape with fluid collection | 1 |
| Infant Bunting Blanket | 1 |
| Newborn Diaper | 1 |
| O.B. Towelette | 2 |
| Placenta Bucket with lid | 1 |
| Plastic Placenta Bag | 1 |
| Sterile Gloves Large Pair | 2 |
| Sterile OB napkin | 1 |
| Umbilical cord clamps | 1 set |
| Umbilical Cord Scissors | 1 |
| Underpad 17"x24" | 1 |
| Vinyl Twist Tie | 2 |
| White Professional Towel | 2 |
| **Added supplies**: | |
| ET 3.0 uncuffed | 2 |
| Meconium Aspirator 10 | 1 |
| Umbilical cord clamps | 1 set |
| **RSI Kit** | |
| Needle Draw | 3 |
| Syringe 10 ml | 1 |
| Syringe 20ml | 1 |
| Syringe 5 ml | 1 |
| **Triage Kit** | |
| Decompression Needle | 1 |

| | |
|---|---|
| Oral airways | 6 |
| Pen | 3 |
| Stickers Red | ? |
| Trauma Sheers | 1 |
| Triage tags | 25 |

## Community Paramedic Vehicle:

| Equipment | Quantity |
|---|---|
| **Bag, Big** | |
| Same as ALS Ambulance | |
| **Bag, Medication** | |
| Same as ALS Ambulance | |
| **Bag, Oxygen** | |
| Same as ALS Ambulance | |
| **Cab** | |
| Same as ALS Ambulance | |
| **Glucometer Kit** | |
| Same as ALS Ambulance | |
| **IV Start Kit** | |
| Same as ALS Ambulance | |
| **Monitor** | |
| Same as ALS Ambulance | |
| **RSI Kit** | |
| Same as ALS Ambulance | |
| **Triage Kit** | |
| Same as ALS Ambulance | |

## EMS Supervisor Vehicle:

| Equipment | Quantity |
|---|---|
| **Bag, Big** | |
| Same as ALS Ambulance | |
| **Bag, Medication** | |
| Same as ALS Ambulance | |
| **Bag, Oxygen** | |
| Same as ALS Ambulance | |
| **Cab** | |
| Same as ALS Ambulance | |

| Glucometer Kit |
| --- |
| Same as ALS Ambulance |

| IV Start Kit |
| --- |
| Same as ALS Ambulance |

| Monitor |
| --- |
| Same as ALS Ambulance |

| RSI Kit |
| --- |
| Same as ALS Ambulance |

| Triage Kit |
| --- |
| Same as ALS Ambulance |

# Change Log:

| Date | Link to previous version | Description of change |
|---|---|---|
| 05/31/15 | | Added this section to meet state requirements for medical director approval of what equipment are currently carried on ambulances. |
| 01/26/16 | pdf | Added comments that the following are not authorized for EMH and not carried on their ambulances:<br>• King Airway<br>• LMA |
| 02/03/16 | | Changed section title from currently on ambulances to currently on response vehicles Added comment that equipment can be used up to 5 years past expiration date if unopened and undamaged. |
| 08/02/16 | pdf | Made comment that automatic chest compressors are only on Cedar County Ambulances. |
| 08/24/17 | pdf | Updated according to current ambulance inventory list. Clarified comment to be able to continue using expired and unopened equipment. |
| 09/22/17 | | Added Yankauer containers, Yankauer tubing, AccuCheck control solutions. |
| 10/16/17 | | Added cot belt extenders. Updated quantity of face sheilds and N95 masks from 1 box to 4 each. Specified red and blue for restraints. |
| 11/11/17 | pdf | Replaced turkel needle with decompression needle. |
| 08/24/18 | | Created section placeholders for BLS ambulance, EMS supervisor, and rescue vehicles. |
| 10/15/18 | pdf | Updated ALS Ambulance, added EMS Supervisor, added BLS Ambulance, added PHFPD, added BCFD. |
| 01/16/19 | pdf | Made adjustments based on equipment committee recommendations. |
| 03/20/19 | | Made adjustments based on equipment committee recommendations. |
| 04/05/19 | | CHANGES TO THIS SECTION UP TO THIS POINT APPROVED BY DR. CARTER. |
| 04/19/20 | | Added content from old Protocol 8-001 - Equipment Currently on Response Vehicles. Removed Fire Department vehicles. |
| 06/09/20 | pdf | Moved one SMR bag from exterior cabinet to inside. |
| 06/11/21 | pdf | Moved to emsprotocols.online |

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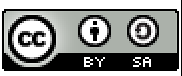
| CMH Pre-Hospital Services Mission: "*Provide safe, exceptional, and compassionate care to our communities with an emphasis on highly trained and empowered staff*." | CMH Mobile Integrated Healthcare Mission: "*Provide exceptional, compassionate, and patient-centered care by a mobile collaborative team to improve patient experience, improve quality outcomes, and reduce healthcare costs*." | |
|---|---|---|



|  | Polk, Hickory, Cedar, & St Clair County EMS Protocols by Theron Becker is licensed under a Creative Commons Attribution-ShareAlike 4.0 International License. |
|---|---|

# Equipment 8-018 - Automated External Defibrillator (AED)

**CMH EMS & MIH Protocols**

## Scope of Practice:

- Community Responder
- Emergency Medical Dispatcher
- Emergency Medical Responder
- Emergency Medical Technician
- Advanced Emergency Medical Technician
- Registered Nurse
- Paramedic

## Indications:

- When using Cardiac Monitor in AED mode, use Equipment 8-108 - Cardiac Monitor.
- Protocol 2-198 - Cardiac Arrest.

## Contraindications:

- Pulse.

## Precautions:

- Wet skin or patients in water.
- Do not apply directly over internal pacemaker or medication patch.
- Manual Defibrillation is preferred to AED for children less than 8 yrs old. If manual Defibrillation is not available, pediatric dose attenuator is preferred. If neither is available, use AED as you would on an adult. Pads may be placed anterior/posterior if chest is too small to allow pads to be separated by at least 1 inch.

## Procedure:

- Power on the device.
- Follow written or verbal instructions from the device.
- Refer to Equipment 8-018-01 - AED Agency Requirements for after use and maintenance procedures.

# Change Log:

| Date | Link to previous version | Description of change |
|---|---|---|
| 12/15/13 | pdf | Added EMT scope of practice statement. |
| 02/06/16 | pdf | Added content for AED accessiblity, supplies, maintenance, and what to do if the AED is used. The intent of these additions is to provide standing protocols for community agencies and organizations to utilize for the use of their AEDs. |
| 07/04/20 | | Renumbered the section to allow for future additions. |
| 07/12/20 | pdf | Added content (without substantive modification) from old Section 8-010 - Automated External Defibrillator (AED). |
| 06/11/21 | pdf | Moved to emsprotocols.online |

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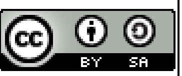
| CMH Pre-Hospital Services Mission: "*Provide safe, exceptional, and compassionate care to our communities with an emphasis on highly trained and empowered staff*." | CMH Mobile Integrated Healthcare Mission: "*Provide exceptional, compassionate, and patient-centered care by a mobile collaborative team to improve patient experience, improve quality outcomes, and reduce healthcare costs*." | |
|---|---|---|

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# Equipment 8-018-01 - Automated External Defibrillator (AED) - Agency Requirements

**CMH EMS & MIH Protocols**

## Accessiblity:

- AED must be available for use any time the building is occupied.
- Location should be obvious and labeled to allow any person who is not familiar with its location to find it.
- Train as many community or staff members as possible in CPR and AED use.
- Contact CMH Pre-Hospital Services (417-328-6355) for assistance with training and to report the location of your AED.

## Supplies to be kept with AED:

- Dry wash cloth.
- Safety razor.
- At least one set of compatible pads. Prefer to have two adult and two pediatric compatible pads.

## Monthly Maintenance:

- Refer to manufacturer user manual.
- Check AED battery function according to manufacturer.
- Check supplies are usable and not expired.

## After Using the AED:

- Contact CMH Pre-Hospital Services (417-328-6355) to download data and request assistance (if needed) for Critical Incident Stress Debriefing (CISD).
- Document event according to your agency guidelines.
- Replace equipment used.

## Change Log:

| Date | Link to previous version | Description of change |
|---|---|---|
| 07/12/20 | pdf | Added content (without substantive modification) from old Section 8-010 - Automated External Defibrillator (AED). |
| 06/11/21 | pdf | Moved to emsprotocols.online |

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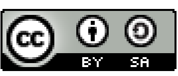
|---|---|---|



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# Equipment 8-036 - Blood Draw Kit

**CMH EMS & MIH Protocols**

## Scope of Practice:

- Registered Nurse
- Paramedic

## Indications:

- Equipment 8-432 - Intravascular (IV) Needle.

## Contraindications:

- Patient refusal.

## Precautions:

- Avoid venipuncure in arms with dialysis shunts or injuries proximal to insertion site.

## Procedure:

- After IV access but prior to Saline administration.
- Either directly draw blood from patient into blood tubes using Vacutainer Direct Draw Adapter or into syringe and transfer to tubes using Vacutainer Blood Transfer Device. To avoid needle sticks, do not use syringe and needle to fill blood tubes.
- Fill tubes in the following order:
    - Medical patient (5 tubes): BLUE, RED, GREEN (no gel), GREEN (gel), LAVENDER.
    - Trauma patient (4 tubes): BLUE, GREEN (no gel), GREEN (gel), LAVENDER.
- Label each tube with BLUE arm bands.
    - Place number sticker on each tube.
    - Write your initials and time blood was drawn in white area of wrist band.
    - Once at the destination, a patient identification sticker should be placed on the removable end of the wrist band. The patient sticker should contain your initials and time of blood draw.
    - Stickered blood tubes and the removable end with patient sticker will be sent to the lab.
- Refer to Equipment 8-036-01 - Blood Draw for Alcohol Analysis.

## Change Log:

| Date | Link to previous version | Description of change |
|---|---|---|
| 01/29/14 | pdf | Coordinated with CMH policies. |
| 12/29/14 | pdf | Added consider to indications. |
| 05/01/19 | pdf | Made adjustments to align with CMH policy PHS02-06. |
| 07/04/20 | pdf | Renumbered the section to allow for future additions. |
| 06/11/21 | pdf | Moved to emsprocotocols.online |

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| CMH Pre-Hospital Services Mission: "*Provide safe, exceptional, and compassionate care to our communities with an emphasis on highly trained and empowered staff*." | CMH Mobile Integrated Healthcare Mission: "*Provide exceptional, compassionate, and patient-centered care by a mobile collaborative team to improve patient experience, improve quality outcomes, and reduce healthcare costs*." | |
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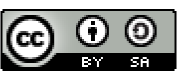

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# Equipment 8-036-01 - Blood Draw Kit - Blood Draw for Alcohol Analysis

**CMH EMS & MIH Protocols**

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RNs or Paramedics may draw blood in the field as requested by law enforcement officials on the scene where requested for medical assistance.

Do NOT respond to jail, police dept, etc. for the sole purpose of drawing blood or draw blood if an officer brings a non-patient to the crew for the sole purpose of drawing blood.

An IV must be required for medical purposes and the blood draw is secondary to that action.

If patient is alert and oriented, his or her consent is necessary before the procedure is performed.

- If patient is unable to give consent (unresponsive, dead, etc.), consent is implied.

The requesting officer must be present, supply the blood tube, and witness the blood sample being taken.

The task will not distract attention away from the primary task of patient care.

Documentation shall include patient consent and name of requesting officer.

## Change Log:

| Date | Link to previous version | Description of change |
|---|---|---|
| 04/09/20 | | Moved to online format. |
| 06/11/21 | pdf | Moved to emsprotocols.online |

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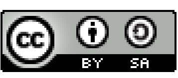

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# Equipment 8-054 - Ballistic Gear

### CMH EMS & MIH Protocols

## Scope of Practice:

- Emergency Medical Responder
- Emergency Medical Technician
- Advanced Emergency Medical Technician
- Registered Nurse
- Paramedic

## Indications:

- ?

## Contraindications:

- ?

## Precautions:

- ?

## Procedure:

- ?

## Change Log:

| Date | Link to previous version | Description of change |
|---|---|---|
| 07/04/20 | | Created this section for future content. |
| 06/11/21 | pdf | Moved to emsprotocols.online |

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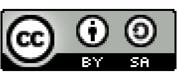
|  | Polk, Hickory, Cedar, & St Clair County EMS Protocols by Theron Becker is licensed under a Creative Commons Attribution-ShareAlike 4.0 International License. |
|---|---|

# Equipment 8-072 - Bougie

**CMH EMS & MIH Protocols**

## Scope of Practice:

- Registered Nurse
- Paramedic

## Indications:

- Protocol 2-044 - Airway: RSI.
- Equipment 8-234 - Cricothyrotomy Kit.

## Contraindications:

- Age less than 8 years.
- Use of a 6.0 or smaller ET tube.

## Precautions:

- None.

## Procedure:

- Lubricate Bougie.
- Using a Laryngoscope and standard ET intubation techniques, attempt to visualize the vocal cords. If vocal cords are not fully visible, pass Bougie behind the epiglottis, guiding the tip of the Bougie anteriorly towards the trachea.
  - Tracheal placement will yield the ability to feel cricoids rings and resistance at the carina.
  - Esophageal placement will yield the ability to advance Bougie completely without resistance.
- While maintaining the Laryngoscope and Bougie in position, an assistant threads an ET tube over the end of the Bougie. The assistant then holds the Bougie.
- Rotate ET tube one-quarter turn and advance through cords.
- Inflate ET cuff, remove Bougie and Laryngoscope.
- Confirm placement with auscultation and Capnography.

# Change Log:

| Date | Link to previous version | Description of change |
|---|---|---|
| 07/04/20 | | Renumbered the section to allow for future additions. |
| 07/12/20 | pdf | Added content (without substantive modification) from old Section 8-030 - Bougie. |
| 06/11/21 | pdf | Moved to emsprotocols.online |

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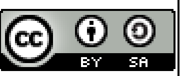

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# Equipment 8-090 - Capnometer

**CMH EMS & MIH Protocols**

---

## Scope of Practice:

- Registered Nurse
- Paramedic

## Indications:

- All ALS patients with cardiac or respiratory complaints.

## Contraindications:

- None.

## Precautions:

- None.

## Procedure:

- Turn monitor on.
- Attach capnograph probe (nasal cannula or ET tube) to patient and capnograph.
- Observe readings. May need to instruct patient on nasal cannula to breathe out through their mouth.

# Change Log:

| Date | Link to previous version | Description of change |
|---|---|---|
| 12/13/13 | | Modification to most documents to remove Capnography as a BLS skill, now is “assist ALS.” |
| 12/15/13 | pdf | Changed to ALS skill. |
| 12/29/14 | pdf | Moved Protocol 8-250 (Nellcor Capnometer) to this location and removed 8-250. |
| 10/15/18 | pdf | Moved precautions that pertained to pulseox to LifePak section. |
| 07/04/20 | | Renumbered the section to allow for future additions. |
| 07/12/20 | pdf | Added content (without substantive modification) from old Section 8-032 - Capnometer. |
| 06/11/21 | pdf | Moved to emsprotocols.online |

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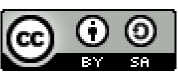


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# Equipment 8-108 - Cardiac Monitor

**CMH EMS & MIH Protocols**

## Scope of Practice:

- Emergency Medical Technician
- Advanced Emergency Medical Technician
- Registered Nurse
- Paramedic

## Indications:

- Virtually all patient contacts.

## Contraindications:

- If ALS is available, manual mode is preferred.
- Do not attempt blood pressures on injured extremities, side of previous mastectomies, or dialysis shunts.

## Precautions:

- Exercise safety precautions.
- SpO2 accuracy is dependent upon adequate perfusion at probe site, bright ambient lighting, Poisoning, nail polish, and polycythemia.
- Cardiovert with extreme caution in patients on digitalis, beta-blockers, and calcium channel blockers.
- Do not place pacer electrodes directly over implanted pacemaker or AICD.

## 12-Lead and 15-Lead Acquisition Procedure:

- Attach limb leads.
  - Preferred locations for 12-lead acquisition are wrists and ankles.
  - Preferred locations for 4-lead monitoring are shoulders and abdomen.
- Attach precordial leads.
- Perform 12-lead.
- Perform 15-Lead on the following patients:
  - Non-diagnostic 12-lead OR
  - Evidence of acute inferior wall injury.
- Refer to Equipment 8-108-01 - ECG Interpretation Guide.
- Consider transmitting 12-lead to the receiving facility.

## 12-Lead Transmission procedure:

1. Ensure modem is plugged in the back.
2. Press "TRANSMIT" button.
3. Scroll to "REPORT" and select the correct 12-lead to send.
4. Scroll to "SITE" and select the correct destination.
5. Select "SEND" and wait for the confirmation print-out.
6. Call the receiving facility to discuss the transmission with medical control.

## AED Procedure:

- Confirm patient is in Cardiac Arrest.
- Apply and connect combo-pads.
- Press "ANALYZE" or "CPR."
- Follow on-screen messages and voice prompts.

## Manual Defibrillation Procedure:

- Verify patient is in Cardio-Pulmonary Arrest.
- Record baseline rhythm.
- Apply combo-pads (anterior-posterior is preferred).
- Select appropriate energy.
- Charge and clear patient.
- Call "CLEAR" and ensure patient is clear.
- Press "SHOCK."
- Reassess patient.

## Synchronized Cardioversion Procedure:

- Explain procedure to patient.
- If time permits, consider Protocol 2-660 - Pain Control.
- Record baseline rhythm.
- Select lead with tallest R-wave.
- Apply combo-pads (anterior-posterior is preferred).
- Select appropriate energy.
- Synchronize ("SYNC") and observe markers on screen.
- Charge ("CHARGE") and clear patient. To cancel charge, press speed dial. If "SHOCK" is not pressed within 60 sec, charge is cancelled.
- Call "CLEAR" and ensure patient is clear.
- Press "SHOCK."
- Reassess patient.

## Transcutaneous Pacing Procedure:

- Explain procedure to patient.

- Connect 4-leads and record rhythm strip prior to Pacing.
- Select lead with tallest R-wave.
- Apply combo-pads (anterior-posterior is preferred).
- Turn pacer on and set rate.
- Gradually increase energy until electrical capture is observed (usually wide, bizarre QRS).
- Check pulse for mechanical capture. If no mechanical capture, continue to increase energy until mechanical capture. If CPR is being conducted and no mechanical capture is detected at maximum energy, continue Pacing.
- Once mechanical capture is obtained, increase energy another 10%, assess blood pressure, and record rhythm strip.
- If CPR is being conducted, continue for another 2 minutes before discontinuing.
- If conscious, consider Protocol 2-660 - Pain Control.

## Vitals Procedure:

- Choose and apply appropriately sized cuff. Auscultated blood pressure is required as a baseline to verify LifePak before medication administration.
- Attach pulse-ox probe.
- If patient is being transported ALS: Connect 4-lead cardiac monitor.

Refer to Equipment 8-108-66 - Cardiac Monitor Programming Standards.

# Change Log:

| Date | Link to previous version | Description of change |
|---|---|---|
| 12/15/13 | pdf | Added EMT scope of practice statements. |
| 06/01/15 | pdf | Added indications for Protocol 6-025 - Cardiopulmonary Resuscitation (CPR) in defibrillation and pacing. |
| 11/17/15 | | Added comment to consider biphasic energy doses. |
| 01/20/16 | pdf | Changed Downloading ePCR from ALS to BLS procedure. |
| 10/15/18 | pdf | Added precautions for pulseox from Capnometer section. |
| 07/04/20 | | Renumbered the section to allow for future additions. |
| 08/07/20 | pdf | Added content (without substantive modification) from old Section 8-190 - LifePak. |
| 02/08/21 | pdf | Added 12-lead transmission procedure. |
| 06/11/21 | php | Moved to emsprotocols.online |

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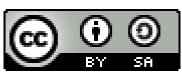

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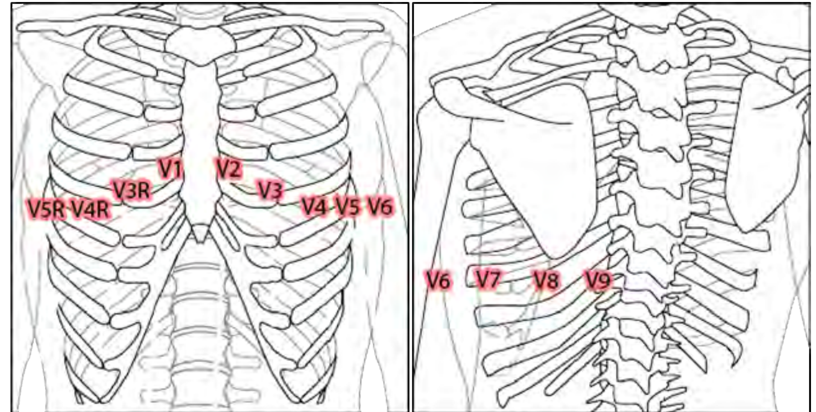
# Equipment 8-108-01 - ECG Interpretation Guide

**CMH EMS & MIH Protocols**

## Check lead placement.

- 

- **Lead I positive and aVR negative**: Good placement.

## Interpret underlying rhythm.

- **Evaluate regularity**:
  - Regular, regularly irregular, or irregular?
- **Evaluate rate**:
  - Bradycardia, normal, or Tachycardia?
- **Evaluate P-waves**:
  - **Look for heart block**:
    - **PR greater than 200 ms**: First-degree.
    - **PR widening**: Second-degree, type I.
    - **Dropping P-waves**: Second-degree, type II.
    - **P-waves not associated**: Third-degree.
  - **Greater than 2.5 mm high**: Right atrial enlargment or PE.
  - **"M" shape**: Left atrial enlargment.
- **Evaluate QRS**:
  -

| Adult | Pediatric |
| --- | --- |
| **Greater than 120 ms with P-waves**: Bundle branch block. Evaluate first deflection in QRS going right-to-left in V1: | **Greater than 90 ms with P-waves**: Bundle branch block. Evaluate first deflection in QRS going right-to-left in V1: |

    - **Upward**: RBBB.
    - **Downward**: LBBB (LBBB or ventricular pacing, go to Sgarbossa).
  - **QTc greater than 450**: Prolonged QT.

- **Peaked T-waves**: Hyperkalemia.
- **Q-wave greater than 1/3 of R-wave height or width**: Pathological Q-wave (previous MI or late development of current MI).
- **Q-wave greater than 35 mm as measured by combining V1 and V5**: Left ventricular hypertrophy.
- **Q-wave greater than 7 mm in V1**: Right ventricular hypertrophy.
- **Delta-wave (sloped R-wave) with PR less than 120 ms**: Wolff-Parkinson-White.

- **Evaluate axis**:
  - **Between -30° and 90° (I+ and aVF+)**: Normal axis.
  - **Between 90° and 180° (I- and aVF+)**: Right axis deviation. Could be caused by left posterior hemiblock, RBBB, right ventricular hypertrophy, pulmonary disease, or slender build.
  - **Between -30° and -90° (I+ and aVF-)**: Left axis deviation. Could be caused by inferior MI, left anterior hemiblock, LBBB, left ventricular hypertrophy, obesity, or pregnancy.
  - **Between -90° and -180° (I- and aVF-)**: Extreme right axis deviation. Probably caused by a STEMI.

## Determine if Cath Lab should be activated.

- **Cath Lab activations (Basic)**:
  - **ST elevation in all or most of the leads**: Pericarditis. Do not activate the Cath Lab.
  - **ST elevation of 1 mm or greater in the following leads**:
    - **V3 and V4**: Anterior STEMI. Activate the Cath Lab.
    - **Two or more in II, III, and/or aVF**: Inferior STEMI. Activate the Cath Lab.
    - **Two or more in I, aVL, V5, and/or V6**: Left Lateral STEMI. Activate the Cath Lab.
    - **V1 and V2**: Septal STEMI. Activate the Cath Lab.
- **Cath Lab activations (Intermediate)**:
  - **ST elevation of 0.5 mm or greater in the following leads**:
    - **V4R**: Right Lateral STEMI. Activate the Cath Lab.
    - **V8 and V9**: Posterior STEMI. Activate the Cath Lab.
  - **LBBB or ventricular pacing**:
    - **ST ELEVATION of 1 mm or greater CONCORDANT with QRS in any lead**: Sgarbossa A criteria STEMI. Activate the Cath Lab.
    - **ST DEPRESSION of 1 mm or greater in any leads V1, V2, or V3**: Sgarbossa B criteria STEMI. Activate the Cath Lab.
    - **ST ELEVATION of 5 mm or greater DISCORDANT with QRS in any lead**: Sgarbossa C criteria STEMI. Activate the Cath Lab.
- **Cath Lab activations (Advanced)**:
  - **Any amount of ST ELEVATION in both aVR and V1 with any amount of ST DEPRESSION in most other leads**:
    - **If found after a hypoxic episode**: Not cardiac-related. Do not activate the Cath Lab.
    - **If NO recent hypoxic episode**: Three Vessel Disease. Activate the Cath Lab.
  - **T-waves 10 mm or taller with any amount of ST DEPRESSION in one or more leads V1 through V4**: DeWinters Anterior STEMI. Activate the Cath Lab.
  - **T-waves that are downward and symmetric in one or more leads V1 through V6.**: Occurs between episodes of chest pain and goes away while pain is present. Wellens Syndrome. Activate the Cath Lab.

## Change Log:

| Date | Link to previous version | Description of change |
|---|---|---|
| 08/24/18 | pdf | Fixed axis determination from I, II, III leads to I & AVF. |
| 07/23/19 | pdf | Added p-wave to LBBB definition. Improved graphics for 12-lead placement. |
| 11/27/19 | pdf | Added clarifying definitions for right-sidedposterior STEMI (0.5 mm). Serious re-write to include types of STEMIother cath lab activations. Made the page more badge-buddy friendly. |
| 04/04/20 | | Added content from old Section 2-051 - EKG Interpretation Guide. |
| 07/04/20 | pdf | Renumbered the section to allow for future additions. |
| 02/22/21 | pdf | Added clarification for QRS width in adult vs pediatric. |
| 06/11/21 | pdf | Moved to emsprotocols.online |
| 11/30/21 | | Updated link to Albuterol. |

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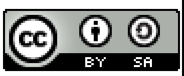

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# Equipment 8-108-66 - Cardiac Monitor Programming Standards

**CMH EMS & MIH Protocols**

Programming shall only be done by qualified and authorized individuals.

| General Settings | |
|---|---|
| Language | US English |
| Code summary | Long |
| Trend summary | Off |
| Site number | APPLETON, BOLIVAR, ELDORADO, HERMITAGE, OSCEOLA, or STOCKTON |
| Device ID | *match property ID tag* |
| Auto log | On |
| Line filter | 60 Hz |
| Timeout speed | 30 sec |
| **Manual Mode Settings** | |
| Sync after shock | On |
| Pads default | 360 |
| Energy protocol | Inactive |
| Internal default | 10 |
| Voice prompts | On |
| Shock tone | On |
| Manual access | Manual / Direct |
| No passcode required for manual mode | |
| **AED Mode Settings** | |
| Energy protocol | 360 - 360 - 360 |
| Auto analyze | Off |
| Motion detection | On |
| Pulse check | Never |
| **CPR Settings** | |

| | |
|---|---|
| CPR time 1 | 120 sec |
| CPR time 2 | 120 sec |
| Initial CPR | CPR first |
| Initial CPR time | 120 sec |
| Preshock CPR | Off |
| **CPR Metronome Settings** | |
| Metronome | On |
| Adult - No Airway | 30 : 2 |
| Adult - Airway | 100 : 0 |
| Youth - No Airway | 15 : 2 |
| Youth - Airway | 100 : 0 |
| **Pacing Settings** | |
| Rate | 70 ppm |
| Current | 0 mA |
| Mode | Demand |
| Internal pacer | Detection on |
| **Monitoring Channels Settings** | |
| Default set | Set 1 |
| Set 1 | I, II, CO2 |
| Set 2 | II, SpO2, CO2 |
| Set 3 | I, II, III |
| Set 4 | II, III, aVF |
| Set 5 | aVL, V5, V6 |
| **Monitoring Settings** | |
| Continuous Data | All Channels |
| SpO2 tone | Off |
| CO2 units | mmHg |
| CO2 BTPS | Off |
| Temperature Units | °F |
| NIBP initial pressure | 160 mmHG |
| NIBP interval | 10 min |
| Trends | On |
| **12-Lead Settings** | |
| Auto transmit | Off |
| Auto print | On |
| Print speed | 25 mm/sec |
| Interpretation | Off |

| Format | 3-channel standard |
|---|---|
| **Events Pages Settings** | |
| 1 | Generic |
| 2 | Medication - Albuterol |
| 3 | Medication - Aspirin |
| 4 | Medication - Atropine |
| 5 | Medication - Benadryl |
| 6 | Medication - Dextrose |
| 7 | Medication - Duoneb |
| 8 | Medication - Cardizem |
| 9 | Medication - Epinephrine 1:10,000 |
| 10 | Medication - Fentanyl |
| 11 | Medication - Glucose |
| 12 | Medication - Morphine |
| 13 | Medication - Narcan |
| 14 | Medication - Nitroglycerin |
| 15 | Medication - Oxygen |
| 16 | Medication - Phenergan |
| 17 | Medication - Solu-Medrol |
| 18 | Medication - Versed |
| 19 | Medication - Xopenex |
| 20 | Medication - Zofran |
| 21 | |
| 22 | |
| 23 | Treatment - Airway insert |
| 24 | Treatment - CPAP |
| 25 | Treatment - Vascular access |
| **Alarms Settings** | |
| Volume | 5 |
| Alarms | Off |
| VF / VT alarm | Off |
| **Auto Print Settings** | |
| Defibrillation | On |
| Pacing | Off |
| Check patient | Off |
| SAS | Off |
| Patient alarms | Off |

| | |
|---|---|
| Events | Off |
| Initial rhythm | Off |
| **Printer Settings** | |
| ECG mode | Monitor |
| Monitor mode | 1 - 30 Hz |
| Diagnostic mode | 0.05 - 40 Hz |
| Alarm waveforms | On |
| Event waveforms | On |
| Vitals waveforms | On |
| **Transmission Sites Settings** | |
| Site 1 | BLUETOOTH<br>Bluetooth Wireless |
| Site 2 | USB<br>Direct Connect |
| Site 3 | CMH BOLIVAR<br>Direct Connect |
| Site 4 | MERCY SGF<br>Direct Connect |
| Site 5 | COX SOUTH<br>Direct Connect |
| Site 6 | LAKE<br>Direct Connect |
| Site 7 | ESO<br>Direct Connect |
| **Transmission Settings** | |
| Default Site | ESO |
| Default Report | All |
| Wireless | On |
| Search Filter | Off |
| **Clock Settings** | |
| Clock Mode | Real Time |
| Time Zone | UTC -06:00 |

## Change Log:

| Date | Link to previous version | Description of change |
|---|---|---|
| 07/23/19 | pdf | Added standardized programming for LifePak into protocol for medical director approval. |
| 08/07/20 | | Added content (without substantive modification) from old Section 8-190 - LifePak. |
| 06/11/21 | pdf | Moved to emsprotocols.online |

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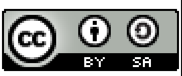

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# Equipment 8-126 - Chest Compressor

**CMH EMS & MIH Protocols**

## Scope of Practice:

- Emergency Medical Responder
- Emergency Medical Technician
- Advanced Emergency Medical Technician
- Registered Nurse
- Paramedic

## Indications:

- Protocol 2-198 - Cardiac Arrest.

## Contraindications:

- Patient is too large for the device to be secured.

## Precautions:

- None.

## Procedure:

- Open bag.
- Turn device on.
- Place back plate under the patient below the armpits.
- Remove device from bag and attach over the patient to the back plate.
- Position suction cup to touch the patient’s lower sternum.
- Press "PAUSE" to lock the suction cup into place.
- Press "ACTIVATE CONTINUOUS" OR "ACTIVATE 30:2" to begin compressions.
- Attach stabilization strap under patient’s neck.

## Change Log:

| Date | Link to previous version | Description of change |
|---|---|---|
| 08/24/17 | pdf | Added Lucas 2 manufacturer procedure. |
| 07/04/20 | | Renumbered the section to allow for future additions. |
| 07/12/20 | pdf | Added content (without substantive modification) from old Section 8-040 - Chest Compressor. |
| 06/11/21 | pdf | Moved to emsprotocols.online |

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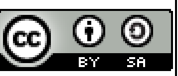
|  | Polk, Hickory, Cedar, & St Clair County EMS Protocols by Theron Becker is licensed under a Creative Commons Attribution-ShareAlike 4.0 International License. |
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# Equipment 8-144 - Chest Seal

**CMH EMS & MIH Protocols**

## Scope of Practice:

- Emergency Medical Responder
- Emergency Medical Technician
- Advanced Emergency Medical Technician
- Registered Nurse
- Paramedic

## Indications:

- ?

## Contraindications:

- ?

## Precautions:

- ?

## Procedure:

- ?

# Change Log:

| Date | Link to previous version | Description of change |
|---|---|---|
| 07/04/20 | | Created this section for future content. |
| 06/11/21 | pdf | Moved to emsprotocols.online |

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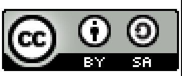

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# Equipment 8-162 - Cold Pack

**CMH EMS & MIH Protocols**

## Scope of Practice:

- Emergency Medical Responder
- Emergency Medical Technician
- Advanced Emergency Medical Technician
- Registered Nurse
- Paramedic

## Indications:

- ?

## Contraindications:

- ?

## Precautions:

- ?

## Procedure:

- ?

## Change Log:

| Date | Link to previous version | Description of change |
|---|---|---|
| 07/04/20 | | Created this section for future content. |
| 06/11/21 | pdf | Moved to emsprotocols.online |

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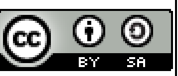


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# Equipment 8-180 - Computer

**CMH EMS & MIH Protocols**

## Scope of Practice:

- Emergency Medical Responder
- Emergency Medical Technician
- Advanced Emergency Medical Technician
- Registered Nurse
- Paramedic

## Indications:

- ?

## Contraindications:

- ?

## Precautions:

- ?

## Procedure:

- ?

# Change Log:

| Date | Link to previous version | Description of change |
|---|---|---|
| 12/10/13 | | Added Tablet protocol (for STEMI transmission). |
| 11/17/15 | pdf | Removed Section 8-375 Tablet due to removing tablets from ambulances. |
| 07/04/20 | | Created this section for future content. |
| 06/11/21 | pdf | Moved to emsprotocols.online |

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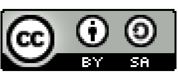


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# Equipment 8-198 - Continuous Positive Airway Pressure (CPAP)

**CMH EMS & MIH Protocols**

## Scope of Practice:

- Registered Nurse
- Paramedic

## Indications:

- Protocol 2-198-50 - Cardiac Arrest - Peri-Arrest Comfort Measures.
- Protocol 2-220 - Chest Pain / Suspected Cardiac Event.
- Protocol 2-286 - Drowning / Near Drowning.
- Protocol 2-726 - Pulmonary Edema.
- Protocol 2-770 - Respiratory Distress.
- Equipment 8-936 - Ventilator.

## Contraindications:

- Less than 18 yrs old.
- Patient unable to protect airway.
- Need for immediate Intubation.
- Ventilatory failure.
- Gastric distention (GI bleeding).
- Trauma (pneumothorax).
- Tracheostomy.
- Altered LOC.
- Do not secure straps if Nausea or Vomiting.
- Increasing ETCO2.

## Precautions:

- CPAP is not mechanical ventilation.
- Blood pressure may drop due to increased intrathoracic pressure.
- Patients may not improve (must reassess).
- Patients may not accept mask (claustrophobia).
- Risk of pneumothorax.
- Risk of corneal drying.
- Large Oxygen demand.

## Procedure:

- Inform and calm patient.
- Connect and turn on Oxygen to "flush." Set PEEP to 10 cm H2O (may titrate to 15 as needed).
- Flip head-strap forward.
- Hand to or place mask on patient. Hold mask firmly against face to eliminate air leaks
- Flip head-strap over head after patient is comfortable. Remove straps if Nausea develops
- Clip bottom straps.
- Adjust fit.
- Monitor patient. May raise intrathoracic pressures, reducing preload, therefore reducing blood pressure.
- **Anxiety**:
  - Consider Versed 2.5 mg IV/IO/IM.
- An in-line bronchodilator Nebulizer may be placed in circuit, if needed.

# Change Log:

| Date | Link to previous version | Description of change |
|---|---|---|
| 12/15/13 | pdf | Changed to ALS skill. |
| 08/24/17 | pdf | Removed Ativan. |
| 07/04/20 | | Renumbered the section to allow for future additions. |
| 07/12/20 | pdf | Added content (without substantive modification) from old Section 8-050 - Continuous Positive Airway Pressure (CPAP). |
| 10/05/20 | | Added indication for 8-936 - Ventilator. |
| 06/11/21 | pdf | Moved to emsprotocols.online |
| 10/14/21 | pdf | Changed link from 2-198-01 to 2-198-50. |
| 12/01/21 | | Updated link to Versed. |

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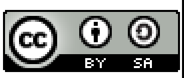
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# Equipment 8-216 - Cot

**CMH EMS & MIH Protocols**

## Scope of Practice:

- Emergency Medical Responder
- Emergency Medical Technician
- Advanced Emergency Medical Technician
- Registered Nurse
- Paramedic

## Indications:

- Need to move a non-ambulatory patient.

## Contraindications:

- None.

## Precautions:

- Always secure the patient using all restraint straps and keep side rails up.
- Utilize a minimum of 2 lifting persons when a patient is on the cot.
- Utilize four or more lifting persons, if possible, over rough terrain or overweight patients.
- Do not allow the x-frame to drop unassisted.

## Generic Procedure:

- Consider Stair Chair.
- Utilize all provided safety restraint systems on every patient.
- To raise or lower cot, both ends must be lifted prior to squeezing handle.
- Use the appropriate number of people to lift based on the patient weight:
  - If patient 0-200 pounds, use two or more people to lift.
  - If patient 200-400 pounds, use four or more people to lift.
  - If patient 400-600 pounds, use eight or more people to lift.
  - If patient greater than 600 pounds, special lifting and transport should be considered.

## X-Frame Procedure:

- **Loading with a patient**:
  - Place loading wheels in ambulance and safety bar past the safety hook.
  - Operator at foot lifts cot and squeezes and holds handle.
  - Assistant at side raises undercarriage.
  - Push cot into ambulance and secure it.
- **Unloading with a patient**:
  - Disengage cot from fastener.
  - Pull cot out of ambulance.
  - Assistant grasps the undercarriage and lifts slightly.
  - Operator at foot squeezes handle.
  - Assistant lowers undercarriage to the ground.
  - Operator at foot releases handle to lock undercarriage down.
  - Assistant releases safety bar from safety hook.
- **Loading empty cot (one operator)**:
  - Place loading wheels in ambulance and safety bar past the safety hook.
  - Lift bumper to raised position.
  - Operator at foot lifts cot and squeezes and holds handle.
  - Operator lowers foot end of cot to the floor to collapse undercarriage.
  - Release handle to lock in lowered position.
  - Raise, push into ambulance, and secure cot.
- **Unloading empty cot (one operator)**:
  - Disengage cot from fastener.
  - Pull cot out of ambulance.
  - Lower cot to the ground, squeeze handle, raise cot, and release handle.
  - Release safety bar from safety hook.

## H-Frame Procedure:

- **Loading with a patient**:
  - Place cot in loading position
  - Place both loading wheels are on the patient compartment floor.
  - Assistant unlocks frame.
  - Operator lifts foot end of cot and squeezes control handle.
  - Assistant lifts undercarriage.
  - Operator pushes cot into patient compartment, releases handle, and secures it.
- **Unloading with a patient**:
  - Disengage cot from fastener.
  - Pull cot out of ambulance.
  - Assistant lowers undercarriage to the ground and ensures it locks down.
  - Place cot in rolling position.
- **Loading empty cot (one operator)**:
  - Place cot in loading position.
  - Place both loading wheels on the patient compartment floor.

  - Unlock frame.
  - Operator lifts foot end of cot and squeezes control handle.
  - Operator pushes cot into patient compartment, releases handle, and secures it.
- **Unloading empty cot (one operator)**:
  - Disengage cot from fastener.
  - Pull cot out of ambulance.
  - Place cot in rolling position.

## Pedi-Mate Procedure:

- Use for all patients smaller than 40 lbs.
- Raise cot backrest to full upright position.
- Wrap Pedi-

# Change Log:

| Date | Link to previous version | Description of change |
|---|---|---|
| 12/15/13 | pdf | Added EMT scope of practice statement. |
| 01/29/14 | | Added number of lifters based on patient weight from CMH policies. |
| 04/03/15 | pdf | Added Consider Stair Chair. |
| 07/04/20 | | Renumbered the section to allow for future additions. |
| 07/12/20 | pdf | Added content (without substantive modification) from old Section 8-060 - Cot. |
| 06/11/21 | pdf | Moved to emsprotocols.online |

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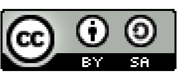

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# Equipment 8-234 - Cricothyrotomy Kit

**CMH EMS & MIH Protocols**

## Scope of Practice:

- Registered Nurse
- Paramedic

## Indications:

- This procedure is a last resort when all attempts at ventilating the patient have failed.
- Protocol 2-044 - Airway: RSI

## Contraindications:

- None in an emergency setting and all other airway options have been exhausted.

## Precautions:

- Complications include hemorrhage from great vessel lacerations and damage to surrounding structures.
- Constantly check ventilation by standard techniques.

## Quick Trach II Procedure:

- Prepare the device: Remove valve opener and completely evacuate the cuff with the included 10 ml syringe. Remove and fill syringe for inflating the cuff with 10 ml of air.
- Prepare the patient: Hyperextend the Head of the patient. Locate the cricothyroid membrane by palpation of the depression between the thyroid and cricoids cartilage. Stabilize this point with forefinger and thumb for puncture.
- Puncture the cricothyroid membrane and insert QuickTrach II until red stopper touches skin. An incision is not necessary.
- Aspirate syringe to determine position of cannula. Aspiration of air indicates proper placement in trachea. If no air is aspirated, remove red stopper and advance slowly until air can be aspirated.
- Remove red stopper.
- Push cannula forward into the trachea and remove metal needle.
- Inflate cuff with 10 ml of air.
- Secure with foam neck tape.
- Attach BVM with connector and verify placement with auscultation and Capnography.

## Surgical Procedure:

If possible, call for MEDICAL CONTROL prior to attempting surgical cric.

- Have Suction equipment ready.
- Clean neck with antiseptic solution.
- Stabilize larynx with thumb and index finger of one hand.
- Palpate cricothyroid membrane.
- Pull skin taut.
- Make 2 cm VERTICAL incision at the cricothyroid membrane.
- Puncture through the cricothyroid membrane horizontally.
- Place Bougie with coude tip into trachea with a back-and-forth motion to feel tracheal clicking or carina.
- Place ET tube or Shiley over Bougie just enough for cuff to be inside trachea.
- Inflate cuff and secure tube.
- Ventilate at 100% Oxygen.
- Observe and auscultate for correct placement.
- Confirm with Capnography.
- Cover incision site with Occlusive dressing.

## Change Log:

| Date | Link to previous version | Description of change |
|---|---|---|
| 12/29/14 | pdf | Added info from 8-330 (QuickTrach II) and removed 8-330. |
| 09/16/15 | pdf | Added comment that surgical cric must have physician orders. |
| 07/04/20 | | Renumbered the section to allow for future additions. |
| 08/07/20 | pdf | Added content (without substantive modification) from old Section 8-070 - Cricothyrotomy Kit. |
| 06/11/21 | pdf | Moved to emsprotocols.online |

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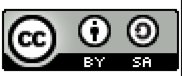
|  | Polk, Hickory, Cedar, & St Clair County EMS Protocols by Theron Becker is licensed under a Creative Commons Attribution-ShareAlike 4.0 International License. |
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# Equipment 8-252 - Decompression Needle

**CMH EMS & MIH Protocols**

## Scope of Practice:

- Registered Nurse
- Paramedic

## Indications:

- Policy 1-850 - Rescue Task Force
- Protocol 2-220 - Chest Pain / Suspected Cardiac Event

## Contraindications:

- None in presence of tension pneumothorax.

## Precautions:

- Complications may include laceration of intercostals vessels, creation of pneumothorax, laceration of lung tissue, and risk of infection.

## ARS / SPEAR Procedure:

- Select site:
    - Fifth intercostal space on anterior axillary line OR
    - Second intercostal space on mid-clavicular line.
- Cleanse site.
- Remove red cap from case with twisting motion and remove needle from case.
- Insert needle through skin targeting the rib below the level of intended insertion site.
    - Direct needle superiorly over rib and into thoracic cavity ensuring perpendicular position relative to thoracic cavity.
    - Ensure needle entry is not medial to nipple line and not directed toward heart.
- Release catheter from needle by 1/4 turn and advance catheter. Remove needle only when catheter has been fully inserted.
- If tension pneumothorax returns, repeat procedure.

## Turkel Procedure:

- Select site:
  - Fifth intercostal space on anterior axillary line OR
  - Second intercostal space on mid-clavicular line.
- Clean area with antiseptic.
- Insert Turkel into skin over just over superior border of third rib.
- Insert catheter through paretal pleura until air escapes.
- During insertion, the color band will show RED until through paretal pleura, and then it turns GREEN.
- Advance catheter off device.
- Air should exit under pressure.
- Close 3-way valve.
- Reassess frequently for redevelopment of pneumothorax.
- If tension pneumothorax returns, open 3-way valve to release pressure.

## Gelco Procedure:

- Select site:
  - Fifth intercostal space on anterior axillary line OR
  - Second intercostal space on mid-clavicular line.
- Clean area with antiseptic.
- Insert Jelco into skin over just over superior border of third rib.
- Insert catheter through paretal pleura until air escapes.
- Air should exit under pressure.
- Remove needle and leave plastic catheter in place.
- Reassess frequently for redevelopment of pneumothorax.
- If tension pneumothorax returns, repeat procedure.

## Change Log:

| Date | Link to previous version | Description of change |
|---|---|---|
| 12/29/14 | pdf | Created this protocol from 8-380 (Thoracentesis) and 8-410 (Turkel Needle). Removed 8-380 and 8-410. |
| 06/01/15 | pdf | Added indication for Protocol 6-085 - High-Threat Response. |
| 03/01/19 | pdf | Added mid-axillary as the preferred site due to PHTLS ver 9 recommendations. |
| 03/20/19 | | Added ARS procedure. |
| 07/04/20 | | Renumbered the section to allow for future additions. |
| 08/07/20 | pdf | Added content (without substantive modification) from old Section 8-075 - Decompression Needle. |
| 06/11/21 | pdf | Moved to emsprotocols.online |

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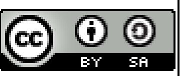

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# Equipment 8-270 - Doppler

**CMH EMS & MIH Protocols**

## Scope of Practice:

- Emergency Medical Responder
- Emergency Medical Technician
- Advanced Emergency Medical Technician
- Registered Nurse
- Paramedic

## Indications:

- ?

## Contraindications:

- ?

## Precautions:

- ?

## Procedure:

- ?

## Change Log:

| Date | Link to previous version | Description of change |
|---|---|---|
| 07/04/20 | | Created this section for future content. |
| 06/11/21 | pdf | Moved to emsprotocols.online |

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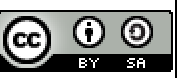

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# Equipment 8-288 - Endotracheal Tube (ET)

**CMH EMS & MIH Protocols**

## Scope of Practice:

- Registered Nurse
- Paramedic

## Indications:

- Guideline 1-850 - Rescue Task Force
- Protocol 2-044 - Airway: RSI
- Protocol 2-198 - Cardiac Arrest
- Protocol 2-704 - Post Resuscitation

## Contraindications:

- None.

## Precautions:

- Can induce Hypertension and increase ICP in Head injured patients.
- Can induce Vagal response and Bradycardia.
- Can induce hypoxia-related arrhythmias.
- Cuffed ET tubes are preferred over un-cuffed for all tube sizes and patient ages.
- Routine use of cricoid pressure is not recommended for pediatric patients.

## Procedure:

- Hyperventilate with BVM and basic adjunct.
- Assemble, check, and prepare equipment.
- Consider Neo-Synephrine (2-3 sprays in each nare) for nasal intubation.
- Consider King or LMA for backup airway.
- Place head in sniffing position (maintain c-spine in trauma).
- Insert Laryngoscope blade.
- Sweep tongue to the left.
- Lift forward to displace jaw.
- Advance tube past vocal cords until the cuff disappears.
- Inflate cuff with 7-10 ml of air. If able, check inflation pressure between 20-25 cm $H_2O$.
- Ventilate and confirm placement with auscultation and Capnography.
- Secure tube, noting marking on tube.

- Consider: Insert OPA as a bite block.
- Ventilate with 100% Oxygen.
- Reassess tube placement often.
- Continued sedation:
  - Consider Versed 2.5-5 mg every 5 min. Repeat as needed maintaining SBP greater than 100.
  - Consider Fentanyl 50-100 mcg. Max 300 mcg.
- Consider Gastric Tube.

# Change Log:

| Date | Link to previous version | Description of change |
|---|---|---|
| 11/30/-1 | pdf | Added indication for Protocol 6-085 - High-Threat Response. |
| 04/03/15 | pdf | Added Consider Neo-Synephrine and Consider King |
| 04/05/19 | pdf | Added dose of 2-3 sprays in each nare for neo-synephrine. APPROVED BY DR. CARTER 4/5/19. |
| 07/04/20 | | Renumbered the section to allow for future additions. |
| 08/07/20 | pdf | Added content (without substantive modification) from old Section 8-080 - Endotracheal Tube (ET). |
| 02/22/21 | pdf | Added indications for Cardiac Arrest and Post Resuscitation. Added AHA 2020 updates to include cuffed is preferred over un-cuffed, routine pediatric cricoid pressure is not recommended, and maintain cuff inflation pressure between 20-25 cm H2O. |
| 06/11/21 | pdf | Moved to emsprotocols.online |
| 12/01/21 | | Updated link to Versed. |
| 03/19/23 | | Changed link for Neosynephrine |
| 03/20/23 | | Changed link for Fent. |

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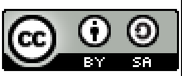

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# Equipment 8-306 - Gastric Tube

**CMH EMS & MIH Protocols**

## Scope of Practice:

- Registered Nurse
- Paramedic

## Indications:

- Protocol 2-044 - Airway: RSI
- Equipment 8-288 - Endotracheal Tube (ET)
- Equipment 8-486 - King Airway
- Equipment 8-522 - Laryngeal Mask Airway (LMA)

## Contraindications:

- Epiglottitis or Croup.
- Use orogastric route when facial trauma or basilar skull fracture.

## Precautions:

- None.

## Procedure:

- Assemble equipment.
- Explain procedure to patient.
- If possible, have patient sitting up.
- Use towel to protect patient's clothing.
- Measure tube from nose, around ear, and down to xiphoid process.
- Mark point at xiphoid process with tape.
- Lubricate distal end of tube 6-8 in with water-soluble lubricant.
- Insert tube in nostril and gently advance it towards posterior nasopharynx along nasal floor.
- When you feel tube at nasopharyngeal junction, rotate inward towards the other nostril.
- As tube enters oropharynx, instruct patient to swallow.
- Pass tube to pre-measured point.
- If resistance is met, back tube up and try again. Do not force tube.
- Check placement of tube by aspirating Gastric contents or auscultating air over epigastric region while injecting 20-30 ml of air.
- Tape tube in place and connect to low Suction if needed.

## Change Log:

| Date | Link to previous version | Description of change |
|---|---|---|
| 06/01/15 | pdf | Added indication for Section 8-170 - Laryngeal Mask Airway (LMA) Supreme. |
| 07/04/20 | | Renumbered the section to allow for future additions. |
| 08/07/20 | pdf | Added content (without substantive modification) from old Section 8-110 - Gastric Tube. |
| 06/11/21 | pdf | Moved to emsprotocols.online |

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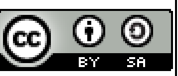


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# Equipment 8-324 - Glucometer

**CMH EMS & MIH Protocols**

## Scope of Practice:

- Emergency Medical Technician
- Advanced Emergency Medical Technician
- Registered Nurse
- Paramedic

## Indications:

- Protocol 2-198 - Cardiac Arrest
- Protocol 2-506 - Hyperglycemia
- Protocol 2-572 - Hypoglycemia
- Protocol 2-638 - Overdose / Toxic Ingestion
- Protocol 2-792 - Seizure
- Protocol 2-880 - Suspected Stroke

## Contraindications:

- None.

## Precautions:

- Do not rely on readings of other entities or patient's own Glucometer.

## Procedure:

- Turn on and log into Glucometer.
- Obtain blood sample from IV start or finger stick.
  - Avoid "milking" finger.
  - Ensure skin is dry of alcohol wipe.
- Follow on-screen instructions.
- Dispose of sharp.

## Blood Sugar Ranges:

| Patient | Critical low | Low | Normal | High | Critical high |
|---|---|---|---|---|---|
| Adult female | 0 - 40 | 41 - 64 | 65 - 105 | 106 - 349 | 350 + |

| | | | | | |
|---|---|---|---|---|---|
| Adult male | 0 - 40 | 41 -74 | 75 - 110 | 111 - 349 | 350 + |
| 1 mo - 15 yr old | 0 - 40 | 41 - 74 | 75 - 110 | 111 - 124 | 125 + |
| 7 day - 30 day old | 0 - 40 | 41 - 59 | 60 -105 | 106 - 124 | 125 + |
| 1 day - 6 day old | 0 - 29 | 30 - 49 | 50 -80 | 81 - 125 | 125 + |
| Less than 24 hrs old | 0 - 29 | 30 - 39 | 40 - 60 | 61 - 125 | 125 + |

## Change Log:

| Date | Link to previous version | Description of change |
|---|---|---|
| 12/15/13 | pdf | Added EMT scope of practice statement. |
| 09/22/17 | pdf | Added indication for hyperglycemia. |
| 08/24/18 | pdf | Added glucose ranges. |
| 07/04/20 | | Renumbered the section to allow for future additions. |
| 08/07/20 | pdf | Added content (without substantive modification) from old Section 8-120 - Glucometer. |
| 06/11/21 | pdf | Moved to emsprotocols.online |

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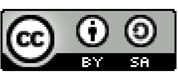
|  | Polk, Hickory, Cedar, & St Clair County EMS Protocols by Theron Becker is licensed under a Creative Commons Attribution-ShareAlike 4.0 International License. |
|---|---|

# Equipment 8-342 - Hemostatic Agent

**CMH EMS & MIH Protocols**

## Scope of Practice:

- Emergency Medical Responder
- Emergency Medical Technician
- Advanced Emergency Medical Technician
- Registered Nurse
- Paramedic

## Indications:

- Guideline 1-850 - Rescue Task Force
- Protocol 2-924 - Universal Patient Care

## Contraindications:

- None.

## Precautions:

- None.

## Procedure:

- Apply gauze to open wound. Fill and tightly pack whole wound.
- Use direct pressure on gauze and wound for approximately three (3) minutes to help form clot.
- If bleeding continues, hold pressure for an additional three (3) minutes.
- Wrap over gauze for transport.

# Change Log:

| Date | Link to previous version | Description of change |
|---|---|---|
| 12/29/14 | pdf | Added this protocol. |
| 05/31/15 | | Added content. |
| 07/04/20 | | Renumbered the section to allow for future additions. |
| 08/07/20 | pdf | Added content (without substantive modification) from old Section 8-125 - Hemostatic Agent. |
| 06/11/21 | pdf | Moved to emsprotocols.online |

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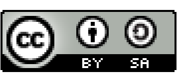

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# Equipment 8-360 - Hot Pack

**CMH EMS & MIH Protocols**

## Scope of Practice:

- Emergency Medical Responder
- Emergency Medical Technician
- Advanced Emergency Medical Technician
- Registered Nurse
- Paramedic

## Indications:

- ?

## Contraindications:

- ?

## Precautions:

- ?

## Procedure:

- ?

## Change Log:

| Date | Link to previous version | Description of change |
|---|---|---|
| 07/04/20 | | Created this section for future content. |
| 06/11/21 | pdf | Moved to emsprotocols.online |

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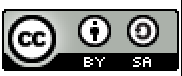
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# Equipment 8-378 - I-Gel Airway

**CMH EMS & MIH Protocols**

## Scope of Practice:

- Emergency Medical Technician
- Advanced Emergency Medical Technician
- Registered Nurse
- Paramedic

## Indications:

- Patients who are unable to maintain their own airway (i.e. GCS less than 8).

## Contraindications:

- Conscious/semi-conscious patient.
- Trismus, limited mouth opening, pharyngo-perilaryngeal abscess, trauma, or mass.
- Do not use the gastric channel if:
  - There is an excessive air leak through the gastric channel.
  - There are osophageal varices or evidence of upper gastro-intestinal bleed.
  - In cases of osophageal trauma.
  - There is a history of upper gastro-intestinal surgery.
  - The patient has bleeding/clotting abnormalities.
  - Nasogastric tube insertion in the presence of inadequate levels of anaesthesia can lead to coughing, bucking, excessive salivation, retching, laryngospasm or breath holding.

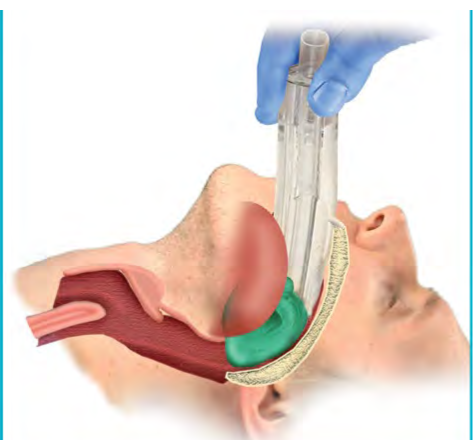
## Precautions:

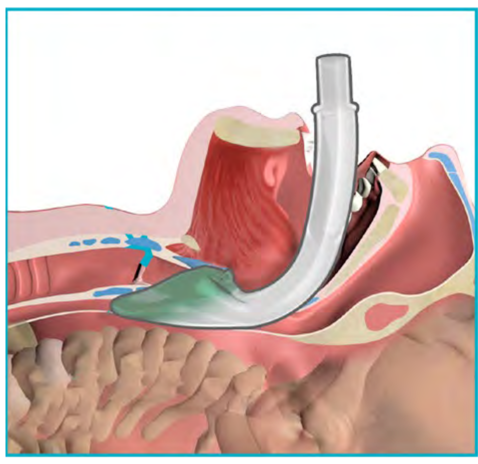
- Do not allow peak airway pressure of ventilation to exceed 40cm H2O.
- Do not use excessive force to insert the device or nasogastric tube.
- Must be lubricated according to the instructions for use.
- The patient should always be in the ‘sniffing the morning air’ position prior to insertion with the assistant helping to open the patient’s mouth, unless head/neck movements are considered inadvisable or are contraindicated.
- The leading edge of the i-gel’s tip must follow the curvature of the patient’s hard palate upon insertion.
- If there is a failure to achieve complete insertion after utilising the standard insertion technique and a jaw thrust, deep rotation or triple manoeuvre has also failed, then the device should be inserted under direct vision by laryngoscopy or one size smaller device should be used.
- After insertion, i-gel should be taped down from maxilla-to-maxilla.
- Excessive air leak during manual ventilation is primarily due to either sub-optimal depth of anaesthesia or sub-optimal depth of i-gel insertion.
- Particular care should be taken with patients who have an ASA or Mallampati score of III and above, or who have fragile and vulnerable dental work, in accordance with recognised airway management practices and techniques.
- As with all supraglottic airways, it is important to ensure the correct size of device is used, lubrication is optimal, the device is inserted and positioned correctly and regularly checked intraoperatively in order to reduce the potential for nerve damage, tongue numbness, cyanosis and other potential complications.
- No attempt should be made to use i-gel as a conduit for intubation without fibre optic guidance.
- The i-gel is supplied in a protective cradle or cage pack to ensure the device is retained in the correct flexion prior to use and also acts as a base for lubrication. The i-gel must always be separated from the cradle or cage pack prior to insertion. The cradle and cage pack are not introducers and must never be inserted into the patient’s mouth.
- : Do not apply excessive force on the device during insertion. It is not necessary to insert fingers or thumbs into the patient’s mouth during the process of inserting the device. If there is early resistance during insertion, a ‘jaw thrust’, ‘Insertion with deep rotation’ (Figure 24) or triple maneouvre is recommended.
- In order to avoid the possibility of the device moving up out of position prior to being secured in place, it is essential that as soon as insertion has been successfully completed, the i-gel is held in the correct position until and whilst the device is secured in place.

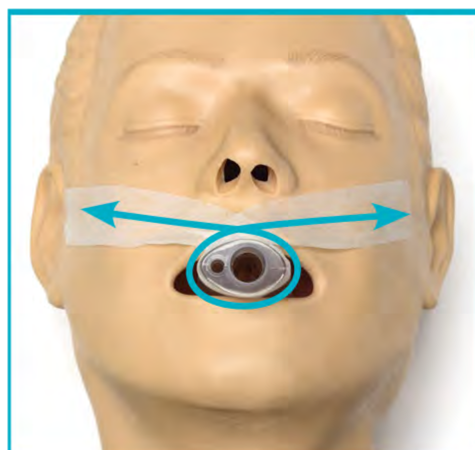
## Procedure:

- Pre-use check and preparation:
  - Select the appropriate size i-gel by assessing the patient's anatomy.
  - Inspect the packaging and ensure it is not damaged prior to opening.
  - Inspect the device carefully, check the airway is patent and confirm there are no foreign bodies or a BOLUS of lubricant obstructing the distal opening of the airway or gastric channel.
  - Open the i-gel package and on a flat surface take out the protective cradle containing the device.
  - Place a small bolus of a water-based lubricant, such as K-Y Jelly, onto the middle of the smooth surface of the cradle in preparation for lubrication. Do not use silicone based lubricants.
  - Grasp the i-gel along the integral bite block and lubricate the back, sides and front of the cuff with a thin layer of lubricant.
  - Place the i-gel back into the cradle in preparation for insertion.
- Insertion:
  - A proficient user can achieve insertion of the i-gel in less than five seconds.
  - Grasp the lubricated i-gel firmly along the integral bite block. Position the device so that the i-gel cuff outlet is facing towards the chin of the patient.
  - The patient should be in the 'sniffing the morning air' position with head extended and neck flexed. The chin should be gently pressed down before proceeding to insert the i-gel.
  - Introduce the leading soft tip into the mouth of the patient in a direction towards the hard palate.
  - Glide the device downwards and backwards along the hard palate with a continuous but gentle push until a definitive resistance is felt.
  - At this point the tip of the airway should be located into the upper osophageal opening and the cuff should be located against the laryngeal framework. The incisors should be resting on the integral bite-block.
  - I-gel should be taped down from 'maxilla to maxilla'.
  - If required, an appropriate size nasogastric tube may be passed down the gastric channel.
- Gastric channel use:
  - Select the appropriate size of nasogastric (NG) tube.
- If regurgitation is anticipated, then it is recommended that a nasogastric tube is passed through the gastric channel of the i-gel into the patient's stomach and the stomach emptied. The nasogastric tube can be left in situ.
- Removal:
  - Once consciousness is regained and protective reflexes such as coughing and swallowing have returned, gently suction around the airway device in the pharynx and hypopharynx.
  - Once the patient is awake or easily arousable with vocal commands, the i-gel can safely be removed by asking the patient to open his/her mouth wide, and replaced with an MC (medium concentration oxygen) mask.
  - DO NOT attempt to forcibly remove the device if the patient is biting on it. Wait until the patient, on vocal command, has fully opened their mouth or opens their mouth

spontaneously.







## Size selection:

| I-gel Size | Patient Size | Patient Weight | NG Tube Max Size |
|---|---|---|---|
| 1 | Neonate | 2-5 kg | N/A |
| 1.5 | Infant | 5-12 kg | 10 |
| 2 | Small pediatric | 10-25 kg | 12 |
| 2.5 | Large pediatric | 25-35 kg | 12 |
| 3 | Small adult | 30-60 kg | 12 |
| 4 | Medium adult | 50-90 kg | 12 |
| 5 | Large adult | 90+ kg | 14 |

# Change Log:

| Date | Link to previous version | Description of change |
|---|---|---|
| 07/04/20 | | Created this section for future content. |
| 02/22/21 | pdf | Completed this protocol from manufacturer user guide. |
| 06/11/21 | pdf | Moved to emsprotocols.online |

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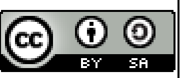

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# Equipment 8-396 - Intranasal (IN) Device

**CMH EMS & MIH Protocols**

## Scope of Practice:

- Emergency Medical Responder
- Emergency Medical Technician
- Advanced Emergency Medical Technician
- Registered Nurse
- Paramedic
- Note: EMR, EMT, and AEMT may only use IN device for Narcan administration for suspected narcotic overdose causing respiratory depression when they are unable to ventilate.

## Indications:

- Medication 7-373 - Fentanyl (Sublimaze)
- Medication 7-603 - Narcan (Naloxone)
- Medication 7-954 - Versed (Midazolam)
- Medication 7-987 - Zofran - (Ondansetron)

## Contraindications:

- If IV access can be obtained, IV is preferred medication route.

## Precautions:

- Mucous, blood, and vasoconstrictors reduce absorption.
- Minimize volume, maximum concentration:
    - 1/3 ml per nostril is ideal, 1 ml is max.
    - Use both nostrils to double surface area.

## Procedure:

- Select correct medication at a high of a concentration as possible. Divide the dose between the two nares.
- Confirm orders, dosage, and expiration.
- Check patient allergies.
- Remove and discard the green vial adapter cap.
- Pierce the medication vial with the syringe vial adapter.
- Aspirate the proper volume of medication required to treat the patient (an extra 0.1 ml of medication should be drawn up to account for the dead space in the device).

- Remove (twist off) the syringe from the vial adapter.
- Attach the Mucosal Atomization Device (MAD) to the syringe via the luer-lock connector.
- Using the free hand to hold the crown of the Head stable, place the tip of the MAD snugly against the nostril aiming slightly up and outward (toward the top of the ear).
- Briskly compress the syringe plunger to deliver half of the medication into the nostril.
- Move the device over to the opposite nostril and administer the remaining medication into that nostril.
- Observe patient for effects.

## Change Log:

| Date | Link to previous version | Description of change |
|---|---|---|
| 11/11/13 | pdf | Added comment that IV route is preferred. |
| 07/04/20 | | Renumbered the section to allow for future additions. |
| 08/07/20 | pdf | Added content (without substantive modification) from old Section 8-130 - Intranasal (IN) Device. |
| 06/11/21 | pdf | Moved to emsprotocols.online |
| 12/01/21 | | Updated link to Zofran. |
| 12/01/21 | | Updated link to Versed. |
| 03/19/23 | | Changed links for Narcan. |
| 03/20/23 | | Changed link for Fent. |

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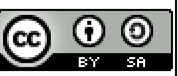


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# Equipment 8-414 - Intraosseous (IO) Needle

**CMH EMS & MIH Protocols**

## Scope of Practice:

- Registered Nurse
- Paramedic

## Indications:

- Any patient who needs IV access where IV attempts have failed or suspected to be unsuccessful. IV access is preferred over IO in all situations.

## Contraindications:

- Fracture of target bone.
- Previous orthopedic procedure near the insertion site.
- Infection at insertion site.
- Inability to locate landmark due to edema or obesity.

## Precautions:

- IV access is preferred over IO in all situations.
- Shelf life for the EZ-IO G3 Power Driver is ten years.

## Procedure:

- Prepare equipment.
- Identify site:
  - Proximal humerus,
  - Proximal tibia,
  - Distal tibia, or
  - Distal femur (infants only).
- Cleanse site.
- Stabilize site.
- Insert needle at 90 degree angle.
  - Insert needle without drilling until against bone.
  - If at least one black mark is visible on needle above skin, drill to appropriate depth.
  - If no black mark is visible on needle above skin, remove needle and re-attempt with longer needle. Re-attempts may be made at the same site only if bone was not drilled.

- Conscious: 2% Lidocaine 20-50 mg slow over 1-2 min. May repeat half dose after 30 min if Pain returns.
- Flush with NS or LR 5-10 ml bolus.
- Connect tubing and apply pressure bag.
- Apply dressing.

# Change Log:

| Date | Link to previous version | Description of change |
|---|---|---|
| 01/08/15 | pdf | Moved Protocol 8-100 (EZ-IO) to this location and removed 8-100. |
| 07/23/19 | pdf | Clarified locations of IO insertion. |
| 07/04/20 | | Renumbered the section to allow for future additions. |
| 08/07/20 | pdf | Added content (without substantive modification) from old Section 8-135 - Intraosseous (IO) Needle. |
| 02/22/21 | pdf | Added comment from AHA 2020 recommendation that IV access is preferred over IO in all situations. |
| 06/11/21 | pdf | Moved to emsprotocols.online |
| 03/17/23 | | Changed link for NS |
| 03/19/23 | | Changed link to Lido. |
| 03/19/23 | | Changed link for LR. |

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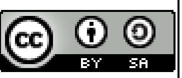
|  | Polk, Hickory, Cedar, & St Clair County EMS Protocols by Theron Becker is licensed under a Creative Commons Attribution-ShareAlike 4.0 International License. |
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# Equipment 8-432 - Intravascular (IV) Needle

**CMH EMS & MIH Protocols**

## Scope of Practice:

- Advanced Emergency Medical Technician
- Registered Nurse
- Paramedic

## Indications:

- Any patient requiring IV medications.

## Contraindications:

- None.

## Precautions:

- Avoid venipuncuture in arms with dialysis shunts or distal to injuries.

## Procedure:

- Inform patient of procedure.
- Apply Tourniquet.
- Select and clean site. Preferred needle size is 18 to 20. Preferred site is left AC or (secondary) right AC. The following patients should have at least an 18 ga at the AC level or more proximal:
  - Calf pain, tenderness, or swelling,
  - Chest pain,
  - Hypotension,
  - Shortness of breath,
  - Syncope,
  - Tachycardia, or
  - Tachypnea.
- Stabilize vein.
- Pass needle into vein with bevel up, noting blood "flash."
- Advance needle 2 mm more.
- Slide catheter over needle into vein.
- Remove needle.
- Hold pressure over distal tip of catheter to prevent blood loss.

- Perform Blood Draw if indicated.
- Remove Tourniquet.
- Flush with NS to ensure placement. Use pigtail extension.
- Secure with dressing.

## Change Log:

| Date | Link to previous version | Description of change |
|---|---|---|
| 02/03/16 | pdf | Added comments for preferred size (18-20), preferred site (left or right AC), and to use a pigtail extension. |
| 06/23/16 | pdf | Clarified which patients should have at least an 18 ga at or above the AC according to an email from Dr. Merk. |
| 07/04/20 | | Renumbered the section to allow for future additions. |
| 08/07/20 | pdf | Added content (without substantive modification) from old Section 8-140 - Intravascular (IV) Needle. |
| 06/11/21 | pdf | Moved to emsprotocols.online |
| 03/17/23 | | Changed link for NS. |

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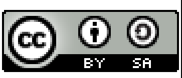


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# Equipment 8-450 - IV Pump

**CMH EMS & MIH Protocols**

## Scope of Practice:

- Registered Nurse
- Paramedic

## Indications:

- Patient requiring drip medications.

## Contraindications:

- None.

## Precautions:

- None.

## Procedure:

- Cassette priming and loading:
  - Make sure flow regulator is closed (white screw pushed in).
  - Insert piercing pin with a twisting motion into medication.
  - Fill drip chamber.
  - Invert cassette.
  - Turn flow regulator counterclockwise until a drop of fluid is seen in pumping chamber.
  - Turn cassette upright and prime remainder of administration set.
  - Push flow regulator closed.
  - Make sure proximal clamp (above cassette) is open.
  - Open cassette door and insert cassette.
  - Close door.
- Infusion:
  - Turn knob to "SET RATE."
  - Use up, down, and/or "QUICKSET" buttons to select infusion rate.
  - Turn knob to "SET VTBI."
  - Use up, down, and/or "QUICKSET" buttons to select volume to be infused.
  - Turn knob to "RUN."

## Change Log:

| Date | Link to previous version | Description of change |
|---|---|---|
| 12/29/14 | pdf | Added this protocol from 8-300 (Plum Pump) and removed 8-300. |
| 07/04/20 | | Renumbered the section to allow for future additions. |
| 08/07/20 | pdf | Added content (without substantive modification) from old Section 8-142 - IV Pump. |
| 06/11/21 | pdf | Moved to emsprotocols.online |

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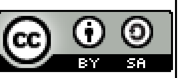
|  | Polk, Hickory, Cedar, & St Clair County EMS Protocols by Theron Becker is licensed under a Creative Commons Attribution-ShareAlike 4.0 International License. |
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# Equipment 8-468 - Kendrick Extrication Device (KED)

**CMH EMS & MIH Protocols**

## Scope of Practice:

- Emergency Medical Responder
- Emergency Medical Technician
- Advanced Emergency Medical Technician
- Registered Nurse
- Paramedic

## Indications:

- Protocol 2-836 - Spinal Immobilization Clearance.
- Equipment 8-792 - General Splint.

## Contraindications:

- Patients with easy access requiring rapid extrication.

## Precautions:

- None.

## Procedure:

- Maintain c-spine.
- Assess distal pulses, motor function, and sensation.
- Apply C-collar.
- Position device behind patient.
- Pull device up until it fits snugly in armpits.
- Apply chest straps and tighten. Avoid restricting breathing.
- Apply leg straps and tighten. Avoid pinching or injuring genitals.
- Apply padding behind head.
- Secure head to device.
- Remove patient from entrapment (if applicable) and lay down on Backboard.
- Release leg straps and secure patient and device to Backboard.
- KED chest straps may be loosened for comfort.
- Reassess distal pulses, motor function, and sensation.

## Change Log:

| Date | Link to previous version | Description of change |
|---|---|---|
| 12/15/13 | pdf | Added EMT scope of practice statement. |
| 07/04/20 | | Renumbered the section to allow for future additions. |
| 08/07/20 | pdf | Added content (without substantive modification) from old Section 8-150 - Kendrick Extrication Device (KED). |
| 06/15/21 | pdf | Moved to emsprotocols.online |

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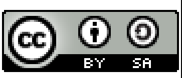


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# Equipment 8-486 - King Airway

**CMH EMS & MIH Protocols**

## Scope of Practice:

- Emergency Medical Technician
- Advanced Emergency Medical Technician
- Registered Nurse
- Paramedic

## Indications:

- Protocol 2-044 - Airway: RSI.
- Protocol 2-198 - Cardiac Arrest.
- Equipment 8-288 - Endotracheal Tube (ET).

## Contraindications:

- Airway burns.
- Responsive patient with intact gag reflex.
- Known esophageal disease.
- Caustic substance ingestion.

## Precautions:

- None.

## Procedure:

- Choose size (see table below).
- Test cuff inflation by injecting maximum recommended volume of air into cuffs. Remove all air from cuffs.
- Apply lubricant to beveled distal tip and posterior aspect of tube.
- Pre-Oxygenate.
- Position Head in "sniffing position" or neutral position.
- Hold King in dominant hand. Hold open mouth and lift chin with non-dominant hand.
- Rotate King 45-90 degrees to touch the corner of the mouth with the blue orientation line.
- Advance King behind base of tongue. Never force into position.
- As tip passes under tongue, rotate back to midline (blue orientation line faces chin).
- Advance King until base of connector aligns with teeth or gums.
- Inflate cuffs with minimum volume necessary to seal the Airway at peak ventilatory pressure.
- Attach resuscitation bag. While bagging, withdraw King until ventilation is easy and free flowing.
- Confirm proper position by auscultation, Chest movement, and ETCO2.
- Secure King with tape or other device.
- Advanced Life Support:
  - Continued sedation: Consider Versed 2.5-5 mg every 5 min and/or Fentanyl 50-100 mcg (max 300 mcg).
  - **MANDATORY AFTER INSERTION TO CONFIRM PLACEMENT**:
    - Place up to 18 fr Gastric Tube into the drain tube of the King and advance into the stomach. The gastric tube should be well lubricated and passed slowly and carefully. Suction should not be performed until the gastric tube has reached the stomach.

## Sizing Table:

| Size | Connector color | Patient criteria | Cuff volume |
|---|---|---|---|
| 2 | Green | 35-45 inches,<br>2.9-3.8 feet,<br>12-25 kg | 25-35 ml |
| 2.5 | Orange | 41-51 inches,<br>3.8-4.3 feet,<br>25-35 kg | 30-40 ml |
| 3 | Yellow | 4-5 feet | 40-60 ml |
| 4 | Red | 5-6 feet | 50-80 ml |
| 5 | Purple | Greater than 6 feet | 60-90 ml |

# Change Log:

| Date | Link to previous version | Description of change |
|---|---|---|
| 12/15/13 | pdf | Added EMT scope of practice statement. |
| 12/15/13 | pdf | Added EMT scope of practice statement. |
| 05/05/15 | pdf | Added mandatory statement for inserting gastric tube for confirmation. |
| 08/24/17 | pdf | Added contraindication for airway burns. |
| 07/04/20 | | Renumbered the section to allow for future additions. |
| 08/07/20 | pdf | Added content (without substantive modification) from old Section 8-160 - King LTSD Airway. |
| 06/15/21 | pdf | Moved to emsprotocols.online |
| 12/01/21 | | Updated link to Versed. |
| 03/20/23 | | Changed link for Fent. |

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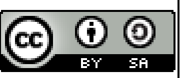
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# Equipment 8-504 - Lactate Meter

**CMH EMS & MIH Protocols**

## Scope of Practice:

- Emergency Medical Responder
- Emergency Medical Technician
- Advanced Emergency Medical Technician
- Registered Nurse
- Paramedic

## Indications:

- ?

## Contraindications:

- ?

## Precautions:

- ?

## Procedure:

- ?

## Change Log:

| Date | Link to previous version | Description of change |
|---|---|---|
| 07/04/20 | | Created this section for future content. |
| 06/15/21 | pdf | Moved to emsprotocols.online |

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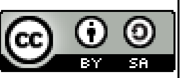
|  | Polk, Hickory, Cedar, & St Clair County EMS Protocols by Theron Becker is licensed under a Creative Commons Attribution-ShareAlike 4.0 International License. |
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# Equipment 8-522 - Laryngeal Mask Airway (LMA)

**CMH EMS & MIH Protocols**

## Scope of Practice:

- Advanced Emergency Medical Technician
- Registered Nurse
- Paramedic

## Indications:

- Protocol 2-044 - Airway: RSI.
- Protocol 2-198 - Cardiac Arrest.
- Equipment 8-288 - Endotracheal Tube (ET).

## Contraindications:

- Swallow or gag reflex.

## Precautions:

- None.

## Procedure:

- Examine LMA for damage, leaks, and blockages.
- Inflate cuff with 150% that listed. Fully deflate by compressing the distal tip of the mask with thumb and index finger. Apply slight tension to the inflation line while removing all air until a vacuum is felt. Disconnect the syringe.
- Generously lubricate posterior surface of cuff and airway tube.
- Place the patient’s head in a neutral or slight "sniffing" position. Hold the LMA at the proximal end with the connector pointing downward to the chest and the tip of the distal end pointing toward the palate.
- Press the tip of the mask against the hard palate. Maintaining pressure against the palate, continue to rotate the mask inwards in a circular motion following the curvature of the hard and soft palate.
- Continue until resistance is felt. The distal end of the mask should now be in contact with the upper esophageal sphincter. The device is now fully inserted.

- Maintaining inward pressure, secure the mask into position by taping cheek to cheek across the fixation tab. This should be done prior to inflation. Inflate with the minimum amount of air needed to achieve an effective seal.
- **Advanced Life Support**:
  - Continued sedation:
    - Consider Versed 2.5-5 mg every 5 min. Repeat as needed maintaining SBP greater than 100.
    - Consider Fentanyl 50-100 mcg. Max 300 mcg.
  - MANDATORY AFTER INSERTION TO CONFIRM PLACEMENT:
    - Place Gastric Tube into the drain tube of the LMA and advance into the stomach. The gastric tube should be well lubricated and passed slowly and carefully. Suction should not be performed until the gastric tube has reached the stomach.

## Sizing Table:

| Mask size | Patient size | Max cuff inflation volume | Largest gastric tube size |
|---|---|---|---|
| 1 | Neonates/infants up to 5 kg | 5 ml | 6 Fr |
| 1.5 | Infants 5 - 10 kg | 8 ml | 6 Fr |
| 2 | Infants 10 - 20 kg | 12 ml | 10 Fr |
| 2.5 | Children 20 - 30 kg | 20 ml | 10 Fr |
| 3 | Children 30 - 50 kg | 30 ml | 14 Fr |
| 4 | Adults 50 - 70 kg | 45 ml | 14 Fr |
| 5 | Adults 70 - 100 kg | 45 ml | 14 Fr |

# Change Log:

| Date | Link to previous version | Description of change |
|---|---|---|
| 12/15/13 | pdf | Added EMT scope of practice statement. |
| 05/05/15 | pdf | Updated this protocol from basic LMA to LMA supreme with specific procedure from manufacturer and included mandatory statement for gastric tube similar to King airway. |
| 06/01/15 | | Added indications in Protocol 6-025 - Cardiopulmonary Resuscitation (CPR), Protocol 6-110 - Rapid/Delayed Sequence Intubation (RSI), and Section 8-080 - Endotracheal Tube (ET). |
| 07/04/20 | | Renumbered the section to allow for future additions. |
| 08/07/20 | pdf | Added content (without substantive modification) from old Section 8-170 - Laryngeal Mask Airway (LMA). |
| 06/15/21 | pdf | Moved to emsprotocols.online |
| 12/01/21 | | Updated link to Versed. |
| 03/20/23 | | Changed link for Fent. |

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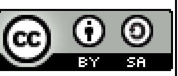
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# Equipment 8-540 - Laryngoscope

**CMH EMS & MIH Protocols**

## Scope of Practice:

- Registered Nurse
- Paramedic

## Indications:

- ?

## Contraindications:

- ?

## Precautions:

- ?

## Procedure:

- ?

## Change Log:

| Date | Link to previous version | Description of change |
|---|---|---|
| 07/04/20 | pdf | Renumbered the section to allow for future additions. |
| 06/15/21 | pdf | Moved to emsprotocols.online |

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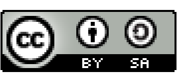
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# Equipment 8-558 - Meconium Aspirator

**CMH EMS & MIH Protocols**

## Scope of Practice:

- Registered Nurse
- Paramedic

## Indications:

- ?

## Contraindications:

- ?

## Precautions:

- ?

## Procedure:

- ?

## Change Log:

| Date | Link to previous version | Description of change |
|---|---|---|
| 07/04/20 | | Renumbered the section to allow for future additions. |
| 06/15/21 | pdf | Moved to emsprotocols.online |

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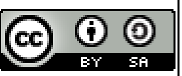


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# Equipment 8-576 - Morgan Lens

**CMH EMS & MIH Protocols**

## Scope of Practice:

- Registered Nurse
- Paramedic

## Indications:

- Protocol 2-418 - Eye Trauma.

## Contraindications:

- Penetrating eye injury.

## Precautions:

- None.

## Procedure:

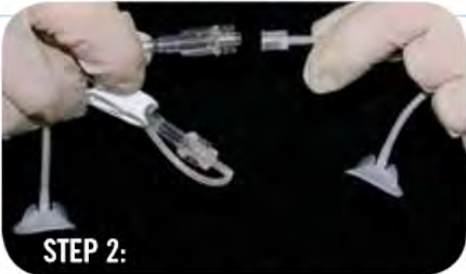
- Pain: Consider topical anesthetic (Tetracaine 1-2 drops)
- Attach LR to IV set.
- Begin flow.
- Have patient look down. Insert lens under upper lid.
- Have patient look up, retract lower lid. Drop lens into place.
- Deliver at least 500 ml per eye.
- If chemical is unknown or an alkali (base), flush for at least 20 min.
- To remove, have patient look up, retract lower lid, and slide lens out.

# Morgan Lens Instructional Chart

Instructions for using the Morgan Lens for continuous medication or lavage to the cornea and conjunctiva.

STEP 1:

**INSERTION**
Instill topical ocular anesthetic, if available.



STEP 2:

Attach a Morgan Lens Delivery Set (or a syringe or an I.V. set-up) using solution and rate of choice*; **START FLOW**.

STEP 3:

Have patient look down, insert Morgan Lens under upper lid. Have patient look up, retract lower lid, drop lens in place.

STEP 4:

Release the lower lid over Morgan Lens; adjust flow. Tape tubing to patient's forehead to prevent accidental lens removal. Absorb outflow with the Medi-Duct (for best results, tape to head as shown). **DO NOT RUN DRY.**

STEP 5:

**REMOVAL**
**CONTINUE FLOW.**
Have patient look up, retract lower lid—hold position.

STEP 6:

Slide Morgan Lens out.
**TERMINATE FLOW.**

# Change Log:

| Date | Link to previous version | Description of change |
|---|---|---|
| 11/11/13 | pdf | Changed to BLS and added ALS section for Tetracaine. |
| 12/15/13 | | Changed back to ALS skill. |
| 08/24/18 | pdf | Changed fluid from NS to LR. |
| 07/04/20 | | Renumbered the section to allow for future additions. |
| 08/07/20 | pdf | Added content (without substantive modification) from old Section 8-210 - Morgan Lens. |
| 06/15/21 | pdf | Moved to emsprotocols.online |
| 02/28/22 | | Updated link for Tetracaine. |
| 03/19/23 | | Changed link for LR. |

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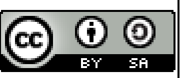

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# Equipment 8-594 - Naso-Pharyngeal Airway (NPA)

**CMH EMS & MIH Protocols**

## Scope of Practice:

- Emergency Medical Technician
- Advanced Emergency Medical Technician
- Registered Nurse
- Paramedic

## Indications:

- Patients unable to control their airway.

## Contraindications:

- None.

## Precautions:

- None.

## Procedure:

- Pre-Oxygenate, if possible.
- Measure tube from tip of nose to the earlobe.
- Lube airway with water-soluble jelly.
- Insert tube (right nare first) with bevel towards the septum.
- Reassess airway.

# Change Log:

| Date | Link to previous version | Description of change |
|---|---|---|
| 12/15/13 | pdf | Added EMT scope of practice statement. |
| 01/05/14 | pdf | Removed Unconscious or unresponsive from indications. |
| 07/04/20 | | Renumbered the section to allow for future additions. |
| 08/07/20 | pdf | Added content (without substantive modification) from old Section 8-230 - Naso-Pharyngeal Airway (NPA). |
| 06/15/21 | pdf | Moved to emsprotocols.online |

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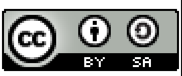

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# Equipment 8-612 - Nebulizer

### CMH EMS & MIH Protocols

## Scope of Practice:

- Advanced Emergency Medical Technician
- Registered Nurse
- Paramedic

## Indications:

- Protocol 2-066 - Allergic Reaction.
- Protocol 2-726 - Pulmonary Edema.
- Protocol 2-770 - Respiratory Distress.
- Medication 7-055 - Albuterol (Proventil, Ventolin).
- Medication 7-296 - Duoneb (Ipratropium and Albuterol, Combivent).
- Medication 7-340 - Epinephrine Racemic (Micronefrin).
- Medication 7-965 - Xopenex (Levalbuterol).

## Contraindications:

- None.

## Precautions:

- None.

## Procedure:

- Select correct medication.
- Confirm orders, dosage, and expiration.
- Check patient allergies.
- Add medication to reservoir of Nebulized. Add Saline if necessary to equal 3 ml total volume.
- Connect Oxygen tubing and set flow rate to 6-8 lpm.
- Have patient take deep breaths, holding for a second, and exhale through tube.
- If patient is unable to hold nebulizer, attach to mask.
- Medication is delivered in 5-10 min.
- Observe patient for effects.

## Change Log:

| Date | Link to previous version | Description of change |
|---|---|---|
| 08/24/17 | pdf | Removed indications to Decadron and Ipratropium. |
| 07/04/20 | | Renumbered the section to allow for future additions. |
| 08/07/20 | pdf | Added content (without substantive modification) from old Section 8-240 - Nebulizer. |
| 06/15/21 | pdf | Moved to emsprotocols.online |
| 11/30/21 | | Updated link to Albuterol. |
| 12/01/21 | | Updated link to Xopenex. |
| 03/17/23 | | Changed link for NS. |
| 03/20/23 | | Changed link to Racemic. |
| 03/20/23 | | Changed link for Duoneb. |

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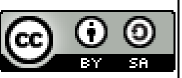


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# Equipment 8-630 - Oro-Pharyngeal Airway (OPA)

**CMH EMS & MIH Protocols**

## Scope of Practice:

- Emergency Medical Responder
- Emergency Medical Technician
- Advanced Emergency Medical Technician
- Registered Nurse
- Paramedic

## Indications:

- Unconscious or unresponsive.

## Contraindications:

- Gag reflex.

## Precautions:

- None.

## Procedure:

- Pre-Oxygenate, if possible.
- Measure airway from corner of mouth to earlobe.
- Grasp tongue and jaw, lifting anterior.
- Insert airway inverted and rotate 180 degrees into place.
- Reassess airway.

## Change Log:

| Date | Link to previous version | Description of change |
|---|---|---|
| 12/15/13 | pdf | Added EMT scope of practice statement. |
| 07/04/20 | | Renumbered the section to allow for future additions. |
| 08/07/20 | pdf | Added content (without substantive modification) from old Section 8-260 - Oro-Pharyngeal Airway (OPA). |
| 06/15/21 | pdf | Moved to emsprotocols.online |

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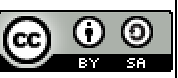
|  | Polk, Hickory, Cedar, & St Clair County EMS Protocols by Theron Becker is licensed under a Creative Commons Attribution-ShareAlike 4.0 International License. |
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# Equipment 8-648 - Pelvic Binder

**CMH EMS & MIH Protocols**

## Scope of Practice:

- Emergency Medical Responder
- Emergency Medical Technician
- Advanced Emergency Medical Technician
- Registered Nurse
- Paramedic

## Indications:

- ?

## Contraindications:

- ?

## Precautions:

- ?

## Procedure:

- ?

## Change Log:

| Date | Link to previous version | Description of change |
|---|---|---|
| 07/04/20 | | Created this section for future content. |
| 06/15/21 | pdf | Moved to emsprotocols.online |

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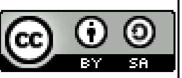

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# Equipment 8-666 - Physical Restraint

**CMH EMS & MIH Protocols**

## Scope of Practice:

- Registered Nurse
- Paramedic

## Indications:

- Protocol 2-110 - Behavioral.

## Contraindications:

- None.

## Precautions:

- If restrained by law enforcement (i.e. hand-cuffs), an officer from the arresting agency must be physically present with the patient throughout EMS transport.

## Procedure:

MEDICAL CONTROL must be contacted prior to or immediately following patient restraint.

- Maintain scene, crew, and personal safety.
- Attempt verbal de-escalation.
- Utilize family and friends to calm patient if they are helpful.
- Utilize law enforcement presence to calm patient.
- Managing the patient’s Pain may assist in calming patient.
- Utilize the least restrictive device that achieves desired result.
- Monitor patient for physical response, extremity circulation, respiratory compromise, and aspiration risk.
- Proper body alignment and patient comfort must be addressed.

## Change Log:

| Date | Link to previous version | Description of change |
|---|---|---|
| 07/04/20 | | Renumbered the section to allow for future additions. |
| 08/07/20 | pdf | Added content (without substantive modification) from old Section 8-290 - Physical Restraint. |
| 06/15/21 | pdf | Moved to emsprotocols.online |

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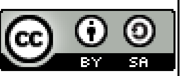
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# Equipment 8-684 - PICC and Central Line Access Kit

**CMH EMS & MIH Protocols**

## Scope of Practice:

- Registered Nurse
- Paramedic

## Indications:

- Express request by the patient to utilize established access instead of starting an IV.
- Any patient who needs IV access, two attempts at IV access have failed, IO contraindicated or conscious patient, and at least one of the following:
  - ALOC or GCS less than 8,
  - Hemodynamic instability,
  - Extreme respiratory compromise, OR
  - Full Arrest.

## Contraindications:

- Inability to obtain/maintain sterile field.

## Precautions:

- Sterile technique must be utilized.

## Procedure:

- Cleanse the needless infusion cap. May use any catheter present.
- Aseptically attach flush.
- Open clamp on catheter lumen.
- Aspirate fluid from catheter slowly until blood return. If unable to aspirate blood, catheter is clotted and will need to be declotted in a hospital setting.
- Flush with NS/LR. Use at least a 10 ml syringe using a push-pause method. Remove flush while maintain pressure on syringe plunger.
- Attach appropriate IV fluids.

## Change Log:

| Date | Link to previous version | Description of change |
|---|---|---|
| 04/05/18 | pdf | Per CMH Vascular Access Team, added comment to use at least a 10 ml syringe and use a push-pull method. |
| 11/27/19 | pdf | Added comment that PICC could be accessed prior to IV attempts at the request of the patient. |
| 07/04/20 | | Renumbered the section to allow for future additions. |
| 08/07/20 | pdf | Added content (without substantive modification) from old Section 8-295 - PICCCentral Line Access Kit. |
| 06/15/21 | pdf | Moved to emsprotocols.online |
| 03/17/23 | | Changed link to NS. |
| 03/19/23 | | Changed link for LR. |

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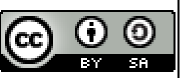

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## Change Log:

| Date | Link to previous version | Description of change |
|---|---|---|
| 04/05/18 | pdf | Per CMH Vascular Access Team, added comment to use at least a 10 ml syringe and use a push-pull method. |
| 11/27/19 | pdf | Added comment that PICC could be accessed prior to IV attempts at the request of the patient. |
| 07/04/20 | | Renumbered the section to allow for future additions. |
| 08/07/20 | pdf | Added content (without substantive modification) from old Section 8-295 - PICCCentral Line Access Kit. |
| 06/15/21 | pdf | Moved to emsprotocols.online |
| 03/17/23 | | Changed link to NS. |
| 03/19/23 | | Changed link for LR. |

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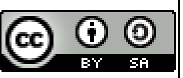

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# Equipment 8-702 - Port Access Kit

**CMH EMS & MIH Protocols**

## Scope of Practice:

- Registered Nurse
- Paramedic

## Indications:

- Express request by the patient to utilize established access instead of starting an IV.
- Any patient who needs IV access, two attempts at IV access have failed, IO contraindicated or conscious patient, and at least one of the following:
  - ALOC or GCS less than 8,
  - Hemodynamic instability,
  - Extreme respiratory compromise, OR
  - Full Arrest.

## Contraindications:

- Inability to obtain/maintain sterile field.

## Precautions:

- Sterile technique must be utilized.

## Procedure:

- Gather equipment and don mask.
- Palpate subcutaneous tissue to determine borders of the access device. Palpate the implanted infusion port borders and locate the septum and center of the septum. Determine if the patient has a single or double lumen implanted infusion port. Choose the smallest gauge non-coring needle that accommodates the therapy. Select a length that allows the length of the needle to sit flush to the skin and securely within the port.
- Assess the site for symptoms of infection.
- Open the implanted infusion port access kit using the sterile inner surface to create sterile field.
- Using sterile technique, remove wrapper from 10 ml syringe and place on sterile field. Remove packaging and place the needle with extension tubing, needleless injection cap, adhesive skin closures, and dressing on sterile field.
- Using sterile technique, prime tubing with NS syringe. Attach needleless injection cap to extension to needle.

- Cleanse insertion site with antiseptic for 30 seconds and allow to air dry.
- Stabilize borders of implanted port and insert needle firmly into center of port septum using 90 degree angle perpendicular to the skin. Advance needle until reaching base of portal reservoir.
- Aspirate blood and then flush with NS/LR. Use at least a 10 ml syringe using a push-pause method.
- Stabilize needle with dressing, occlusive dressing, and/or tape. Document date, time, and your initials on external dressing.

# Change Log:

| Date | Link to previous version | Description of change |
|---|---|---|
| 04/05/18 | pdf | Per CMH Vascular Access Team, added comment to use at least a 10 ml syringe and use a push-pull method. |
| 11/27/19 | pdf | Added comment that port could be accessed prior to IV attempts at the request of the patient. |
| 07/04/20 | | Renumbered the section to allow for future additions. |
| 08/08/20 | pdf | Added content (without substantive modification) from old Section 8-320 - Port Access Kit. |
| 06/15/21 | pdf | Moved to emsprotocols.online |
| 03/17/23 | | Changed link to NS. |
| 03/19/23 | | Changed link for LR. |

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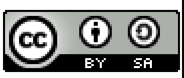
|  | Polk, Hickory, Cedar, & St Clair County EMS Protocols by Theron Becker is licensed under a Creative Commons Attribution-ShareAlike 4.0 International License. |
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# Equipment 8-720 - Radio

**CMH EMS & MIH Protocols**

## Scope of Practice:

- Emergency Medical Responder
- Emergency Medical Technician
- Advanced Emergency Medical Technician
- Registered Nurse
- Paramedic

## Indications:

- ?

## Contraindications:

- ?

## Precautions:

- ?

## Procedure:

- ?

## Change Log:

| Date | Link to previous version | Description of change |
|---|---|---|
| 07/04/20 | | Created this section for future content. |
| 06/15/21 | pdf | Moved to emsprotocols.online |

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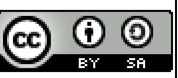
|  | Polk, Hickory, Cedar, & St Clair County EMS Protocols by Theron Becker is licensed under a Creative Commons Attribution-ShareAlike 4.0 International License. |
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# Equipment 8-738 - Respirator

**CMH EMS & MIH Protocols**

## Scope of Practice:

- Emergency Medical Responder
- Emergency Medical Technician
- Advanced Emergency Medical Technician
- Registered Nurse
- Paramedic

## Indications:

- ?

## Contraindications:

- ?

## Precautions:

- ?

## Procedure:

- ?

## Change Log:

| Date | Link to previous version | Description of change |
|---|---|---|
| 07/04/20 | | Created this section for future content. |
| 06/15/21 | pdf | Moved to emsprotocols.online |

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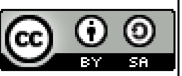

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# Equipment 8-756 - Splint Backboard

**CMH EMS & MIH Protocols**

## Scope of Practice:

- Emergency Medical Responder
- Emergency Medical Technician
- Advanced Emergency Medical Technician
- Registered Nurse
- Paramedic

## Indications:

- Protocol 2-836 - Spinal Immobilization Clearance.

## Contraindications:

- Protocol 2-836 - Spinal Immobilization Clearance.

## Precautions:

- Appropriate amount of padding is needed to provide correct stabilization.
- Unless it is necessary to change a patient's position to maintain an open airway or there is some other compelling reason, it is best to splint the neck and back in the original position of the deformity.

## Procedure:

- Assess distal pulse, motor, and sensation.
- Maintain manual stabilization, measure, size, and secure cervical collar.
- Seated patient: Consider KED.
- If no posterior injuries suspected: Eight-person lift a few inches and slide board underneath or use scoop stretcher.
    - OR Log-roll patient onto his/her side. Assess posterior and position backboard.
- Secure thorax and legs to backboard. Pad. Ensure breathing is not restricted.
- Secure head and C-collar to backboard. Pad as needed. Tape should stick to all areas of forehead, eyebrows, collar, etc.
- Reassess distal pulse, motor, and sensation.

## Change Log:

| Date | Link to previous version | Description of change |
|---|---|---|
| 10/15/18 | pdf | Fixed issues with page numbers in indications section. |
| 07/04/20 | | Renumbered the section to allow for future additions. |
| 08/08/20 | pdf | Added content (without substantive modification) from old Section 8-350 - Spinal Motion Restriction (SMR). |
| 06/15/21 | pdf | Moved to emsprotocols.online |

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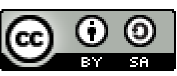

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# Equipment 8-774 - Splint C-Collar

**CMH EMS & MIH Protocols**

## Scope of Practice:

- Emergency Medical Responder
- Emergency Medical Technician
- Advanced Emergency Medical Technician
- Registered Nurse
- Paramedic

## Indications:

- Protocol 2-836 - Spinal Immobilization Clearance.

## Contraindications:

- Protocol 2-836 - Spinal Immobilization Clearance.

## Precautions:

- If used, C-collar **MUST** be properly sized.
- Unless it is necessary to change a patient's position to maintain an open airway or there is some other compelling reason, it is best to splint the neck and back in the original position of the deformity.

## Procedure:

- Assess distal pulse, motor, and sensation.
- Maintain manual stabilization, measure, size, and secure cervical collar.
- Reassess distal pulse, motor, and sensation.

## Change Log:

| Date | Link to previous version | Description of change |
|---|---|---|
| 09/22/17 | pdf | Added comment that alert patients should not have manual cervical stabilization. Added contraindication to c-collar for penetrating neck injuries. |
| 07/04/20 | | Renumbered the section to allow for future additions. |
| 08/08/20 | pdf | Added content (without substantive modification) from old Section 8-350 - Spinal Motion Restriction (SMR). |
| 06/15/21 | pdf | Moved to emsprotocols.online |

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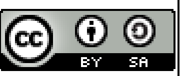
|  | Polk, Hickory, Cedar, & St Clair County EMS Protocols by Theron Becker is licensed under a Creative Commons Attribution-ShareAlike 4.0 International License. |
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# Equipment 8-792 - Splint General

**CMH EMS & MIH Protocols**

## Scope of Practice:

- Emergency Medical Responder
- Emergency Medical Technician
- Advanced Emergency Medical Technician
- Registered Nurse
- Paramedic

## Indications:

- Protocol 2-132 - Bites and Envenomations.
- Protocol 2-396 - Extremity Trauma.
- Protocol 2-660 - Pain Control.
- Protocol 2-924 - Universal Patient Care.

## Contraindications:

- None.

## Precautions:

- May be time consuming, should not take priority over life threatening conditions.
- Bone fracture splints should immobilize joints above and below. Joint fractures should immobilize bones above and below.

## General Procedure:

- Following splints are recommended for the following situations. Every situation is different, so splints may have to be improvised to achieve the desired effect of immobilization:
  - Clavicle: Sling and swath.
  - Radius/ulna: Ladder, board, or SAM.
  - Tibia/fibula: Ladder, board, or SAM.
  - Ankle: Pillow.
  - Joints: In position found.
  - Pelvis: Scoop, pillow, inverted KED, LSB, MAST.
  - Hand: In position of function.
- Assess distal pulse, motor, and senses before and after splinting.

## Evac-U-Splint Procedure:

- Preparation:
    - Lay mattress on flat surface near patient. Head and Shoulder logo indicates the Head end.
    - Remove valve cap. Release vacuum by pushing red valve stem. Keep valve pushed in until mattress is pliable.
    - Disconnect strap from patient side of mattress and position top strap at level of armpit.
    - Smooth out beads to form level surface.
    - Connect pump to mattress at either foot or head end. Foot end is preferred. Pediatric mattress only has valve on foot end.
- Application:
    - Assess patient’s respiratory and neurovascular status.
    - Log roll patient onto mattress with manual c-spine control.
    - Secure patient using straps. Remove excess strap slack working head to feet.
    - Repeat strap tightening if needed working head to feet.
    - Shape mattress and fill voids.
    - Evacuate air from mattress. Pump may require up to 35 strokes to achieve rigid immobilization.
    - Disconnect pump. Replace cap on valve.
    - Secure head using adhesive tape.
    - Assess patient’s respiratory and neurovascular status.

## Change Log:

| Date | Link to previous version | Description of change |
|---|---|---|
| 12/15/13 | pdf | Added EMT scope of practice statement. |
| 07/04/20 | | Renumbered the section to allow for future additions. |
| 08/08/20 | pdf | Added content (without substantive modification) from old Section 8-360 - Splint. |
| 06/15/21 | pdf | Moved to emsprotocols.online |

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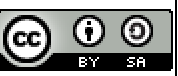

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# Equipment 8-810 - Splint Traction

**CMH EMS & MIH Protocols**

## Scope of Practice:

- Emergency Medical Technician
- Advanced Emergency Medical Technician
- Registered Nurse
- Paramedic

## Indications:

- Protocol 2-396 - Extremity Trauma.

## Contraindications:

- Proximal femur fracture.
- Pelvic fracture.
- Tibia/fibula fracture.

## Precautions:

- In the case of open fracture with obvious contamination, loose debris should be brushed away and flushed with Saline prior to reduction.

## Procedure:

- Assess distal pulse, motor, and sensation. If pulses are absent, apply manual, inline Traction. Pulseoximetry can help with distal pulse monitoring.
  Consider MEDICAL CONTROL for angulated or pulseless fractures.
- Stabilize limb manually.
- **Advanced Life Support**: Consider sedation or analgesia prior to moving extremity.
- In general, if distal pulses and sensation are present, field reduction should not be attempted.
- Reassess distal pulse, motor, and sensation.
- Patient destination should be a trauma center.
- In the event of bilateral femur fractures, consider MAST pants.

## Change Log:

| Date | Link to previous version | Description of change |
|---|---|---|
| 12/15/13 | pdf | Added EMT scope of practice statement. |
| 12/29/14 | pdf | Added info from 8-340 (Sager Splint) and removed 8-340. |
| 07/04/20 | | Renumbered the section to allow for future additions. |
| 08/08/20 | pdf | Added content (without substantive modification) from old Section 8-400 - Traction Splint. |
| 06/15/21 | pdf | Moved to emsprotocols.online |
| 03/17/23 | | Changed link for saline. |

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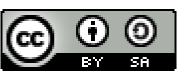
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# Equipment 8-828 - Stair Chair

### CMH EMS & MIH Protocols

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## Scope of Practice:

- Emergency Medical Responder
- Emergency Medical Technician
- Advanced Emergency Medical Technician
- Registered Nurse
- Paramedic

## Indications:

- ?

## Contraindications:

- ?

## Precautions:

- ?

## Procedure:

- ?

# Change Log:

| Date | Link to previous version | Description of change |
|---|---|---|
| 07/04/20 | pdf | Renumbered the section to allow for future additions. |
| 06/15/21 | pdf | Moved to emsprotocols.online |

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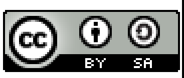

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# Equipment 8-846 - Suction

**CMH EMS & MIH Protocols**

## Scope of Practice:

- Emergency Medical Responder
- Emergency Medical Technician
- Advanced Emergency Medical Technician
- Registered Nurse
- Paramedic

## Indications:

- Any patient with liquid airway obstruction.

## Contraindications:

- None.

## Precautions:

- Avoid or use caution in patients with a gag reflex.
- Be sure to switch off as soon as possible to avoid draining batteries.

## Procedure:

- EMR and EMT: Only suction the upper airway.
- AEMT: Only suction the upper airway, unless the patient is already intubated, then tracheobronchial suctioning is permitted.
- Place two fully charged batteries.
- Attach patient connecting tube to patient port on the canister.
- Turn switch on.
- Occlude end of patient connecting tube and keep it occluded for 10sec. Release occlusion and check for negative pressure. If no negative pressure, check to ensure canister lid is tight and connections are secure.
- Dispose of canister after use.

## Change Log:

| Date | Link to previous version | Description of change |
|---|---|---|
| 12/15/13 | pdf | Added EMT scope of practice statement. |
| 12/29/14 | pdf | Removed S-Scort from the name of this protocol. |
| 07/04/20 | | Renumbered the section to allow for future additions. |
| 08/08/20 | pdf | Added content (without substantive modification) from old Section 8-370 - Suction. |
| 06/15/21 | pdf | Moved to emsprotocols.online |

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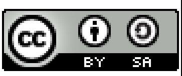
|  | Polk, Hickory, Cedar, & St Clair County EMS Protocols by Theron Becker is licensed under a Creative Commons Attribution-ShareAlike 4.0 International License. |
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# Equipment 8-864 - Thermometer

**CMH EMS & MIH Protocols**

## Scope of Practice:

- Emergency Medical Responder
- Emergency Medical Technician
- Advanced Emergency Medical Technician
- Registered Nurse
- Paramedic

## Indications:

- Protocol 2-924 - Universal Patient Care.

## Contraindications:

- None.

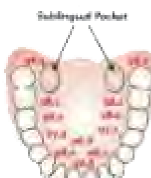
## Precautions:

- Prehospital thermometers should only be used to measure a patient's temperature in the oral, axillary, or rectal body sites unless specifically designed for other locations by the manufacturer.
- Do not take a patient's temperature without using a Welch Allyn disposable probe cover. Doing so can cause patient discomfort, patient cross contamination, and erroneous temperature readings.

## Oral Temperature Procedure:

- Using Probe with Blue Ejection Button and Blue Probe Well.
- When used correctly, the SureTemp Plus thermometer accurately measures an oral temperature in approximately 4–6 seconds. The ability of the SureTemp Plus thermometer to take an accurate oral temperature requires correct user technique.
- Holding the probe handle with your thumb and two fingers on the indentations of the probe handle, withdraw the probe from the probe well.
- Verify that the oral model icon is selected by observing the flashing head icon on the instrument's display. If this icon is not flashing, press the Mode Selection button until the head icon appears.

- Load a probe cover by inserting the probe into a probe cover and pressing the probe handle down firmly. The probe handle will move slightly to engage the probe cover. Use only Welch Allyn probe covers. The use of other manufacturer's probe covers or no probe cover may produce temperature measurement errors and/or inaccuracy.
- With the Oral Mode indicator flashing, quickly place the probe tip under the patient's tongue on either side of the mouth to reach the rear sublingual pocket. Have the patient close his/her lips around the probe. Hold the probe in place, keeping the tip of the probe in contact with the oral tissue throughout the measurement process. Rotating "walking" segments appear on the display, indicating that measurement is in progress.



- The unit will beep three times when the final temperature is reached. The measurement site, temperature scale, and patient temperature will display on the LCD. Final temperature will remain on the display for 30 seconds.
- If you cannot correctly measure the patient's temperature in Normal Mode, the unit will automatically enter Monitor Mode. In this mode, measurement time is extended. Either repeat the temperature measurement in Normal Mode in the opposite sublingual pocket or keep the probe in place for three minutes in Monitor Mode. The thermometer will not beep to indicate a final temperature. Record the temperature before removing the probe from the site, as the temperature reading is not maintained in memory.

- Long-term continuous monitoring beyond three minutes is not recommended in the Oral Mode.
- After the temperature measurement is complete, remove the probe from the patient's mouth. Eject the probe cover by firmly pressing the ejection button on the top of the probe.
- Return the probe to the probe well. The LCD display will go blank.
- Patient actions may interfere with accurate oral temperature readings. Ingesting hot or cold liquids, eating food, chewing gum or mints, brushing teeth, smoking, or performing strenuous activity may affect temperature readings for up to 20 minutes after activity has ended.

## Axillary Temperature Procedure:

- Using Probe with Blue Ejection Button and Blue Probe Well.
- When used correctly, the SureTemp Plus thermometer accurately measures an axillary temperature for pediatric patients (ages 17 and younger) in approximately 10–13 seconds and for adult patients (ages 18 and older) in approximately 12–15 seconds.
- Ensure that the axillary probe (blue ejection button) and the blue probe well are installed.
- Holding the probe handle with your thumb and two fingers on the indentations of the probe handle, withdraw the probe from the probe well.
- Verify that the axillary mode is selected by observing the correct flashing axillary icon on the instrument's display. If this icon is not flashing, press the Mode Selection button to select the Adult Axillary or Pediatric Axillary icon is displayed.

- To ensure optimal accuracy, always confirm that the correct axillary mode is selected.
- After a temperature is taken and the probe is returned to the probe well, the instrument reverts to the original measurement site mode.
- Do not take an axillary temperature through patient's clothing. Direct contact between patient's skin and the probe is required.
- Load a probe cover by inserting the probe into a probe cover and pressing the probe handle down firmly. The probe handle will move slightly to engage the probe cover.
- Use only Welch Allyn probe covers. The use of other manufacturer's probe covers or no probe cover may produce temperature measurement errors and/or inaccuracy.
- With the correct axillary mode indicator flashing, lift the patient's arm so that the entire axilla is easily seen. Place the probe as high as possible in the axilla. Do not allow the probe tip to come into contact with the patient until the probe is placed in the measurement site. Before this, any contact between the probe tip and the tissue or other material may cause inaccurate readings.
- Verify that the probe tip is completely surrounded by axillary tissue and place the arm snugly at the patient's side. Hold the patient's arm in this position and do not allow movement of the arm or probe during the measurement cycle. Rotating "walking" segments appear on the display, indicating that measurement is in progress.
- The unit will beep three times when the final temperature is reached. The measurement site, temperature scale, and patient temperature will display on the LCD. The final temperature will remain on the display for 30 seconds.
- If you cannot correctly measure the patient's temperature in Normal Mode, the unit will automatically enter Monitor Mode. In this mode, measurement time is extended. Either repeat the temperature measurement in Normal Mode in the opposite sublingual pocket or keep the probe in place for three minutes in Monitor Mode. The thermometer will not beep to indicate a final temperature. Record the temperature before removing the probe from the site, as the temperature reading is not maintained in memory.

MONITOR

- Long-term continuous monitoring beyond five minutes is not recommended in the Axillary Mode.
- After the temperature measurement is complete, remove the probe from the patient's axilla. Eject the probe cover by firmly pressing the ejection button on the top of the probe.
- Return the probe to the probe well. The LCD display will go blank.
- Probe contact with electrodes, bandages, etc., poor tissue contact, taking a temperature over clothing, or prolonged exposure of axilla to ambient air can cause inaccurate temperature readings.

## Rectal Temperature Procedure:

- Using Probe with Red Ejection Button and Red Probe Well.
- When used correctly, the SureTemp Plus thermometer accurately measures rectal temperature in approximately 10–13 seconds.
- Ensure that the rectal probe (red ejection button) and the red probe well are installed. The instrument will only operate in Rectal Mode when the red rectal probe and probe well are installed.
- Holding the probe handle with your thumb and two fingers on the indentations of the probe handle, withdraw the probe from the probe well.
- Observe the flashing lower-body icon on the unit's display. Load a probe cover by inserting the probe into a probe cover and pressing the probe handle down firmly. The probe handle will move slightly to engage the probe cover.
- With the Rectal Mode indicator flashing, separate the patient's buttocks with one hand. Using the other hand, gently insert the probe only 1.5 cm (5/8 in.) inside the rectum (less for infants and children). The use of a lubricant is optional.
- Incorrect insertion of probe can cause bowel perforation.
- Tilt the probe so that the tip of the probe is in contact with tissue. Keep the hand separating the buttocks in place, and hold the probe in place throughout the measurement process. Rotating "walking" segments appear on the display, indicating that measurement is in progress.
- The unit will beep three times when the final temperature is reached. The measurement site, temperature scale, and patient temperature will display on the LCD. The final temperature will remain on the display for 30 seconds.
- If you cannot correctly measure the patient's temperature in Normal Mode, the unit will automatically enter Monitor Mode. In this mode, measurement time is extended. Either repeat the temperature measurement in Normal Mode in the opposite sublingual pocket or keep the probe in place for three minutes in Monitor Mode. The thermometer will not beep to indicate a final temperature. Record the temperature before removing the probe from the site, as the temperature reading is not maintained in memory.

- Long-term continuous monitoring beyond three minutes is not recommended in Rectal Mode.
- After the temperature measurement is complete, remove the probe from the patient's rectum. Eject the probe cover by firmly pressing the ejection button on the top of the probe.
- Return the probe to the probe well. The LCD display will go blank.

- Wash your hands. Washing hands greatly reduces the risk of cross-contamination and Nosocomial Infection.

## Normal Temperature Ranges

| Age | Oral | Rectal | Axillary | Ear | Core |
|---|---|---|---|---|---|
| 0 - 2 yr | NA | 97.9 - 100.4 °F | 94.5 - 99.1 °F | 97.5 - 100.4 °F | 97.5 - 100.0 °F |
| 3 - 10 yr | 95.9 - 99.5 °F | 97.9 - 100.4 °F | 96.6 - 98.1 °F | 97.0 - 100.0 °F | 97.5 - 100.0 °F |
| 11 - 65 yr | 97.5 - 99.5 °F | 98.6 - 100.6 °F | 95.4 - 98.4 °F | 96.6 - 99.7 °F | 98.2 - 100.2 °F |
| Over 65 yr | 96.4 - 98.6 °F | 97.0 - 99.1 °F | 95.9 - 97.3 °F | 96.4 - 99.5 °F | 96.6 - 98.8 °F |

## Change Log:

| Date | Link to previous version | Description of change |
|---|---|---|
| 11/29/15 | pdf | Added a lot of content based on manufacturer documentation. |
| 11/29/17 | pdf | Updated quick reference chart. |
| 07/04/20 | | Renumbered the section to allow for future additions. |
| 08/08/20 | pdf | Added content (without substantive modification) from old Section 8-380 - Thermometer. |
| 06/15/21 | pdf | Moved to emsprotocols.online |

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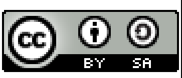
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# Equipment 8-882 - Tourniquet

**CMH EMS & MIH Protocols**

## Scope of Practice:

- Emergency Medical Dispatcher
- Emergency Medical Responder
- Emergency Medical Technician
- Advanced Emergency Medical Technician
- Registered Nurse
- Paramedic

## Indications:

- Protocol 1-850 - Rescue Task Force.
- Protocol 2-396 - Extremity Trauma.
- Protocol 2-924 - Universal Patient Care.

## Contraindications:

- None.

## Precautions:

- Prolonged Tourniquet application may result in nerve damage, rhabdomyolysis, compartment syndrome, ischemia, and re-profusion injury.
- Time of Tourniquet application MUST be reported to accepting ER.
- Do not apply Tourniquet over a joint.

## Procedure:

- May use cloth, blood pressure cuff, or commercial device. Constricting band should be at least 1 inch wide.
- Apply Tourniquet proximal to bleeding site.
  - HIGHLY preferred to place tourniquets on the upper arms or leg to compress one bone instead of two in distal limbs.
- Tighten Tourniquet until bright red bleeding has stopped.
- Secure Tourniquet from loosening.
- Note the time of Tourniquet application.
- **Advanced Life Support**:
  - Application of Tourniquets typically results in severe Pain. Consider referring to Protocol 2-660 - Pain Control after bleeding control, fluid administration, and TXA administration (if given).
  - If prolonged transport time, consider Tourniquet removal if ALL of the following are met:
    - Not in circulatory shock,
    - Stable vitals,
    - Enough personnel and resources, AND
    - Not an amputated Extremity.

    Contact MEDICAL CONTROL to request orders to loosen tourniquet, if applicable:
    - Apply pressure dressing and loosen Tourniquet (leave in place).
    - Re-tighten Tourniquet if significant bleeding returns.

## Change Log:

| Date | Link to previous version | Description of change |
|---|---|---|
| 11/29/13 | pdf | Added indications for use. Added precautionary statement about re-profusion injury. Added ALS analgesics and Tourniquet removal instructions. Added Combat Application Tourniquet instructional graphic. |
| 12/15/13 | | Added EMT scope of practice statement. |
| 06/01/15 | pdf | Added indication for Protocol 6-085 - High-Threat Response. |
| 08/24/18 | pdf | Added scope of practice to all levels. |
| 07/04/20 | | Renumbered the section to allow for future additions. |
| 08/08/20 | pdf | Added content (without substantive modification) from old Section 8-390 - Tourniquet. |
| 06/15/21 | pdf | Moved to emsprotocols.online |
| 12/01/21 | | Updated link to TXA. |

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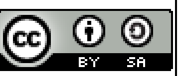

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# Equipment 8-900 - Ultrasound

**CMH EMS & MIH Protocols**

## Scope of Practice:

- Emergency Medical Responder
- Emergency Medical Technician
- Advanced Emergency Medical Technician
- Registered Nurse
- Paramedic

## Indications:

- Identify causes of cardiac arrest.
- Detect ROSC.

## Contraindications:

- Do not use POCUS to determine resuscitation termination.

## Precautions:

- Only use POCUS in an arrest if an experienced sonographer is present and use does not interfere with care.

## Procedure:

- ?

## Change Log:

| Date | Link to previous version | Description of change |
|---|---|---|
| 07/04/20 | | Created this section for future content. |
| 06/15/21 | pdf | Moved to emsprotocols.online |

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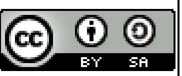
|  | Polk, Hickory, Cedar, & St Clair County EMS Protocols by Theron Becker is licensed under a Creative Commons Attribution-ShareAlike 4.0 International License. |
|---|---|

# Equipment 8-918 - Vehicle Tracker

**CMH EMS & MIH Protocols**

## Scope of Practice:

- Emergency Medical Responder
- Emergency Medical Technician
- Advanced Emergency Medical Technician
- Registered Nurse
- Paramedic

## Indications:

- ?

## Contraindications:

- ?

## Precautions:

- ?

## Procedure:

- ?

## Change Log:

| Date | Link to previous version | Description of change |
|---|---|---|
| 07/04/20 | | Created this section for future content. |
| 06/15/21 | pdf | Moved to emsprotocols.online |

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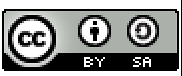
|  | Polk, Hickory, Cedar, & St Clair County EMS Protocols by Theron Becker is licensed under a Creative Commons Attribution-ShareAlike 4.0 International License. |
|---|---|

# Equipment 8-936 - Ventilator

**CMH EMS & MIH Protocols**

## Scope of Practice:

- Registered Nurse
- Paramedic

## Indications:

- Need for ventilation of an intubated patient.
- Equipment 8-198 - Continuous Positive Airway Pressure (CPAP).

## Contraindications:

- None.

## Precautions:

- Demand setting requires constant patient monitoring.
- If patient condition deteriorates, consider extubation and BVM.

## Definitions and Terminology:

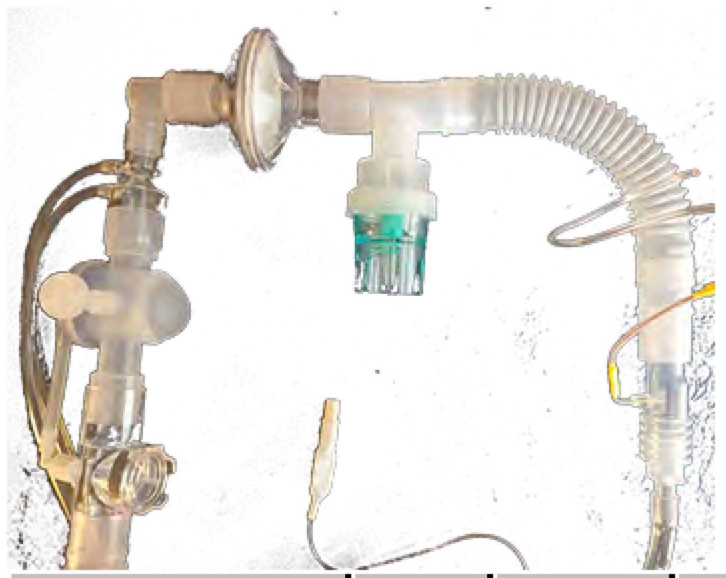
# ParaPAC Ventilator Procedures

## Ventilation

- Adjust settings (may be based on existing Ventilator settings or anticipated patient needs).
  - Relief pressure is maximum delivered pressure.
  - Air mix is set at either "No Air Mix (100% Oxygen)" or "Air Mix (45% Oxygen).
  - Frequency is the breaths per minute.
  - Tidal volume is the volume of air per breath.
- Connect supply hose to Oxygen, turn on Oxygen, and check visual alarm.
- Connect patient hose and patient valve to ETT.
- Confirm ventilation with auscultation and Capnography. Confirm oxygenation with pulsoximeter.
- Constant patient monitoring is made more critical if Ventilator is in demand mode.
- Consider NG/OG Suction.

# O-Two Ventilator Procedures

## Circuit Layout



| Ventilator | Elbow | Filter | Optional | EtCO2 | Patient |
| --- | --- | --- | --- | --- | --- |
| | | | see optional below | | |

| Optional | | |
| --- | --- | --- |
| Nebulizer | Spacer | Adapter (Jesus Piece) |
| | | |

## Modes of Operation

| Patient Description | Procedure | |
|---|---|---|
| Cardiac Arrest | **Mode** | CPR |
| | **Set PEEP** | 0 cm H2O |
| | **Set Trigger** | - (none) |
| | **Set PMax** | 60 cm H2O |
| | **ROSC** | After ROSC, refer to RSI settings below. |
| Pulmonary Edema (CPAP/BiPAP) | **Mode** | CPAP or<br>CPAP with PSV (same as BiPAP, do not use BiLVL) |
| | **Adjust CPAP (expiratory support)** | 5-15 cm H2O |
| | **Adjust PSV (inspiratory support)** | 0-15 cm H2O |
| | **Adjust Trigger** | P (patient) |
| Pulmonary Edema (intubated) | **Mode** | A/CV |
| | **Set Vt (tidal volume)** | See tables below |
| | **Set BPM (rate)** | Titrate to EtCO2 and patient comfort:<br>• Infant: 20-40 BPM<br>• Child: 12-25 BPM<br>• Adult: 10-20 BPM |
| | **Set PEEP** | 10-24 cm H2O |
| | **Adjust Waveform** | Use FLOW waveform to see if breath stacking or spontanious breathing. |
| | **Sedation and Paralysis** | Refer to Protocol 2-044 - Airway: RSI for continued sedation and paralysis during the transport. |

<table>
<tr><th>Patient Description</th><th colspan="2">Procedure</th></tr>
<tr><td rowspan="7">RSI or DSI</td><td>Mode</td><td>A/CV</td></tr>
<tr><td>Set Vt (tidal volume)</td><td>See tables below</td></tr>
<tr><td>Set BPM (rate)</td><td>Titrate to EtCO2:<br>• Infant: 20-40 BPM<br>• Child: 12-25 BPM<br>• Adult: 10-20 BPM</td></tr>
<tr><td>Set PEEP</td><td>5-15 cm H2O (refer to Pulmonary Edema above, if applicable)</td></tr>
<tr><td>Adjust I:E ratio</td><td>Longer exhalation to prevent air-trapping (i.e. Asthma patients) (1:2 = normal) (1:4 = long exhalation)</td></tr>
<tr><td>Adjust Ti (inspiration time)</td><td>0.8-1.0 seconds</td></tr>
<tr><td>Adjust Waveform</td><td>Use FLOW waveform to see if breath stacking or spontanious breathing.</td></tr>
<tr><td rowspan="7">Transfer (COVID)</td><td>Mode</td><td>A/CV</td></tr>
<tr><td>Set Vt (tidal volume)</td><td>See tables below</td></tr>
<tr><td>Set BPM (rate)</td><td>Copy from RT ventilator OR<br>Titrate to EtCO2 and patient comfort:<br>• Infant: 20-40 BPM<br>• Child: 12-25 BPM<br>• Adult: 10-20 BPM</td></tr>
<tr><td>Set PEEP</td><td>Adjust PEEP to match FiO2 and PEEP goals:<br><table><tr><th>PEEP goal</th><th>60% FiO2</th><th>100% FiO2</th></tr><tr><td>lower PEEP</td><td>10 cm H2O</td><td>18-24 cm H2O</td></tr><tr><td>higher PEEP</td><td>20 cm H2O</td><td>22-24 cm H2O</td></tr></table></td></tr>
<tr><td>Adjust Ti (inspiration time)</td><td>0.8-1.0 seconds</td></tr>
<tr><td>Adjust Waveform</td><td>Use FLOW waveform to see if breath stacking or spontanious breathing.</td></tr>
<tr><td>Sedation</td><td>Ensure patient is fully sedated prior to movement to ambulance cot. Refer to Protocol 2-924 - Universal Patient Care for</td></tr>
</table>

| | |
|---|---|
| | Ketamine dosage.<br>#sedatewhatyouintubate |
| **Paralysis** | Refer to Protocol 2-044 - Airway: RSI for continued sedation and paralysis during the transport. |

| Patient Description | Procedure | |
|---|---|---|
| Transfer (non-COVID) | **Copy settings** | From RT ventilator |
| | **Sedation** | Ensure patient is fully sedated prior to movement to ambulance cot. Refer to Protocol 2-924 - Universal Patient Care for Ketamine dosage. #sedatewhatyouintubate |
| | **Paralysis** | Refer to Protocol 2-044 - Airway: RSI for continued sedation and paralysis during the transport. |

## Tidal Volume Based on Ulnar Length

Start with the middle tidal volume (in **Bold**) and adjust up or down within the range indicated.

| Ulnar Length | Female (less than 65 yr old) | Female (greater than 65 yr old) | Male (less than 65 yr old) | Male (greater than 65 yr old) |
|---|---|---|---|---|
| 19 cm | **290** (240-330) ml | **250** (210-290) ml | **320** (270-370) ml | **300** (250-350) ml |
| 20 cm | **300** (250-350) ml | **270** (230-310) ml | **350** (300-400) ml | **330** (280-390) ml |
| 21 cm | **320** (270-370) ml | **290** (240-330) ml | **350** (300-400) ml | **350** (300-400) ml |
| 22 cm | **340** (280-390) ml | **320** (270-370) ml | **400** (300-450) ml | **350** (300-450) ml |
| 23 cm | **350** (300-450) ml | **350** (250-400) ml | **400** (350-500) ml | **340** (280-390) ml |
| 24 cm | **400** (300-450) ml | **350** (300-450) ml | **450** (350-500) ml | **400** (350-500) ml |
| 25 cm | **400** (300-500) ml | **350** (300-450) ml | **450** (350-550) ml | **450** (350-500) ml |
| 26 cm | **400** (350-500) ml | **400** (300-500) ml | **500** (400-550) ml | **450** (350-550) ml |
| 27 cm | **450** (350-500) ml | **400** (350-500) ml | **500** (400-600) ml | **450** (350-550) ml |
| 28 cm | **450** (350-550) ml | **450** (350-500) ml | **550** (450-650) ml | **500** (400-600) ml |
| 29 cm | **450** (350-550) ml | **450** (350-550) ml | **550** (450-650) ml | **500** (400-600) ml |
| 30 cm | **500** (400-550) ml | **500** (400-550) ml | **600** (450-700) ml | **550** (450-650) ml |
| 31 cm | **500** (400-600) ml | **500** (400-600) ml | **600** (500-700) ml | **550** (450-650) ml |
| 32 cm | **500** (400-600) ml | **500** (400-600) ml | **600** (500-700) ml | **600** (450-700) ml |

## Tidal Volume Based on IDEAL Body Weight (7 ml/kg)

Start with the middle tidal volume (in **Bold**) and adjust up or down within the range indicated.

| Height | Pediatric | | Adult Female | | Adult Male | |
|---|---|---|---|---|---|---|
| | Weight | Tidal Volume | Weight | Tidal Volume | Weight | Tidal Volume |
| Preemie (Broslow: Grey) | 2 kg | **15** (10-20) ml | | | | |
| Newborn (Broslow: Grey) | 4 kg | **30** (20-35) ml | | | | |
| 4 mo old (Broslow: Pink) | 6 kg | **40** (30-50) ml | | | | |
| 6 mo old (Broslow: Red) | 8 kg | **60** (40-70) ml | | | | |
| 1 yr old (Broslow: Purple) | 10 kg | **70** (60-80) ml | | | | |
| 2 yr old (Broslow: Yellow) | 12 kg | **80** (70-100) ml | | | | |
| 3 yr old (Broslow: White) | 14 kg | **100** (80-120) ml | | | | |
| 4 yr old (Broslow: White) | 16 kg | **110** (90-130) ml | | | | |
| 4 yr old (Broslow: White) | 18 kg | **130** (100-150) ml | | | | |
| 5 yr old (Broslow: Blue) | 20 kg | **140** (120-160) ml | | | | |
| 6 yr old (Broslow: Blue) | 22 kg | **150** (130-180) ml | | | | |
| 7 yr old< (Broslow: Orange) | 24 kg | **170** (140-200) ml | | | | |
| 7 yr old< (Broslow: Orange) | 26 kg | **180** (150-210) ml | | | | |
| 8 yr old (Broslow: Orange) | 28 kg | **200** (160-230) ml | | | | |
| 9 yr old (Broslow: Green) | 30 kg | **210** (180-240) ml | | | | |
| 9 yr old (Broslow: Green) | 32 kg | **220** (190-260) ml | | | | |
| 10 yr old (Broslow: Green) | 34 kg | **240** (200-280) ml | | | | |

| 10 yr old< (Broslow: Green) | 36 kg | **250** (210-290) ml | | | | |
|---|---|---|---|---|---|---|
| 11 yr old (Broslow: Green) | 38 kg | **270** (220-310) ml | | | | |
| 11 yr old (Broslow: Green) | 40 kg | **280** (240-320) ml | | | | |
| 11 yr old (Broslow: Green) | 42 kg | **290** (250-340) ml | | | | |
| 4'-8" | | | 36 kg | **250** (210-290) ml | | |
| 4'-10" | | | 41 kg | **290** (240-330) ml | 45 kg | **320** (270-370) ml |
| 5'-0" | | | 46 kg | **320** (270-370) ml | 50 kg | **350** (300-400) ml |
| 5'-2" | | | 50 kg | **350** (300-450) ml | 55 kg | **400** (300-450) ml |
| 5'-4" | | | 55 kg | **400** (300-450) ml | 59 kg | **400** (350-500) ml |
| 5'-6" | | | 59 kg | **400** (350-500) ml | 64 kg | **450** (350-550) ml |
| 5'-8" | | | 64 kg | **450** (350-550) ml | 68 kg | **500** (400-550) ml |
| 5'-10" | | | 69 kg | **500** (400-550) ml | 73 kg | **500** (400-600) ml |
| 6'-0" | | | 73 kg | **500** (400-600) ml | 78 kg | **550** (450-650) ml |
| 6'-2" | | | 78 kg | **550** (450-650) ml | 82 kg | **600** (450-700) ml |
| 6'-4" | | | 82 kg | **600** (450-700) ml | 87 kg | **600** (500-700) ml |
| 6'-6" | | | 87 kg | **600** (500-700) ml | 91 kg | **650** (500-750) ml |
| 6'-8" | | | 92 kg | **650** (500-750) ml | 96 kg | **650** (550-800) ml |
| 6'-10" | | | | | 101 kg | **700** (600-850) ml |

## Troubleshooting

General Guidelines:

- Remember to click twice when changing settings. #dontgettrickedjustclick
- Use 60% FiO2 whenever the patient condition allows.
- Ventilator takes approximately 8-10 breaths or 30 seconds to meet settings entered.
- Set P-Max 10 cm H20 above Paw (peak airway pressure).

P-Max alarm above 35 cm H2O: Stiff lung.

Dislodged: Check EtCO2, lung sounds, epigastium, SpO2.

Obstructed: Check suction need, kinked tubing, SpO2, EtCO2.

Pneumothorax: Check lung sounds, blood pressure, SpO2.

Equipment: Check cuff inflation, circuit connections.

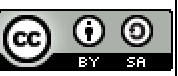
## Change Log:

| Date | Link to previous version | Description of change |
|---|---|---|
| 12/15/13 | pdf | Changed to BLS skill. |
| 01/29/14 | | Changed back to ALS skill. |
| 12/29/14 | pdf | Added this protocol from 8-270 (ParaPac Ventilator) and removed 8-270. |
| 07/04/20 | | Renumbered the section to allow for future additions. |
| 08/08/20 | pdf | Added content (without substantive modification) from old Section 8-330 - Portable Ventilator. |
| 10/05/20 | | Significant additions for O-Two ventilator with input from Mercy LifeLine Protocols. |
| 10/09/20 | | Significant additions for O-Two ventilator with input from Bobby OKeefeCox Air Care Protocols. |
| 10/27/20 | pdf | Updates to settings based on conversations with CMH Respiratory TherapyHospitalists. Switched from SIMV to A/CV. Also added content from ARDSnet. |
| 11/06/20 | pdf | Added comments from Dr. Nicholes about ensuring continued paralysis if Ketamine is not enough. |
| 11/09/20 | pdf | Approved by Dr. Nicholes |
| 06/15/21 | pdf | Moved to emsprotocols.online |

Return to Protocols Table of Contents.

Search protocols: Search

| CMH Pre-Hospital Services Mission: "*Provide safe, exceptional, and compassionate care to our communities with an emphasis on highly trained and empowered staff*." | CMH Mobile Integrated Healthcare Mission: "*Provide exceptional, compassionate, and patient-centered care by a mobile collaborative team to improve patient experience, improve quality outcomes, and reduce healthcare costs*." | |
|---|---|---|



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# Equipment 8-954 - Warming Blanket

**CMH EMS & MIH Protocols**

## Scope of Practice:

- Emergency Medical Responder
- Emergency Medical Technician
- Advanced Emergency Medical Technician
- Registered Nurse
- Paramedic

## Indications:

- ?

## Contraindications:

- ?

## Precautions:

- ?

## Procedure:

- ?

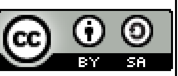
# Change Log:

| Date | Link to previous version | Description of change |
|---|---|---|
| 06/15/21 | | Created a blank protocol as a placeholder for future content. |

Return to Protocols Table of Contents.

Search protocols: [ ] Search

| CMH Pre-Hospital Services Mission: "*Provide safe, exceptional, and compassionate care to our communities with an emphasis on highly trained and empowered staff*." | CMH Mobile Integrated Healthcare Mission: "*Provide exceptional, compassionate, and patient-centered care by a mobile collaborative team to improve patient experience, improve quality outcomes, and reduce healthcare costs*." | |
|---|---|---|



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# Part 9-000 - Appendix

**CMH EMS & MIH Protocols**

## Contents:


- 9-010 - References
- 9-020 - Change Log
- 9-050 - Definitions

## Change Log:

| Date | Link to previous version | Description of change |
|---|---|---|
| 11/17/15 | pdf | Removed Section 9-030 - Subject Matter Experts. |
| 11/01/20 | pdf | Moving all changes to individual pages. |
| 04/02/21 | pdf | Added link to 9-035 - Full Previous Versions. |
| 06/15/21 | pdf | Moved to emsprotocols.online |

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| CMH Pre-Hospital Services Mission: "*Provide safe, exceptional, and compassionate care to our communities with an emphasis on highly trained and empowered staff*." | CMH Mobile Integrated Healthcare Mission: "*Provide exceptional, compassionate, and patient-centered care by a mobile collaborative team to improve patient experience, improve quality outcomes, and reduce healthcare costs*." | |
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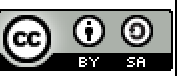


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# Appendix 9-010 - References

**CMH EMS & MIH Protocols**

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## References:


- *About Drugs*. (n.d.). Retrieved December 26, 2014, from http://www.aboutdrugs.net/
- Ada County Paramedics. (n.d.). Community paramedics self-management plans.
- Ada County Paramedics. (n.d.). Community paramedics health assessment form.
- Advanced Cardiac Life Support. (2020). ACLS drugs for bradycardia. Retrieved from https://acls-algorithms.com/acls-drugs/bradycardia/.
- Alderfer, G. (2016, June 6). Pre-hospital sepsis treatment for continued care by hospitalists. (T. Becker, Interviewer)
- American Academy of Orthopaedic Surgeons. (2018). *Nancy Caroline's emergency care in the streets* (8th ed. Vol. 1). (A. N. Pollak, Ed.) Burlington, MA: Jones & Bartlett Learning.
- American Academy of Pediatrics. (2006). *Pediatric education for prehospital professionals* (2nd ed.). Sudbury, MA: Jones and Bartlett.
- American Academy of Pediatrics. (2021, June). *Textbook of Neonatal Resuscitation* (8th ed.). https://doi.org/10.1542/9781610025256
- American Heart Association. (2020). ACLS 2020 Instructor Update. Retrieved January 14, 2021, from https://elearning.heart.org.
- American Heart Association. (2020). BLS 2020 Instructor Update. Retrieved January 14, 2021, from https://elearning.heart.org.
- American Heart Association. (2020). Emergency medical services acute stroke routing. *Mission: Lifeline stroke*. doi:1/20DS15698
- American Stroke Association. (n.d.). *Current treatment approaches for acute ischemic stroke*. Retrieved February 18, 2021, from American Stroke Association: https://www.stroke.org/-/media/Stroke-Files/Ischemic-Stroke-Professional-Materials/AIS-Toolkit/AIS-Professional-Education-Presentation-ucm_485538
- Anthony, R. (2020, October 28). Guideline 1-700-33 update. *CMHEMS Slack communications in #committee-protocol channel*.
- Appelboam, A., Reuben, A., Mann, C., Gagg, J., Ewings, P., Barton, A., . . . Benger, J. (2015, October 31). Postural modification to the standard Valsalva manoeuvre for emergency treatment of supraventricular tachycardias (REVERT): A randomised controlled trial. The Lancet, 386(10005), 1747-1753. Retrieved from http://dx.doi.org/10.1016/S0140-6736(15)61485-4
- Aroor, S., Singh, R., & Goldstein, L. B. (2016, September 23). BE-FAST (balance, eyes, face, arm, speech, time) reducing the proportion of strokes missed using the FAST mnemonic. *Stroke*, 479-481. doi:10.1161/STROKEAHA.116.015169
- Ashcraft, S., Wilson, S., Nystrom, K. V., Dusenbury, W., Wira, C. R., & Burrus, T. M. (2021, March 12). Care of the patient with acute ischemic stroke (prehospital and acute phase of care): Update to the 2009 comprehensive nursing care scientific statement. *Stroke*. doi:10.1161/STR.0000000000000356

---

- Ballard, D., Vinson, D. (2019, February). Nauseated patient? Inhaled isopropanol does the job. *Emergency Medicine News*, 31.
- Baqai, K., Chiang, S., Kugler, D., Neitz, J., Quelhorst, E., & Washko, J. D. (n.d.). *Community paramedicine program framework*. Retrieved from North Shore LIJ Center for Emergency Medical Services: https://www.naemt.org/docs/default-source/community-paramedicine/mih-cp-toolkit/community-paramedicine-framework-paper-v7-7.docx?sfvrsn=2
- Barrett, B. & Best, J. (2021, January 14). Aspirin administration by EMS (2021).
- Becker, T. (2020, March 29). *Daily COVID-19 status update*.
- Becker, T., Weaver, A., Roberts, A., & Ryan, T. (2020). Crew leader expectations. Bolivar.
- Bernard, S. A., Smith, K., Porter, R., Jones, C., Gailey, A., Cresswell, B., . . . StClair, T. (2015). Paramedic rapid sequence intubation in patients with non-traumatic coma. *Emergency Medicine Journal*, 32(1), 60-64. doi:10.1136/emermed-2013-202930
- Bhattacharyya, M., Kalra, V., & Gulati, S. (2006). Intranasal midazolam vs rectal diazepam in acute childhood seizures. *Pediatric neurology*, 34(5), 355-359.
- BJC HealthCare. (2017, April 15). Critical care transport team at St Louis Children's Hospital pocket guide.

- Bledsoe, B. E. (2013, August 1). The evidence against backboards. *EMSWorld*.
- Bledsoe, B., & Benner, R. (2006). *Critical care paramedic*. Upper Saddle River, NJ: Pearson Pretice Hall.
- Bledsoe, B., Porter, R., & Cherry, R. A. (2011). *Essentials of paramedic care* (2nd ed.). Upper Saddle River, NJ: Pearson Pretice Hall.
- Bloom, R. (2006). *Textbook of neonatal resuscitation* (5th ed.). Dallas, TX: American Heart Association.
- Boland, L. L., Satterlee, P. A., & Jansen, P. R. (2014, January 22). Cervical spine fractures in elderly patients with hip fracture after low-level fall: An opportunity to refine prehospital spinal immobilization guidelines? *Prehospital and disaster medicine*, 29(1), 96-99.
- Bollaert, P. E., Bauer, P., Audibert, G., Lambert, H., & Larcan, A. (1990, October). Effects of epinephrine on hemodynamics and oxygen metabolism in dopamine-resistant septic shock. *Chest*, 98(4), 949-953. Retrieved from https://doi.org/10.1378/chest.98.4.949
- Borland, M. L., Bergesio, R., Pascoe, E. M., Turner, S., & Woodger, S. (2005). Intranasal fentanyl is an equivalent analgesic to oral morphine in paediatric burns patients for dressing changes: A randomised double blind crossover study. *Burns*, 831-837.
- Brandt, M. (2018, December 1). Cox EMS badge cards. 19.2. (L. Divine, Ed.) Springfield, Missouri. Retrieved July 20, 2019, from https://www.coxhealth.com/documents/495/EMS_Badge_Cards.pdf
- Brandt, M. (2019, July 1). CoxHealth EMS medication protocols, patient care protocols, standard operating procedures, and policies. Springfield, MO. Retrieved July 20, 2019, from Cox Health EMS resources: https://www.coxhealth.com/documents/477/EMS_Clinical_Protocols_7.1.2019.pdf
- Brandt, M., Lewis, T. (2020, March 24). High consequence pathogens regional protocol.
- Brandt, M., Lewis, T. (2020, March 29). Risk analysis for positive pressure ventilation in the out-of-hospital environment.

---

- Cain, J. (2008, October 1). Appropriate Prehospital Tourniquet Use. *Law Officer*.
- Care Flight Collective. (2014, August 02). The bind when it comes to using a binder. *The Collective*. Retrieved December 8, 2017, from https://careflightcollective.com/2014/08/02/the-bind-when-it-comes-to-binder/
- Carnahan, R. (2010, March 31). Rules of Department of Health and Senior Services, division 30 - Division of regulation and licensure, chapter 40 - Comprehensive emergency medical services systems regulations. *Missouri code of state regulations*. Missouri.
- Carnahan, R. (2012, August 31). *Title 19 - Rules of Department of Health and Senior Services Division 30 - Division of regulation and licensure Chapter 40 - Comprehensive emergency medical systems regulations*. Retrieved October 2013, from Code of state regulations: http://www.sos.mo.gov/adrules/csr/current/19csr/19c30-40a.pdf
- Cauchi, A. (2019, November 18). CT diversion. (N. Taylor, Interviewer) Bolivar, MO.
- Cauchi, T. (2020, January 31). COBRA form ALS/BLS conversation. (T. Becker, Interviewer).
- Cauchi, T. (2020, April 3). New process BVM COVID-19. (T. Becker, Interviewer).
- CDC. (n.d.). Protect your patients from sepsis. PubNo 300421.
- CDC. (n.d.). Personal medicines list and personal action plan.
- CDC. (2017). Check for safety: A home fall prevention checklist for older adults.
- Centers for Disease Control and Prevention. (2016, January 7). *Transmission-based precautions*. Retrieved March 29, 2020, from CDC.gov: https://www.cdc.gov/infectioncontrol/basics/transmission-based-precautions.html#anchor_1564058155
- *Chapter 190 - Emergency services*. (2012, August 28). Retrieved October 2013, from Missouri revised statutes: http://www.moga.gov/statutes/chapters/cap190.htm
- Citizens Memorial Hospital. (2012, April 23). Policy #PHS.01.14 - Radio report. *Policy Manual*.
- Citizens Memorial Hospital. (2012, January 24). Policy #PHS.01.27 - Special events. *Policy Manual*.
- Citizens Memorial Hospital. (2012, April 23). Policy #PHS.01.32 - Mass casualty incident response. *Policy Manual*.
- Citizens Memorial Hospital. (2012, March 12). Policy #PHS.01.33 - Ambulance transfers. *Policy Manual*.
- Citizens Memorial Hospital. (2012, April 23). Policy #PHS.01.34 - Emergency medical services triage program. *Policy Manual*.
- Citizens Memorial Hospital. (2012, January 24). Policy #PHS.02.02 - Institution of protocols. *Policy Manual*.
- Citizens Memorial Hospital. (2012, January 24). Policy #PHS.05.02 - Physical restraints used by emergency medical services. *Policy Manual*.
- Citizens Memorial Hospital. (2013, January). *Central venous access device*. Retrieved from PolicyStat: https://citizensmemorial.policystat.com/policy/990417/latest/
- Citizens Memorial Hospital. (2013, January). *Intravenous venipuncture*. Retrieved from PolicyStat: https://citizensmemorial.policystat.com/policy/990504/latest/
- Citizens Memorial Hospital. (2013, August 14). Policy #PHS.01.03 - Acquisition of medical control. *Policy Manual*.
- Citizens Memorial Hospital. (2013, August 14). Policy #PHS.01.04 - Documentation requirements. *Policy Manual*.
- Citizens Memorial Hospital. (2013, August 14). Policy #PHS.01.07 - Helicopter landing site designation. *Policy Manual*.

- Citizens Memorial Hospital. (2013, September 5). Policy #PHS.01.15 - Electronic patient care report usage. *Policy Manual*.
- Citizens Memorial Hospital. (2013, March 4). Policy #PHS.01.18 - Armed subject demanding narcotics. *Policy Manual*.
- Citizens Memorial Hospital. (2013, August 14). Policy #PHS.01.22 - Oxygen cylinders. *Policy Manual*.
- Citizens Memorial Hospital. (2013, July 1). Policy #PHS.01.24 - Controlled medications in prehospital services. *Policy Manual*.
- Citizens Memorial Hospital. (2013, August 14). Policy #PHS.01.37 - Education and competency. *Policy Manual*.
- Citizens Memorial Hospital. (2013, February 28). Policy #PHS.02.01 - Medical control of patient care. *Policy Manual*.
- Citizens Memorial Hospital. (2013, August 14). Policy #PHS.02.03 - Air transport of patients. *Policy Manual*.
- Citizens Memorial Hospital. (2013, August 14). Policy #PHS.02.04 - Patients determined to be dead at the scene. *Policy Manual*.
- Citizens Memorial Hospital. (2013, April 30). Policy #PHS.02.06 - Request for blood alcohol sample for law enforcement. *Policy Manual*.
- Citizens Memorial Hospital. (2013, August 12). Policy #PHS.03.07 - Cot lifting / Lifting of patients. *Policy Manual*.
- Citizens Memorial Hospital. (2014, January 13). Policy #EMS.09.05 - Orthopedic injuries. *Policy Manual*.
- Citizens Memorial Hospital. (2014, January 13). Policy #EMS.09.07 - Poisoning / Overdose. *Policy Manual*.
- Citizens Memorial Hospital. (2014, January 13). Policy #EMS.09.09 - Anaphylaxis management. *Policy Manual*.
- Citizens Memorial Hospital. (2014, January 13). Policy #EMS.09.10 - Removal of Cervical Collar. *Policy Manual*.
- Citizens Memorial Hospital. (2014, January 28). STEMI paging system policy.
- Citizens Memorial Hospital. (2019, January). Policy PHS01-35 - Ambulance Dispatch. *Policy Stat*.
- Citizens Memorial Hospital. (2019, December). Policy HIM02-01 - History and physical. *Policy Stat*.
- Citizens Memorial Hospital. (2021, April). Policy HHA09-19 - Post-Inpatient facility plan of treatment. *Policy Stat*.
- Citizens Memorial Hospital. (2021, October). Sepsis Order Set OS01-118. *Policy Stat*.
- Citizens Memorial Hospital. (2022, December). Medication administration and documentation. *Policy Stat*.
- Citizens Memorial Hospital. (2023, March). Hospital readmission risk reduction
- Clarke, S. F., Dargan, P. I., & Jones, A. L. (2005, September). Naloxone in opiod poisoning: Walking the tightrope. *Emergency Medicine Journal*, 22(9), 612-616. doi:10.1136/emj.2003.009613
- Clemency, B. M., Thompson, J. J., Tundo, G. N., & Lindstrom, H. A. (2013, October). Prehospital high-dose sublingual nitroglycerin rarely causes hypotension. *Prehospital and disaster medicine*, 28(5), 477-481.
- CMS. (n.d.). AHC HRSN screening tool core questions. *Center for Medicare and Medicaid Innovation*.
- Collopy, K.T. (2015, June 19). 4 steps to prepare for prehospital antibiotic administration. *EMS1*. Retrieved from https://www.ems1.com/ems-products/ambulance-disposable-supplies/articles/4-steps-to-prepare-for-prehospital-antibiotic-administration-eSXbQpmrZdqfEn0N/
- Collopy, K., Pickford, M., Zimmerman, L., & Powers, W. (2018, July). Administration of prehospital Cefazalin in trauma patients. *Air Medical Journal*, 37(4), 237-238. Retrieved from https://doi.org/10.1016/j.amj.2018.04.009
- Colon, V., Grade, A., Pulliam, G., Johnson, C., & Fass, R. (1999, Winter). Effect of doses of glucagon used to treat food impaction on esophageal motor function of normal subjects. *Dysphagia*, 14(1), 27-30. doi:10.1007/PL00009581
- Comerford, K., & Labus, D. (Eds.). (2010). *Nursing drug handbook* (30th ed.). Philadelphia: Wolters Kluwer.
- Committee for Tactical Emergency Casualty Care. (2014, June). *Guidelines*. Retrieved January 30, 2015, from http://c-tecc.org/guidelines
- Composite Resources, Inc. (n.d.). Combat application tourniquet instructions for use. Rock Hill, SC.
- Cooper, J. (2015, January 21). STEMI center mentorship. (T. Becker, Interviewer)
- Cox Paramedics. (2014, February 13). Cox Paramedics Protocols. (M. Dawson, Ed.) Springfield, MO.
- Cox, J. B. (2017, July). Deleware EMS Protocols. Sussex County, DE.
- Craig, S. (2018). *South Carolina community paramedic protocols.*
- Cranberry Township EMS. (n.d.). CTEMS wellness checklists.
- CredibleMeds. (2015, September 15). *Combined list of drugs that prolong QT and/or cause Torsades de Pointes (TDP)*. Retrieved November 17, 2015, from CredibleMeds: https://www.crediblemeds.org/new-drug-list/
- Cyanokit. (2012, November 15). *Cyanokit*. Retrieved from Cyanokit: http://www.cyanokit.com

---

- Day, N. P., Phu, N. H., Bethell, D., Mai, N. T., Chau, T. T., Hien, T. T., & White, N. J. (1996, September). The effects of dopamine and adrenaline infusions on acid-base balance and systemic haemodynamics in servere infection. *The Lancet*, 348(9031), 902. Retrieved from https://doi.org/10.1016/S0140-6736(96)09096-4
- De Backer, D., Aldecoa, C., Nijmi, H., & Vincent, J. L. (2012, March). Dopamine versus norepinephrine in the treatment of septic shock: A meta-analysis. *Critical care medicine*, 3(40), 725-730. doi:10.1097/CCM.0b013e31823778ee
- De Backer, D., Biston, P., Devriendt, J., Madl, C., Chochrad, D., Aldecoa, C., . . . Vincent, J. L. (2010, March 4). Comparison of dopamine and norepinephrine in the treatment of shock. *New England Journal of Medicine*, 9(362), 779-789. doi:10.1056/NEJMoa0907118

- DeBacker, D., Creteur, J., Silva, E., & Vincent, J.-L. (2003, June). Effects of dopamine, norepinephrine, and epinephrine on the splanchnic circulation in septic shock: Which is best? *Critical care medicine*, 31(6), 1659-1667. doi:10.1097/01.CCM.0000063045.77339.B6
- Denver Metro EMS Medical Directors. (2017, July). *Denver Metro EMS Protocols*. Retrieved from Denver Metro EMS Medical Directors: http://www.dmemsmd.org/
- *Designated hospitals*. (n.d.). Retrieved March 30, 2015, from Missouri Department of Health and Senior Services: http://health.mo.gov/living/healthcondiseases/chronic/tcdsystem/designatedhospitals.php
- Dobson, T., Jensen, J. L., Karim, S., & Travers, A. H. (2009). Correlation of paramedic administration of furosemide with emergency physician diagnosis of congestive heart failure. *Journal of Emergency Primary Health Care*, 7(3). doi:990378
- Donohue, J., Hanania, N., Ciubotaru, R., Noe, L., Pasta, D., Schaefer, K., . . . Roach, J. (2008). Comparison of levalbuterol and racemic albuterol in hospitalized patients with acute asthma or COPD: A 2-week, multicenter, randomized, open-label study. *Clinical therapeutics*, 30, 989-1002.
- Doyle, G. S., & Taillac, P. P. (2008, April/June). Tourniquets: A review of current use with proposals for expanded prehospital use. *Prehospital emergency care*, 12(2).

---

- Eagle County Paramedic Services. (2013). *Community paramedic protocols manual.*
- Eipe, N., Barrowman, N., Writer, H., & Doherty, D. (2003, April). A weight-based formula for traceal tube size in children. *Paediatric Anaesthesia*, 19(4), 343-348. doi:10.1111/j.1460-9592.2008.02916.x
- Eller, B. (2017, October 12). Tactical combat casualty care - Military provider. Jefferson City, Missouri: Velley TEMS.
- Euser, A. G., & Cipolla, M. J. (2009). Magnesium sulfate for the treatment of eclampsia. *Stroke*, 40, 1169-1175. doi:10.1161/STROKEAHA.108.527788

---

- Feng, C., Chan, K., Liu, K., Or, C., & Lee, T. (1996, June). A comparison of lidocaine, fentanyl, and esmolol for attenuation of cardiovascular response to laryngoscopy and tracheal intubation. *Acta anaesthesiologica sinica*, 34(2), 61-67. Retrieved from https://www.ncbi.nlm.nih.gov/pubmed/9084524
- Ferreri, S., Blalock, S., Robinson, J., Renfro, C., Busby-Whitehead, J., Burns, E., Haddad, Y. (2020). Steadi-Rx older adult fall prevention guide for community pharmacists. *National Center for Injury Prevention and Control*.
- Filanovsky, Y., Miller, P., & Kao, J. (2010). Myth: Ketamine should not be used as an induction agent for intubation in patients with head injury. *Canadian journal of emergency medicine*, 12(2), 154-157.
- Finn, J., Wright, J., Fong, J., Mackenzie, E., Wood, F., Leslie, G., & Gelavis, A. (2004). A randomised crossover trial of patient controlled intranasal fentanyl and oral morphine for procedural wound care in adult patients with burns. *Burns*, 262-268.
- Flores, R. (2012, November 30). Saving life and limb. *On patrol - The magazine of the USO*.
- Flower, O., & Hellings, S. (2012). Sedation in traumatic brain injury. *Emergency medicine international*, 2012.
- Flynn, B. (2020, October 27). O-Two ventilator settings. (T. Becker, interviewer).
- Flynn, B. (2021). Rapid sequence intubation checklist.
- Foerster, C. R. (2013, June 19). The effect of spinal immobilization on vital signs. *Prehospital and disaster medicine*, 28(5), 533-534.

---

- Giacone, J. (2020, November 5). Linking ESO at Saint Luke's Health System Hospitals. Kansas City, Missouri.
- Giesbrecht, G. (2018, December). "Cold card" to guide responders in the assessment and care of cold-exposed patients. *Wilderness & environmental medicine*, 29(4), 499-503. doi:https://doi.org/10.1016/j.wem.2018.07.001
- Gore, Z. (2023). Asthma, COPD, CKD, and general safety assessment homework assignment for community paramedic academy.
- Gore, Z. (2023). Chronic kidney disease homework assignment for community paramedic academy.
- Gore, Z. (2023). Sepsis homework assignment for community paramedic academy.
- Gore, Z. (2023). General safety assessment homework assignment for community paramedic academy.
- Green, T. L., McNair, N. D., Hinkle, J. L., Middleton, S., Miller, E. T., Perrin, S., . . . Summers, D. V. (2021, March 12). Care of the patient with acute ischemic stroke (posthyperacute and prehospital discharge): Update to 2009 comprehensive nursing care scientific statement. *Stroke*. doi:10.1161/STR.0000000000000357
- Guglin, M., & Postler, G. (2009, August 10). High dose nitroglycerin treatment in a patient with cardiac arrest: A case report. *Journal of Medical Case Reports*, 3, 8782-8785.

---

- Hammond, D. A., Lam, S. W., Rech, M. A., Smith, M. N., Westrick, J., Trivedi, A. P., & Balk, R. A. (2019, July 31). Balanced crystalloids versus saline in critically ill adults: A systematic review and meta-analysis. *Annals of Pharmacotherapy*. Retrieved from https://doi.org/10.1177%2F1060028019866420
- Handtevy Inc. (n.d.). Handtevy Mobile app.
- Harkness, S. R. (2017, March). Sepsis: A time critical diagnosis? Springfield, MO.
- Helfman, S., Gold, M., DeLisser, E., & Herrington, C. (1991, April). Which drug prevents tachycardia and hypertension associated with tracheal intubation: Lidocaine, fentanyl, or esmolol? *Anesthesia and analgesia*, 72(4), 482-486. Retrieved from https://www.ncbi.nlm.nih.gov/pubmed/1672488
- Hendricks, C. (2004). The PEAT scale: An EMS tool. *EMS World*.
- Heuer, J. F., Crozier, T. A., Howard, G., & Quintel, M. (2013). Can breathing circuit filters help prevent the spread of influenza A (H1N1) virus from intubated patients? *GMS hygiene and infection control*, 8(1). Retrieved from doi: https://doi.org/10.3205/dgkh000209
- Heuser, W., Menaik, R., Gupta, S., & Rucco, R. (2017, May 1). Appropriate selection of corticosteroids in treating asthma and COPD. *Journal of emergency medical services*, 42(5). Retrieved March 15, 2019, from https://www.jems.com
- Hicks, J. (2021, February 15). Stroke assessment tools. (T. Becker, Interviewer).
- Hochhaus, G., Barth, J., al-Fayoumi, S., Suarez, S., Derendorf, H., Hochhaus, R., & Mollmann, H. (2001). Pharmacokinetics and pharmacodynamics of dexamethasone sodium-m-sulfobenzoate (DS) after intravenous and intramuscular administration: A comparison with dexamethasone phosphate (DP). *Journal of clinical pharmacology*, 41(4), 425-434.
- Hollabaugh, M. (2017, February 13). CMH Pharmacy consultation.
- Hollabaugh, M. (2020, June). CMH Policy NUR09-08 - Medication reconciliation. *Policy Stat*.
- Holsti, M., Sill, B. L., Firth, S. D., Filloux, F. M., Joyce, S. M., & Furnival, R. A. (2007, March). Prehospital intranasal midazolam for the treatment of pediatric seizures. *Pediatric emergency care*, 23(3), 148-153.
- Howard, E. (2015). Advanced airway strategies: RSI, how and why. Bolivar, MO.
- Hui, D. S., Hall, S. D., Chan, M. T., Chow, B. K., Ng, S. S., Gin, T., & Surg, J. J. (2007, August). Exhaled air dispersion during oxygen delivery via a simple oxygen mask. *Chest*, 132(2), 540-546. Retrieved from https://doi.org/10.1378/chest.07-0636
- Hui, D. S., Hall, S. D., Chan, M. T., Chow, B. K., Tsou, J. Y., Joynt, G. M., . . . Sung, J. J. (2006, September). Noninvasive positive-pressure ventilation: An experimental model to assess air and particle dispersion. *Chest*, 130(3), 730-740. Retrieved from https://doi.org/10.1378/chest.130.3.730
- Hunter, C. L., Silvestri, S., Dean, M., Falk, J. L., & Papa, L. (2012, May 25). End-tidal carbon dioxide is associated with mortality and lactate in patients with suspected sepsis. *American Journal of Emergency Medicine*, 64-71.

---

- Institute of Medicine of the National Academies. (2012). *Crisis standards of care - A systems framework for catastrophic disaster response*. Washington, DC: National Academies Press.
- InterAgency Board. (2015). *Improving active shooter / hostile event response*.
- Intermedix. (2017). The exponential cost of sepsis.
- Intersurgical Complete Respiratory Systems. (2016, November). *i-gel user guide*. Retrieved February 22, 2021, from Intersurgical Complete Respiratory Systems: https://www.intersurgical.com/info/igel

---

- Jauch, E. C., Schwamm, L. H., Panogos, P. D., Barbazzeni, J., Dickson, R., Dunne, R., . . . Yallapragada, A. (2001, May 12). Recommendations for regional stroke destination plans in rural, suburban, and urban communities from the prehospital stroke system of care consensus conference. *Stroke*, 52. doi:10.1161/STROKEAHA.120.033228
- Jilani, T. & Siddiqui, A. (2023, February 20). Tissue plasminogen activator. *National Library of Medicine.* https://www.ncbi.nlm.nih.gov/books/NBK507917/
- John Hopkins Children's Center. (n.d.). *Nosebleed handout*. Retrieved February 19, 2021, from John Hopkins medicine: https://www.hopkinsmedicine.org/otolaryngology/specialty_areas/pediatric_otolaryngology/pdf/nosebleed_handout.pdf
- Joint Committee to Create a National Policy to Enhance Survivability from Mass-Casualty Shooting Events. (2013, September 1). *Active shooter and intensional mass-casualty events: The Hartford Consensus II*. Retrieved December 28, 2015, from American College of Surgeons: http://bulletin.facs.org/2013/09/hartfordconsensusii
- Jones, C. (2020, October 29). Documentation guidelines update suggestions.

---

- Karsten, S. (2020, March 22). *PSAP and dispatcher advisory*.
- Keeney, G. E., Gray, M. P., Morrison, A. K., Levas, M. N., Kessler, E. A., Hill, G. D., . . . Jackson, J. L. (2014). Dexamethasone for acute asthma exacerbations in children: A meta-analysis. *Pediatrics*, 133(3), 493-499.

- Keller, S. (2020, May 20). Clinical review process. Bolivar, MO.
- Kragh, J. F., Walters, T. J., Baer, D. G., Fox, C. J., Wade, C. E., Salinas, J., & Holcomb, J. B. (2008, February). Practical use of emergency tourniquets to stop bleeding in major limb trauma. *The journal of trauma injury, infection, and critical care*, 64(2), S38-S50.

---

- Lack, W., Seymour, R., Bickers, A., Studnek, J., & Karunakar, M. (2019, May-June). Prehospital antibiotic prophylaxis for open fractures: Practicality and safety. *Prehospital Emergency Care*, 23(3), 385-388. Retrieved from https://doi.org/10.1080/10903127.2018.1514089
- Lam, S., & Chen, J. (2003). Changes in heart rate associated with nebulized racemic albuterol and levalbuterol in intensive care patients. *American journal of health-system pharmacy*, 60(19), 1971-1975.
- Laszlo, N. K., Differding, J. A., Enomoto, T. M., Sawai, R. S., Muller, P. J., Diggs, B., . . . Schreiber, M. A. (2006, July). Resuscitation with normal saline (NS) vs. lactated ringers (LR) modulates hypercoagulability and leads to increased blood loss in an uncontrolled hemorrhagic shock swine model. *The journal of trauma injury, infection, and critical care*, 61(1), 57-65.
- Lau, N., Playfor, S. D., Rashid, A., & Dhanarass, M. (2006, December). New formulae for predicting tracheal tube length. *Paediatric Aneaesthesia*, 16(12), 1238-1243. doi:10.1111/j.1460-9592.2006.01982.x
- Lavonas, E. J., Ruha, A.-M., Banner, W., Bebarta, V., Bernstein, J. N., Bush, S. P., . . . Dart, R. C. (2011). Unified treatment algorithm for the management of crotaline snakebite in the United States: Results of an evidence-informed consensus workshop. *BMC emergency medicine*, 11, 2. doi:10.1186/1471-227X-11-2
- LeCong, M. (2012, October 3). Draft protocol for use of tranexamic acid in trauma patients in the prehospital setting. Queensland.
- Leeman, L., & Fontaine, P. (2008, July 1). Hypertensive disorders of pregnancy. *American family physician*, 78(1), 93-100. Retrieved from https://www.aafp.org/afp/2008/0701/p93.html
- Levy, B., Bollaert, P. E., Charpentier, C., Nace, L., Audibert, G., Bauer, P., . . . Larcan, A. (1997, March). Comparison of norepinephrine and dobutamine to epinephrine forhemodymanics, lactate metabolism, and gastric tonometric variables in septic shock: A pospective, randomized study. *Intensive care medicine*, 23(3), 282-287. Retrieved from https://doi.org/10.1007/s001340050329
- Levy, M. M., Evans, L. E., & Rhodes, A. (2018, June). The surviving sepsis campaign bundle: 2018 update. *Intensive care medicine*, 44(6), 925-928. Retrieved from https://doi.org/10.1097/CCM.0000000000003119
- Liberty, T. (2023). History and physical exam homework assignment for community paramedic academy.
- Liberty, T. (2023). Wound care homework assignment for community paramedic academy.
- Liberty, T. (2023). Vaccine infusion homework assignment for community paramedic academy.
- Liccardi, C., & Becker, T. (2016). *Bolivar city rescue task force standard operating procedures*.
- Lin, C., Yu, J., Lin, C., Li, W., Weng, Y., & Chen, S. (2012, November). Postintubation hemodynamic effects of intravenous lidocaine in severe traumatic brain injury. *American journal of emergency medicine*, 30(9), 1782-1787. doi:10.1016/j.ajem.2012.02.013
- Lindbald, A. J., Ting, R., & Harris, K. (2018, August). Inhaled isopropyl alcohol for nausea and vomiting in the emergency department. *Canadian Family Physician, 64*, 580.

---

- Mackenzie, S. J., Kapadia, F., Nimmo, G. R., Armstrong, I. R., & Grant, I. S. (1991, January). Adrenaline in treatment of septic shock: Effects on haemodynamics and oxygen transport. *Intensive care medicine*, 17(1), 36-39. Retrieved from https://doi.org/10.1007/BF01708407
- Maine EMS Trauma Advisory Committee. (2013, April 23). Transexamic Acid use for bleeding trauma patients. *Consensus statement and clinical advice for trauma management*.
- Martin, C., Papazian, L., Perrin, G., Saux, P., & Gouin, F. (1993, June). Norepinephrine or dopamine for the treatment of hyperdynamic septic shock? *Chest*, 103(6), 1826-1831. Retrieved from https://doi.org/10.1378/chest.103.6.1826
- Martin, C., Viviand, X., Leone, M., & Thirion, X. (2000, August). Effect of norepinephrine on the outcome of septic shock. *Critical care medicine*, 28(8), 2758-2765.
- Masters, G. (2023). Gastrointestinal complaints homework assignment for community paramedic academy.
- Masters, G. (2023). Medications reconciliations homework assignment for community paramedic academy.
- Mathew, R., Kumar, A., Sahu, A., Wali, S., & Aggarwal, P. (2021). High-dose nitroglycerin bolus for sympathetic crashing acute pulmonary edema: A prospective observational pilot study. *The Journal of Emergency Medicine*, 61(3), 271-277.
- McAuley, D. F. (2014, July 27). *NSAID's - Dosing table*. Retrieved May 4, 2014, from GlobalRPh Inc.: http://www.globalrph.com/nsaids.htm
- McDonald, R. (2023). Congestive heart failure homework assignment for community paramedic academy.
- McDonald, R. (2023). Chronic hypertension homework assignment for community paramedic academy.

- McDonald, R. (2023). Social assessment homework assignment for community paramedic academy.
- McDougal, J. L. (2009). *Parkland trauma handbook* (3rd ed.). Elseier. doi:10.1016/B978-0-323-05226-9.50011-6.
- Meadows, K. (2023, May 6). Email conversation about chronic care management billing.
- Medical Control Board - EMS System for Metropolitan Oklahoma City and Tulsa. (2013, January 16). Tranexamic acid (TXA, Cyclokapron).
- Medscape. (n.d.). Alteplase. *Medscape: Drugs & Diseases.* https://reference.medscape.com/drug/activase-tpa-alteplase-342287
- MedStar Mobile Healthcare. (n.d.). Congestive heart failure readmission prevention program.
- Medtrade Products Ltd. (n.d.). Celox gauze how to use guide. Retrieved December 29, 2014, from http://www.celoxmedical.com/wp-content/uploads/2013-A4-How-to-use-Celox-Gauze.pdf
- Mercy. (2014, April). II.E.11 Impact EMV+ Impact Ventilator. *Life Line Protocols*.
- Mercy Burn Center. (2014, February 21). Burn Guide. doi:SPR_12621
- Mercy EMS. (2013). Mercy EMS ground protocols. Springfield, MO.
- Mercy EMS. (2013, December). Selective spinal stabilization - Utilization of backboard and c-collar.
- Mercy Life Line. (2013, September). Mercy Life Line protocols. Springfield, MO.
- Mercy Stroke Team. (2019, June 8). EMS post-IV tPA transfer protocol.
- Merk, R. (2016, June 23). Email: EMS IVs. (N. Taylor, & T. Becker, Interviewers)
- Michigan Bureau of EMS, Trauma, & Preparedness. (2020, December 14). Michigan community integrated paramedicine treatment protocols.
- Miller, S. (2020, October 20). Ventilator settings for COVID patients. (B. Flynn, Interviewer).
- Millin, M. G., Galvagno, S. M., Khandker, S. R., Malki, A., & Bulger, E. (2013, May 17). Withholding and termination of resuscitation of adult cardiopulmonary arrest secondary to trauma: Resource document to the joint NAEMSP-ACSCOT position statements. *Journal of Trauma and Acute Care Surgery*, 75(3), 459-467. doi:10.1097/TA.0b013e31829cfaea
- Missouri Department of Health & Senior Services. (2019, July). *Designated hospitals*. Retrieved July 20, 2019, from Time critical diagnosis system: https://health.mo.gov/living/healthcondiseases/chronic/tcdsystem/designatedhospitals.php
- Missouri Department of Mental Health. (2013, June). Show me emotional first aid. Retrieved from http://www.dmh.mo.gov/disaster
- Missouri EMS Regional Committee - Southwest Region. (2013, December). STEMT (St-segment elevation myocardial infarction) protocol.
- *Missouri revised statutes*. (2014, August 28). Retrieved from Missouri general assembly: http://www.moga.mo.gov/mostatutes/stathtml/19000002551.html
- Miyabo, S., Nakamura, T., Kuwazima, S., & Kishida, S. (1981). A comparison of the bioavailability and potency of dexamethasone phosphate and sulphate in man. *European journal of pharmacology*, 20(4), 277-282.
- Moran, J. L., O'Fahartaign, M. S., Peisach, A. R., Chapman, M. J., & Leppard, P. (1993, January 1). Epinephrine as an inotropic agent in septic shock: A dose-profile analysis. *Critical care medicine*, 21(1), 70-77. Retrieved from https://doi.org/10.1097/00003246-199301000-00015
- Morrison, J. J., Dubose, J. J., Rasmussen, T. E., & Midwinter, M. J. (2011, October 17). Military application of tranexamic acid in trauma emergency resuscitation (MATTERs) study. *Archives of surgery*.
- MorTan Inc. (2018). *Morgan lens resource library*. Retrieved from MorTan: https://www.morganlens.com/resource-library

---

- NASEMSO Medical Directors Council. (2017, September 15). *National model EMS clinical guidelines*. Retrieved September 19, 2017, from National Association of State EMS Officials: http://www.nasemso.org/documents/National-Model-EMS-Clinical-Guidelines-Version2-Sept2017.pdf
- National Association of Emergency Medical Technicians. (2019). *Prehospital trauma life support instructor's manual* (9th ed.). Burlington, MA: Jones & Bartlett Learning. Retrieved July 20, 2019
- National Association of EMS Physicians and American College of Surgeons Committee on Trauma. (2013, July/September). Position statement: EMS spinal precautions and the use of the long backboard. *Prehospital emergency care* (3).
- National Association of State EMS Officials. (2014). *National model EMS clinical guidelines*.
- National Athletic Trainers Association. (2015). *Appropriate care of the spine injured athlete*.
- National Athletic Trainers Association. (2015). *Appropriate prehospital management of the spine-injured athlete*.
- National Fire Protecton Association. (2018). *NFPA 1221 Standard for the installation, maintenance, and use of emergency services communications systems* (2019 ed.). (Verbil, Stephen, Ed.) Quncy, MA, USA: NFPA.
- National Highway Traffic Safety Administration. (2007, February). National EMS scope of practice model.
- National Institutes of Health. (2020, October 27). *Mechanical Ventilation Protocol Summary*. Retrieved from ARDS Net: http://www.ardsnet.org/files/ventilator_protocol_2008-07.pdf.

- NEMSIS Technical Assistance Center. (2015, March 2). *NEMSIS data dictionary NHTSA EMS data standard*. Retrieved September 19, 2017, from https://www.nemsis.org/media/nemsis_v3/3.4.0.150302/DataDictionary/PDFHTML/DEMEMS/NEMSISDataDictionary.pdf
- Newell, S. (2017, October 19). EMS dispatch, PHS01-35. *Memorandum to all communication staff*.
- Newell, S. (2018, June 19). Multiple run numbers for CMH. *Memorandum to all staff*.
- Newell, S. (2018, November 5). Logisticare calls. *Memorandum to all staff*.
- Nicholes, A. (2020, October 19). Narcan use by EMR. (K. Jones, & T. Becker, Interviewers).
- Nicholes, A. (2021, January 15). Employee competenc and 2020 AHA updates. (T. Becker & A. Weaver, Interviewers).
- *NIH stroke scale international*. (2003, October 1). Retrieved March 30, 2015, from http://www.nihstrokescale.org/
- Niven, M., & Castle, N. (2010, June). Use of tourniquets in combat and civilian trauma situations. *Emergency nurse*, 18(3), 32-36.
- Noblitt, V. (2020, August). CMH Policy HHA09-16 - Patient medication schedule worksheet/medication reconciliation. *Policy Stat*.
- North American Rescue. (2018, June 19). ARS (air release system) needle decompression instructions.
- North American Rescue. (2018, September 19). SPEAR (simplified pneumothorax emergency air release) decompression needle instructions.
- Nowak, R., Emerman, C., Hanrahan, J., Parsey, M., Hanania, N., Claus, R., . . . Baumgartner, R. (2006). A comparison of levalbuterol with racemic albuterol in the treatment of acute severe asthma exacerbations in adults. *American journal of emergency medicine*, 24(3), 259-267.

---

- OCHC. (2022, September 30). Protocol for responding to and assessing patient assets, risks, and experiences. *Ozarks Community Health Center*.
- O'Donnell, D. P., Schafer, L. C., Stevens, A. C., Weinstein, E., Miramonti, C. M., & Kozak, M. A. (2013, May 24). Effect of introducing the mucosal atomization device for fentanyl use in out-of-hospital pediatric trauma patients. *Prehospital and disaster medicine*, 28(5), 520-522.
- OhioHealth. (2019, December 31). EMS community paramedicine patient assessments.
- OKeefe, B. (2020, October 7). *O-Two ventilator transfer competency*. Bolivar, Missouri.
- O-Two Medical Technologies Inc. (2017, August 28). e700 automatic transport ventilator user manual. (14). Ontario, Canada.
- Outcome Engenuity. (2012). *Just culture: Training for managers* (3.2 ed.). Plano, Texas: Outcome Engenuity, LLC.

---

- Page Wolfberg & Wirth. (2004). *Sample policy for the refusal of care, transporation, or recommended destination*. (1.4 ed.). https://www.pwwemslaw.com
- Pan, A., Stiell, I. G., Dionne, R., & Maloney, J. (2015, January). Prehospital use of furosemide for the treatment of heart failure. *Journal of Emergency Medicine*, 32(1), 36-43. doi:10.1136/emermed-2013-202874
- Parker-Cote, J., & Meggs, W. J. (2018, June). First aid and pre-hospital management of venomous snakebites. *Infectious diseases and tropical medicine*, 3(2), 45. doi:10.3390/tropicalmed3020045
- Perkins, G. D., Ji, C., Deakin, C. D., Quinn, T., Nolan, J. P., Scomparin, C., . . . Lall, R. (2018, August 23). A randomized trial of epinephrine in out-of-hospital cardiac arrest. *New England Journal of Medicine*. doi:10.1056/NEJMoa1806842
- Phillips, C. R., Vinecore, K., Hagg, D. S., Sawai, R. S., Differding, J. A., Watters, J. M., & Schreiber, M. A. (2009, March 4). Resuscitation of haemorrhagic shock with normal saline vs. lactated ringer's: Effects on oxygenation, extravascular lung water and haemodynamics. *Critical care*, 13(2), R30.
- Physio-Control. (2012). *Lucas 2 chest compression system quick reference card*.
- Pieretti, M. (2007). Paramedicine drug study cards. Mosby Inc.
- Powers, W. J., Rabinstein, A. A., Ackerson, T., Adeoye, O. M., Bambakidis, N. C., Becker, K., . . . Tirschwell, D. L. (2019, October 3). Guidelines for the early management of patients with acute ischemic stroke: 2019 update to the 2018 guidelines. *Stroke*, 344-418. doi:10.1161/STR.0000000000000211
- Priority Dispatch. (2012). *The national academy QA guide - Medical priority dispatch system* (v12.2 ed.). Priority Dispatch Corp.
- Proposed regulations. (2010, May 14). *Missouri code of state regulations - Title 19, Division 30, Chapter 40*.

---

---

- Ralston, M. (2011). *PALS*. Dallas, TX: American Heart Association.

- Rhodes, A., Evans, L., Ahazzani, W., Levy, M., Antonelli, M., Ferrer, R., . . . Dellinger, R. P. (2017, March). Surviving sepsis campaign: International guidelines for management of sepsis and septic shock: 2016. *Critical care medicine*, 45(3), 486-552. doi:10.1097/CCM.0000000000002255
- Richey, S. L. (2007, October 24). Tourniquets for the control of traumatic hemorrhage: A review of the literature. *World journal of emergency surgery*, 28(2).
- Rimal, S. P., Rijal, P., Bhatt, R., & Thapa, K. (2017, October). Loading dose only versus standard dose magnesium sulfate seizure prophylaxis in severe pre-eclamptic women. *Journal of Nepal Medical Association*, 56(208), 388-394. Retrieved from https://www.jnma.com.np/jnma/index.php/jnma/article/download/3431/2670/
- Roberts, I., Shakur, H., Ker, K., & Coats, T. (2012). Antifibrinolytic drugs for acute traumatic injury. *The Cochrane Collaboration*.
- Robinson, N., & Clancy, M. (2001, November). In patients with head injury undergoing rapid sequence intubation, does pretreatment with intravenous lignocaine/lidocaine lead to an improved neurological outcome? A review of the literature. *Emergency medicine journal*, 18(6), 453-457. doi:10.1136/emj.18.6.453
- Rochwerg, B., Alhazzani, W., Sindi, A., Heels-Ansdell, D., Thabane, L., Fox-Robichaud, A., . . . Annane, D. (2014, September 2). Fluid resuscitation in sepsis: A systematic review and network meta-analysis. *Annals of internal medicine*, 161(5), 347-355. doi:10.7326/M14-0178
- Ruff, M. (2023). Chronic diabetes management homework assignment for community paramedic academy.
- Ruff, M. (2023). Home visit homework assignment for community paramedic academy.
- Russell, J. (2022, March). CMH Policy HME01-11 - Home medical equipment safety management in the home. *Policy Stat*.
- Ryan, T. (2020, August 14). CMH supervisor rolls and responsibilities.

---

- Sanadi, N. E. (2017). *Fort Lauderdale / Tamarac / Sunrise Fire Rescue combined protocol workshop*. Retrieved September 20, 2017, from Joint EMS Protocols: http://www.jointemsprotocols.com/
- Sanders, L. (2015, September 11). Management of venomous snake bites in North America: Separating the evidence from medical folklore. (A. Koyfman, & S. Alerhand, Eds.) Retrieved November 27, 2019, from http://www.emdocs.net/management-of-venomous-snake-bites-in-north-america/
- SC Community Paramedic Advisory Committee. (2018, March 21). South Carolina community paramedic protocols.
- Schott, C. (2010, January 25). Fluid resuscitation: 0.9% normal saline vs lactated ringer's vs albumin. *EVMS journal club review*.
- Scott, J. & Balourdas, T. (1959, March). An analysis of coronary flow and related factors following vagotomy, atropine, and sympathectomy. *Circulation Research*, VII.
- Semler, M. W., Self, W. H., Wanderer, J. P., Ehrenfeld, J. M., Wang, L., Byrne, D. W., . . . Rice, T. W. (2018, March 1). Balanced crystalloids versus saline in critically ill adults. *The New England Journal of Medicine*, 378(8), 829-839. Retrieved from https://www.nejm.org/doi/full/10.1056/NEJMoa1711584
- Sheppard, C. W. (2013, October 8). New oxygen protocol for Life Line. Springfield, MO.
- Sibley, T., Jacobsen, R., & Salomone, J. (2012, September 12). Successful administration of intranasal glucagon in the out-of-hospital environment. *Prehospital Emergency Care*, 17(1), 98-102. doi: https://doi.org/10.3109/10903127.2012.717171. Retrieved from https://pubmed.ncbi.nlm.nih.gov/22971130/
- Silbergleit, R., Durkalski, V., Lowenstein, D., Conwit, R., Pancioli, A., Palesch, Y., & Barsan, W. (2012, February 16). Intramuscular versus intravenous therapy for prehospital status epilepticus. *The New England journal of medicine*, 366(7), 591-600.
- Singh, H., Vichitvejpaisal, p., Gaines, G., & White, P. (1995, February). Comparative effects of lidocaine, esmolol, and nitroglycerin in modifying the hemodynamic response to laryngoscopy and intubation. *Journal of clinical anesthesia*, 7(1), 5-8. Retrieved from https://www.ncbi.nlm.nih.gov/pubmed/7772359
- Snyder, J. (2018, April). Ventilator usage. *Cox Air Care administrative information and policies*. (S. Crum, Ed.) Springfield, Missouri.
- Sober Recovery. (n.d.). Retrieved December 26, 2014, from http://www.soberrecovery.com/
- Society of Critical Care Medicine. (2016, June 6). Retrieved from Surviving sepsis campaign: http://survivingsepsis.org/
- Society of Critical Care Medicine. (n.d.). *Hour-1 bundle*. Retrieved August 17, 2019, from Surviving sepsis campaign: http://www.survivingsepsis.org/Bundles/Pages/
- Stoller, J. K. (2002). Acute exacerbations of chronic obstructive pulmonary disease. *New England journal of medicine*, 346(13), 988-994.
- Street Rx. (n.d.). Retrieved December 26, 2014, from http://streetrx.com/
- Sukovaty, M. (2021, October 21). Targeted temperature management for pre-hospital settings.
- Swaminathan, A. (2014, December 1). *Roc rocks and Sux sucks! Why Rocuronium is the agent of choice for RSI*. Retrieved April 28, 2015, from emDocs: http://www.emdocs.net/roc-rocks-sux-sucks-rocuronium-agent-choice-rsi/

---

- Tan, H., Alexander, A., Gopalan, A., Hannon, C., & Gunaga, S. (2019, May). The efficacy of BE-FAST in identifying strokes. *Clinical Research*. Retrieved from https://scholarlycommons.henryford.com/merf2019clinres/17
- Taney County Ambulance District. (2014, November 1). Protocols, Procedures, and Medications. Hollister, MO.
- Taylor, N. (2019, March 15). Operation managers and supervisors guidelines.
- Taylor, N. (2018, December 21). *CMH PolicyStat*. Retrieved June 8, 2020, from PolicyStat: https://citizensmemorial.policystat.com/policy/5782548/latest/
- Teleflex Incorporated. (2013). Using the LMA MAD nasal intranasal mucosal atomization device.
- TMF Quality Innovation Network. (n.d.). Zone tool - Heart failure.
- TMF Quality Innovation Network. (2017, June). Zone tool - Diabetes.
- Todd, S., & Malinoski, D. (2007). Lactated ringer's is superior to normal saline in resuscitation of uncontrolled hemorrhagic shock. *The journal of trauma injury, infection, and critical care*, 62, 636-639.
- Tripp, K., McVicar, W., Nair, P., Corren, J., Pleskow, W., Goodwin, E., . . . Hanrahan, J. (2008). A cumulative dose study of levalbuterol and racemic albuterol administered by hydrofluoroalkane-134a metered-dose inhaler in asthmatic subjects. *Journal of allergy and clinical immunology*, 122(3), 544-549.
- Truitt, T., Witko, J., & Halpern, M. (2003, January). Levalbuterol compared to racemic albuterol: Efficacy and outcomes in patients hospitalized with COPD or asthma. *Chest*, 123(1), 128-135.

---

- Ugur, B., Ogurlu, M., Gezer, E., Nuri Aydin, O., & Gursoy, F. (2007). Effects of esmolol, lidocaine, and fentanyl on haemodynamic responses to endotracheal intubation: A comparative study. *Clinical drug investigation*, 27(4), 269-277. Retrieved from https://www.ncbi.nlm.nih.gov/pubmed/17358099
- United States Environmental Protection Agency. (2019, April 3). *What is a HEPA filter?* Retrieved March 29, 2020, from EPA.gov: https://www.epa.gov/indoor-air-quality-iaq/what-hepa-filter-1
- University of Kansas Hospital. (n.d.). National Institutes of Health (NIH) stroke scale (NIHSS).
- University of Minnesota. (1986). Minnesota living with heart failure questionnaire.
- University of Pittsburgh. (n.d.). *qSOFA*. Retrieved August 4, 2018, from Quick sepsis-related organ failure assessment: https://www.qsofa.org
- US Department of Homeland Security. (2009). *Tactical emergency medical support (TEMS) protocols - Prehospital emergency medical care protocols*.
- US Department of Homeland Security. (Unknown). *Austere emergency medical support (AEMS) field guide*.
- US Department of Homeland Security. (Unknown). *DHS-wide EMS basic life support (BLS) & advanced life support (ALS) protocols*.
- US Department of Justice, Drug Enforcement Administration, Offie of Diversion Control. (n.d.). *Controlled substance schedules*. Retrieved December 26, 2014, from http://www.deadiversion.usdoj.gov/schedules/
- USDA. (2017). Definitions of food security. *United States Department of Agriculture*.

---

- Vance, S. (2020, March 3). *COVID-19 update*.
- Vidacare Corporation. (2009, October). EZ-IO G3 power driver - Directions for use. Shavano Park, Texas.
- Vilke, G., Chan, T., Bozeman, W. P., & Childers, R. (2019, September 6). Emergency department evaluation after conducted energy weapon use: Review of the literature for the clinician. *Journal of emergency medicine*. doi:https://doi.org/10.1016/j.jemermed.2019.06.037

---

- Wake County EMS System. (2010). Clinical Operating Guidelines. Raleigh, NC.
- Walker, W. (2023). Chronic mental health management homework assignment for community paramedic academy.
- Walker, W. (2023). Chronic orthopedic management homework assignment for community paramedic academy.
- Walker, W. (2023). History and physical exam homework assignment for community paramedic academy.
- Washington County Ambulance District. (2021). *Clinical practice guidelines - Mobile integrated healthcare provider.*
- Washtenaw/Livingston Medical Control Authority. (2015). *Community paramedicine protocols.*
- Weant, K. A., & Weant, M. P. (2012, April 1). Safety and efficacy of glucagon for the relief of acute esophageal food impaction. *American Journal of Health-System Pharmacy*, 69(7), 573-577. Retrieved from https://doi.org/10.2146/ajhp100587
- Weingart, S. D., & Levitan, R. M. (2012, March). Preoxygenation and prevention of desaturation during emergency airway management. *Annals of emergency medicine*, 59(3), 165-173. doi:10.1016
- Weingart, S. D., Trueger, S., Wong, N., Scofi, J., Singh, N., & Rudolph, S. S. (2014, September 25). Delayed sequence intubation: A prospective observational study. *Annals of emergency medicine*. doi:0196-0644

- Welch Allyn, Inc. (n.d.). SureTemp Plus directions for use. Skaneateles Falls, NY, USA. doi:Material No 409844
- Woolford, S. (2020, November 12). ED triage assessment for stroke-like-symptoms. (J. Hicks, Interviewer).

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-
- Young, R. (2023). Post-stroke homework assignment for community paramedic academy.
- Yunos, N., Bellomo, R., Hegarty, C., Story, D., Ho, L., & Bailey, M. (2012, October 17). Association between a chloride-liberal vs chloride-restrictive intravenous fluid administration strategy and kidney injury in critically ill adults. *The journal of the American Medical Association*, 308(15), 1566-1572. doi:10.1001/jama.2012.13356

---

-
- Zacher, D. (2017, December 8). Pelvic binder proposal.
- Zhou, S.-X., Qiu, H.-B., Huang, Y.-Z., Yang, Y., & Zheng, R.-Q. (2002, July). Effects of norepinephrine, epinephrine, and norepinephrine-dobutamine on systemic and gastric mucosal oxygenation in septic shock. *Acta pharmacol sin*, 23(7), 654-658.

## Change Log:

| Date | Link to previous version | Description of change |
|---|---|---|
| 03/30/20 | pdf | Added content from 9-010 - References. |
| 01/19/21 | pdf | Added references cited in 2020 AHA updates and interview with Dr. Nicholes. |
| 02/18/21 | pdf | Added American Stroke Association |
| 03/24/21 | | Added more stroke resources. |
| 06/15/21 | pdf | Moved to emsprotocols.online |
| 10/14/21 | pdf | Added Flynn RSI checklist |
| 10/14/21 | | Added ACLS and Scott entries from atropine research. |
| 10/15/21 | | Added CMH policy stat order set for sepsis. |
| 02/25/22 | pdf | Added reference for Sibley (intranasal glucagon). |
| 02/25/22 | | Added Sukovaty for targeted temperature management. |
| 10/05/22 | pdf | Added reference to Mathew, Kumar, Sahu, Wali, Aggarwal. |
| 04/27/23 | | Added several references. |
| 05/16/23 | | Multiple additions for MIH protocols. |
| 05/26/23 | | Added various sources from MIH protocol references. |

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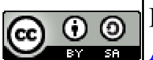
Search protocols: Search

| CMH Pre-Hospital Services Mission: "*Provide safe, exceptional, and compassionate care to our communities with an emphasis on highly trained and empowered staff*." | CMH Mobile Integrated Healthcare Mission: "*Provide exceptional, compassionate, and patient-centered care by a mobile collaborative team to improve patient experience, improve quality outcomes, and reduce healthcare costs*." | |
|---|---|---|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# Appendix 9-020 - Change Log

**CMH EMS & MIH Protocols**

Refer to each specific protocol section for change log and previous versions.

## Versions:

| Number | Name | Finalized Date | PDF |
|---|---|---|---|
| | This is the version in place prior to tracking changes. | Prior to 2011 | Version 0 |
| 1 | This version is named in dedication to Virginia Apgar. | 06/01/2012 | Version 1 |
| 2 | This version is named in dedication to Alfred Blalock. | 09/01/2013 | Version 2 |
| 3 | This version is named in dedication to Edwin Joseph Cohn. | 01/01/2014 | Version 3 |
| 4 | This version is named in dedication to Charles Richard Drew. | 04/01/2015 | Version 4 |
| 5 | This version is named in dedication to Willem Einthoven. | 12/01/2015 | Version 5 |
| 6 | This version is named in dedication to Sir Alexander Fleming. | 01/01/2016 | Version 6 |
| 7 | This version is named in dedication to Georgy Gause. | 02/01/2016 | Version 7 |
| 8 | This version is named in dedication to William Harvey. | 08/01/2016 | Version 8 |
| 9 | This version is named in dedication to Elsie Inglis. | 10/01/2017 | Version 9 |
| 10 | This version is named in dedication to Edward Jenner. | 11/15/2018 | Version 10 |
| 11 | This version is named in dedication to Robert Koch. | 10/15/2018 | Version 11 |
| 12 | This version is named in dedication to Sir Joseph Lister. | 08/01/2019 | Version 12 |
| 13 | This version is named in dedication to Barry Marshall. | 12/15/2019 | Version 13 |
| 14 | This version is named in dedication to Severo Ochoa de Albornoz. | 4/21/2020 | Online only |
| 15 | This version is named in dedication to Louis Pasteur. | 11/13/2020 | Online only |

# Citations:

- Protocol 9-010 - References
- None

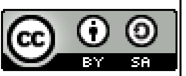
# Change Log:

| Date | Link to previous version | Description of change |
|---|---|---|
| 05/08/15 | pdf | Reduced the text size to shorten this section. |
| 11/13/20 | pdf | Tracking changes moving to individual logs. |
| 11/13/20 | pdf | Moved all ver 14 changes to new individual change log database. |
| 11/13/20 | | Moved version 14 to change log database. |
| 11/13/20 | pdf | Moved version 13 to change log database. |
| 11/14/20 | pdf | Moved version 12 changes to change log database |
| 11/14/20 | | Moved version 11 changes to the change log databse. |
| 11/14/20 | | Moved version 10 changes to change log database. |
| 11/15/20 | pdf | Moved version nine changes to change log database. |
| 11/15/20 | | Moved all version eight changes to change log database. |
| 11/15/20 | | Moved version seven changes to change log database. |
| 11/15/20 | | Moved all version six changes to change log database. |
| 11/15/20 | | Move version six changes to change log database. |
| 11/15/20 | | Moved all of version five changes to change log database. |
| 12/29/20 | pdf | Moved version 4 to online change log database. |
| 12/31/20 | pdf | Moved ALL changes to online change database. |
| 06/15/21 | pdf | Moved to emsprotocols.online. Combined with 9-035. |
| 06/16/21 | | Online change log database. |

Return to Protocols Table of Contents.

Search protocols: Search

| CMH Pre-Hospital Services Mission: "*Provide safe, exceptional, and compassionate care to our communities with an emphasis on highly trained and empowered staff*." | CMH Mobile Integrated Healthcare Mission: "*Provide exceptional, compassionate, and patient-centered care by a mobile collaborative team to improve patient experience, improve quality outcomes, and reduce healthcare costs*." | |
| --- | --- | --- |

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# Appendix 9-050 - Definitions

**CMH EMS & MIH Protocols**

**FUTURE REVISION**: Need to correlate this list with approved list found in PolicyStat and with Master Concordanate file on PreHospital file server.

| Term | Description / definition |
|---|---|
| ABN | Advance Beneficiary Notice |
| AC | Antecubital |
| ACLS | Advanced Cardiac Life Support |
| AED | Automated External Defibrillator |
| AEMT | Advanced Emergency Medical Technician |
| A-Fib | Atrial Fibrillation |
| AHA | American Heart Association |
| ALOC | Altered Level of Consciousness |
| ALS | Advanced Life Support. An ALS ambulance is a ground ambulance staffed and equipped to provide advanced life support consistent with state laws, policies, procedures, and protocols. Referred to and identified on the radio as "Medic." |
| AMLS | Advanced Medical Life Support |
| APGAR | Activity, Pulse, Grimace, Appearance, and Respiration |
| AVL | Automatic Vehicle Locator. The device that makes use of Global Positioning System (GPS) to allow the ambulances to be remotely tracked. AVL information should be used to dispatch ambulances efficiently. |
| BCFD | Bolivar City Fire Department |
| BEMS | Bureau of Emergency Medical Services |
| BiPAP | Bilevel Positive Airway Pressure |
| BLS | Basic Life Support. A BLS ambulance is a ground ambulance staffed and equipped to provide basic life support in full compliance with applicable laws, policies, procedures, and protocols. Referred to and identified on the radio as "Squad." |
| BP | Blood Pressure |
| BSA | Body Surface Area |
| BSI | Body Substance Isolation |
| BVM | Bag Valve Mask |
| CAD | Coronary Artery Disease or Computer Aided Dispatch |
| CCMH | Cedar County Memorial Hospital |

| | |
|---|---|
| CCR | Cardio-Cerebral Resuscitation |
| CCSO | Cedar County Sheriff's Office |
| CHF | Congestive Heart Failure |
| CISD | Critical Incident Stress Debriefing |
| CMH | Citizens Memorial Hospital |
| CNS | Central Nervous System |
| CO | Carbon Monoxide |
| CO2 | Carbon Dioxide |
| COPD | Chronic Obstructive Pulmonary Disease |
| CPAP | Continuous Positive Airway Pressure |
| CPR | Cardio-Pulmonary Resuscitation |
| CRNA | Certified Registered Nurse Anesthetist |
| CSR | Code of State Regulations |
| CSS | Cincinnati Stroke Scale |
| CT | Computed Tomography |
| CVA | Cerebro-Vascular Accident |
| D5W | 5% Dextrose in Water |
| D10W | 10% Dextrose in Water |
| D25W | 25% Dextrose in Water |
| D50W | 50% Dextrose in Water |
| DBP | Diastolic Blood Pressure |
| Dispatch Center, Designated EMS | A dispatch center approved and authorized by CMH Board of Directors to dispatch CMH ambulances or EMH Board of Directors to dispatch EMH ambulances. |
| Dispatch, Primary | Brief dispatch information given to responding units when they are initally dispatched. |
| Dispatch, Secondary | Dispatch information given to responding units after they go en route that repeats the location and additional information pertaining to the response. |
| DNR | Do Not Resuscitate |
| DSI | Delayed Sequence Intubation |
| ECG | Electrocardiogram |
| ED | Emergency Department |
| EKG | Electrocardiogram |
| EMA | Emergency Management Agency |
| EMD | Emergency Medical Dispatch |
| EMH | Ellett Memorial Hospital |
| EMR | Emergency Medical Responder |
| EMS | Emergency Medical Services |

| | |
|---|---|
| EMT | Emergency Medical Technician |
| EOS | End Of Shift |
| ePCR | Electronic Patient Care Report |
| ER | Emergency Room |
| ET | Endotracheal |
| ETA | Estimated Time of Arrival. The estimated time emergency medical services resources will arrive at a specific location. |
| EtCO2 | End Tidal Carbon Dioxide |
| ETOH | Ethanol |
| FDA | Food and Drug Administration |
| First Responder Agency | An agency which responds to medical emergencies as part of the organized EMS system in order to provide Basic Life Support (BLS) procedures prior to the arrival of an ambulance or to assist ambulance personnel in their performance of rendering emergency medical care to a person or persons suffering from an illness or injury. |
| GCS | Glasgow Comma Scale |
| GI | Gastrointestinal |
| HF | Hydrofluoric Acid |
| HFR | Humansville Fire Rescue |
| HR | Heart Rate |
| HWFR | Halfway Fire Rescue |
| IAEMD | International Academies of Emergency Medical Dispatch |
| ICP | Intracranial Pressure |
| ICU | Intensive Care Unit |
| IDLH | Immediately Dangerous to Life and Health |
| IM | Intramuscular |
| IN | Intranasal |
| Incident time - Dispatch | The time the responding crew is initially alerted to the incident and has received enough information to respond appropriately (i.e. location, chief complaint, priority dispatch code). |
| Incident time - En route | The time an ambulance has departed from current location in order to respond to a request for an ambulance. |
| Incident time - In service | Also known as available time. The time an ambulance is available on communications equipment to respond as directed by the Designated EMS Dispatch Center or out of station mobile available for call. |
| Incident time - On scene | Also known as arrival time. The time at which the responding ambulance is no greater than 200 feet from the location that the ambulance will be parked on scene or arrive at a staging area. The time that an ambulance arrives at an appropriate receiving location or at the rendezvous point with another EMS provider. |

| | |
|---|---|
| Incident time - Received | Also known as time of call. The time the request for the ambulance was made. The time that the callback number, location, and symptom(s)/type of incident has been received at the Designated EMS Dispatch Center so that a proper ambulance dispatch can be determined and made. |
| Incident time - Transporting | Also known as cleared scene or en-route to hospital time. The time an ambulance departs from the scene en route to an appropriate receiving location or rendezvous point. Cleared scene time may be the same as in service time if no transport is being made and the ambulance is available for another response. |
| IO | Intraosseous |
| ITLS | International Trauma Life Support |
| IV | Intravenous |
| KED | Kendrick Extrication Device |
| LBBB | Left Bundle Branch Block |
| LEO | Law Enforcement Officer |
| LMA | Laryngeal Mask Airway |
| LOC | Level of Consciousness |
| LR | Lactated Ringers |
| LTC | Long Term Care |
| MAP | Mean Arterial Pressure |
| MARCHE | Massive hemorrhaging, Airway, Respiration, Circulation, Hypothermia, Everything Else |
| MCI | Mass Casualty Incident |
| MCI Plan | The procedure followed by the EMS Agency in the event that an MCI is declared. |
| Medical Emergency | A situation in which there is a real or perceived need for immediate action, attention, or decision-making to prevent mortality or serious morbidity. |
| MDI | Metered-Dose Inhaler |
| MFPD | Morrisville Fire Protection District |
| MD | Medical Doctor |
| mEq | Milliequivalent |
| MI | Myocardial Infarction |
| MOI | Mechanism of Injury |
| MOLST | Medical Orders for Life Sustaining Treatments |
| MPDS | Medical Priority Dispatch System |
| MS | Medical Surgery or Med-Surg Unit |
| NaHCO3 | Sodium Bicarbonate |
| NCN | No Care Needed |
| NEB | Nebulized |
| NFPA | National Fire Protection Association |

| | |
|---|---|
| NIH | National Institute of Health |
| NIHSS | National Institute of Health Stroke Screen |
| NOI | Nature of Illness |
| NPA | Nasopharyngeal Airway |
| NS | Normal Saline |
| NSAID | Non-Steroidal Anti-Inflammatory Drug |
| O2 | Oxygen |
| OB | Obstetrics |
| OPA | Oropharyngeal Airway |
| PCCD | Polk County Central Dispatch |
| PCR | Patient Care Report |
| PEA | Pulseless Electrical Activity |
| PHFPD | Pleasant Hope Fire Protection District |
| PHS | Pre-Hospital Services |
| PHTLS | Pre-Hospital Trauma Life Support |
| PICC | Peripherally Inserted Central Catheter |
| PO | Per Orem - By mouth |
| POLST | Physician Orders for Life Sustaining Treatment |
| Posting | The term used to denote the strategic location of an ambulance for the purpose of providing the most reasonable response times to an area. |
| PPE | Personal Protective Equipment |
| PRC | Patient Refusal of Care |
| QR | Quick Response barcode |
| QRS | Ventricular depolarization |
| QT | Space between ventricular depolarization and polarization |
| RACE | Regional Response to Cardiovascular Emergencies |
| RBBB | Right Bundle Branch Block |
| RN | Registered Nurse |
| RR | R-wave to R-wave |
| RSI | Rapid Sequence Intubation |
| RT | Respiratory Therapy |
| RTF | Rescue Task Force |
| SAMPLE | Signs/Symptoms, Allergies, Medications, Pertinent history, Last oral intake, Events |
| SBP | Systolic Blood Pressure |
| Size-up | Also known as windshield report. Upon arrival on scene a report of what is seen by the crew. |
| SL | Sub Lingual |

| | |
|---|---|
| SME | Subject Matter Expert |
| SMR | Spinal Motion Restriction |
| SpO2 | Saturation of Peripheral Oxygen |
| SQ | Subcutaneous |
| SSRI | Selective Serotonin Reuptake Inhibitor |
| Stage | The term used to denote the strategic movement of an ambulance to a specific area to provide a safe area for standby while the scene is made safe. |
| Standby | The term used to denote that an EMS vehicle is staged near an activity for which it is presumed there is a high likelihood that a medical emergency will occur. |
| Status [one], [two], etc. | The terminology to depict how many ambulances are available for response in the geographic response area. For example, "status one" indicates there is only one ALS ambulance available in the county. |
| STEMI | ST-Segment Elevated Myocardial Infarction |
| TES | Threat Elimination Specialist |
| TPOPP | Transportable Physician Orders for Patient Preferences |
| TXA | Tranexamic Acid |
| VA | Department of Veterans Affairs |
| VF | Ventricular Fibrillation |
| V-Fib | Ventricular Fibrillation |
| VT | Ventricular Tachycardia |
| V-Tach | Ventricular Tachycardia |
| WPW | Wolff Parkinson White |

## Citations:

- Protocol 9-010 - References
- None

# Change Log:

| Date | Link to previous version | Description of change |
|---|---|---|
| 04/14/15 | | Created this section at the specific request of Dr. Merk. |
| 08/24/17 | pdf | Removed this section due to combining abbreviations with the index. |
| 03/28/20 | | Added this section. |
| 06/08/20 | pdf | Changed name from appendix to definitions. Added definitions from Policy PHS01-35. |
| 06/15/21 | pdf | Moved to emsprotocols.online |

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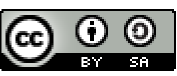
| CMH Pre-Hospital Services Mission: "*Provide safe, exceptional, and compassionate care to our communities with an emphasis on highly trained and empowered staff*." | CMH Mobile Integrated Healthcare Mission: "*Provide exceptional, compassionate, and patient-centered care by a mobile collaborative team to improve patient experience, improve quality outcomes, and reduce healthcare costs*." | |
|---|---|---|



|  | Polk, Hickory, Cedar, & St Clair County EMS Protocols by Theron Becker is licensed under a Creative Commons Attribution-ShareAlike 4.0 International License. |
|---|---|