



Greater Miami Valley EMS Council

GMVEMSC

2022 Standing Orders

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Acknowledgement

Region 3 EMS Providers,

This Protocol and the supporting Training Manual has been produced as a result of countless hours of work by a diverse cross section of the regional EMS community. This group includes the members of the Standing Orders Committee and the Regional Physician's Advisory Board. In editing the protocol, the team considered changes in State of Ohio- EMS scope of practice changes, medication availability, patient management best practices and EMS care procedural improvements. Additionally, the input given by you, the providers operating under this protocol, was factored in. The entire protocol also went through a visual and formatting change this year. The overall goal was to improve and clarify this document, while also making it easier to provide quality care to your patients.

There are companion documents and additional resources that are available for you to either view online or download for further explanation on the Training and Testing process for 2021. The first of these is the "2021 Implementation Guide". It addresses the new philosophy, CEUs, and other important information regarding the testing. The other is the Ohio Public Safety "Scope of Practice" document. We hope to have additional supplemental material posted on the website at a later date.

The entire protocol, the training manual and testing processes would not have been possible without the strong foundation left by the many past chairpersons of the Continuing Education Committee and all of the other council members. Thank you to all who have volunteered to edit and critique these manuals.

I would also like to thank Dr. Randy Marriott and all of the many RPAB members for their work.

Sincerely,

John Russell
Standing Orders Co-Chair

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Appendix A 2022 Protocol Changes



1000 Series

General Protocol

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Subject:

Introduction to Protocols

Effective:

June 1, 2021

Last Modified:

Dec. 30, 2020

1001.1 Introduction to Treatment Protocols

- a. Each protocol has been approved by the Greater Miami Valley EMS Council and the Regional Physician Advisory Board for Region 3 (as defined by the State Board of Emergency Medical, Fire and Transportation Services (EMFTS).
- b. Each protocol bears an effective date making it current, and a last modified date marking it as the latest version.
- c. An addition to protocol would reflect a duplicate "Effective" and "Last Modified" date.
- d. When changes or revisions are made, only the "Last Modified" date will be changed.
- e. Each time changes or additions are made they can be referred to by their specific line in the protocol.
i.e. *A change was made to "1001.1.e"*.

1001.2 Printing, Retention, and Display

- a. All GMVEMSC Treatment Protocols are intended for color printing, and hard copy retention.
- b. These protocols are also intended for electronic display in Adobe Portable Document Format (PDF).
 - i. The PDF version includes links to the different tabs throughout the document.
 - ii. The GMVEMSC logo on most pages is a hyperlink back to the table of contents.
- c. Distribution is provided by means of the GMVEMSC official website.

1001.3 Application

- a. This protocol is for use by those individuals operating in and under the authority of the Greater Miami Valley EMS Council (GMVEMSC) Drug Bag Exchange Program and certified by the State of Ohio as an EMS provider.
- b. The provider must pass both the skills check-off and Computer Based Testing (CBT) for the current year.
- c. The GMVEMSC Treatment Protocols apply to the following certification levels:
 - i. Emergency Medical Responder (EMR)
 - ii. Emergency Medical Technician (EMT)
 - iii. Advanced Emergency Medical Technician (AEMT)
 - iv. Paramedic (PM)

1001.4 Stipulations

- a. The protocol is to be used in the field only.
- b. Communicate with the receiving facility as soon as practical for unstable patients, or for hospitals that request contact for all patients being transported to their facility.
- c. No procedures, techniques, or drugs will be used without the proper equipment or beyond the training or capabilities of the prehospital personnel.
- d. Nothing in this protocol may be used without specific pre-approval of the Medical Director for the local department or agency.
- e. The protocol is to be utilized as clinically indicated. Not every standing order in a treatment protocol must be carried out on every patient treated under that treatment protocol.
- f. Discretionary judgment is required and stepwise adherence to specific protocols may not be in the patient's best interest.
- g. At no time should treatment options exceed those authorized without direct consultation with the



Subject:

Introduction to Protocols

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Medical Control Physician (MCP).

1001.5 Protocol Design

- a. The GMVEMSC protocols are organized around the General Patient Management Protocol which must be followed for all patients. This universally applicable protocol/flowchart allows the providers to integrate additional treatment protocols beyond general patient management as clinically necessary for specific patient care, emergency stabilization, and treatment.
 - i. As an example, while caring for a specific patient with chest pain, shortness of breath, and nausea the provider would:
 1. Follow the General Patient Management Protocol
 2. Integrate and follow the Chest Pain Protocol
 3. Integrate and follow the Respiratory Distress Protocol if indicated
 4. Integrate and follow the Cardiac Alert Protocol if indicated
 5. Integrate and follow the Abdominal Pain Protocol if indicated
 6. Refer to protocol for specific medication concentrations, dosages, and volumes.
 7. Complete the General Patient Management Protocol
- b. In most cases, a specific guideline will only be mentioned once within the protocol. All other circumstances where that guideline would be applicable will simply refer to the original guideline.
- c. Where applicable, a guideline mentioned in another section will have a hyperlink provided.
- d. Formatting
 - i. All attempts will be made to keep the protocol focused and specific.
 - ii. Extracurricular and enhancing information will be provided in an official study guide.
 - iii. All levels of providers will be addressed within a single protocol.
 - iv. Procedures and treatments marked with a diamond (◆) always require a physician's order.
 - v. Items enclosed in brackets ({}) are at the option of the agency and their Medical Director.
 - vi. Sections that apply only to adults are bulleted with an "A".
 - vii. All pediatric treatments will be in pink and bulleted with a "P".
 - viii. There are also sections which apply to only Geriatric patients and are bulleted with a "G."

1001.6 Clinical Management Tables

- a. In addition to general statements, this protocol will utilize table-based algorithms where applicable.
- b. The table will demonstrate what care can be given at each provider level.
 - i. The level of certifications will be signified by the colored tabs to the right of each section.
- c. Even with a step-by-step algorithm in place, critical thinking is encouraged.
- d. While the table is sequential and listed by provider level, many elements in each section can be completed simultaneously.
- e. The following is an annotated example of a Clinical Management Table:



Subject: Introduction to Protocols

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Assessment

Pediatric Considerations

- This is where pediatric specific info might go.
- Dosing and treatment will still be listed in the algorithm

Signs & Symptoms

- This is where S&S will go

Differential Diagnosis

- This is where differentials will go

Treatment Algorithm

- This will be where guidelines for all certification levels will go
- Any EMR and above information will be listed in this box.

EMR

- Treatment directives for the EMT and above will be here.
- If no EMT directives apply, then this box would read "No additional orders at this level".

EMT

- Treatment directives for the AEMT and above will be here.
- If no AEMT specific directives apply, then this box would read "No additional orders at this level".

AEMT

- Treatment directives for the Paramedic will be listed here.
- If no Paramedic specific directives apply, then this box would read "No additional orders at this level".

Paramedic

Consult

- If requirements exist for any level to call for orders, that will be listed here.
- If there is a guideline to call an alert, that will be listed here.
- If there is a recommendation to call for MCP advice, that will be listed here.
- If there is a request to call the receiving facility prior to arrival, that will be listed here.

Clinical Pearls

- Any important guidelines or clinical information will be added here.
- This will not be a study guide nor a skill sheet. That information will be supplied in a separate format.

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Subject: Communication with Hospital or Medical Control

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1002.1 Reasons to Contact the Hospital

- a. To notify the hospital when time is needed to prepare for patient arrival. Examples include:
 - i. Cardiac arrest
 - ii. Any of the defined alerts such as Cardiac Alert, Stroke Alert, Trauma Alert
 - iii. Indications of sepsis
 - iv. Significant communicable disease
 - v. Other serious patients that may require acute care
 - vi. Hazardous material exposures (*mandatory*)
 - vii. Bedbugs

1002.2 Reasons to Contact Medical Control

- a. To obtain orders for procedures or medications as indicated within the protocol.
- b. For field termination or DNR clarification.
- c. To obtain advice in a difficult situation or circumstance. Examples include:
 - i. Before a medication is given, even though protocol allows it to be used without permission.
 - ii. A situation where the patient has an unfamiliar condition.
 - iii. To discuss a destination decision.

1002.3 Call-in Procedures

- a. When contacting a hospital, make sure a clear picture is painted.
- b. When calling about a trauma patient, include:
 - i. MIVT **M**echanism, **I**njuries, **V**ital Signs and **T**ime
 - ii. Estimated time of arrival (ETA)
 - iii. The components of the Glasgow Coma Score (GCS)
 - iv. Patient assessment findings which are relevant to the decision to transport to a Trauma Center.
- c. If consultation with a physician is desired, specifically request the Medical Control Physician.
- d. When calling with an Alert (Cardiac, Stroke, Trauma, etc.):
 - i. Request to speak directly to the Medical Control Physician at the beginning of the call.
 - ii. Verbalize, "We recommend a Alert."
 - iii. The MCP has the discretion to withhold the Alert and may decide not to activate it.

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Subject:

Non-Initiation of Care

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1003.1 General Guidelines for Withholding Initiation of Care

- a. This protocol may be applied by all provider levels.
- b. Both Adult and **Pediatric** patients may meet criteria for non-initiation of care.
- c. If care had begun and is readily apparent to the provider that the patient meets non-initiation of care criteria, **RESUSCITATION EFFORTS MAY CEASE.**

1003.2 Criteria for Non-Initiation of Care

- a. Resuscitation will not be initiated in the following circumstances:
 - i. Deep, penetrating, cranial injuries
 - ii. Massive truncal wounds
 - iii. DNR Order—present and valid (see [1004 Do Not Resuscitate](#))
 - iv. Frozen body
 - v. Rigor mortis, tissue decomposition, or severe dependent lividity
 - vi. Triage demands
 - vii. For patients in arrest resulting from **BLUNT OR PENETRATING TRAUMA** consider not initiating care for injuries obviously incompatible with life.
 1. Prolonged arrest (greater than 10 minutes)
 2. Consider possibility of MI ED MECHANISMS

1003.3 Exclusionary Conditions

- a. The following conditions will not meet non-initiation of care criteria:
 - i. Traumatic arrest in female patient with either:
 1. Known pregnancy greater than 24 weeks or
 2. Uterine fundus palpable at or above the umbilicus
 - ii. Possible medical etiology for cardiac arrest
 - iii. Arrest witnessed by EMS providers
 - iv. Lightning strike
 - v. Signs or symptoms of a hypothermic patient
 - vi. Focused blunt trauma to the chest, (commotio cordis)

1003.4 For an inquiry about organ donation, direct the call to Life Connection of Ohio at 1-800-535-9206.

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Subject: Do Not Resuscitate

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1004.1 General Guideline

- a. Per ORC [2133.21-2133.26](#), providers will consider and honor all valid Ohio Do Not Resuscitate orders.
- b. The two valid DNR orders are DNR: Comfort Care and DNR: Comfort Care Arrest.

1004.2 Do-Not-Resuscitate Orders Defined

- a. Do-Not-Resuscitate: Comfort Care Arrest (DNR-CCA)
 - i. Permits any GMVEMSC Protocol treatment until the order is initiated.
 - ii. The order is initiated at the moment the patient goes into cardiac or respiratory arrest.
 - iii. Once the patient meets the above criteria, then only permitted DNR treatment is performed.
- b. Do-Not-Resuscitate: Comfort Care (DNR-CC)
 - i. Permits any medical treatment to diminish pain or discomfort
 - ii. No treatment should be used to postpone the patient's death.
 - iii. The order is initiated at the moment it is signed by the patient's physician.

1004.3 Permissible and Impermissible Treatments Once the DNR is Initiated

- a. The following treatments are permitted once an order is valid and effective:
 - i. Conduct an initial assessment
 - ii. Perform basic medical care
 - iii. Clear airway of obstruction or suctioning
 - iv. If necessary, for comfort or to relieve distress, may administer oxygen, CPAP or BiPAP
 - v. If necessary, may obtain IV access for hydration or pain medication to relieve discomfort, but not to postpone death
 - vi. If possible, may contact other appropriate health care providers
- b. The following treatments are not permitted once an order is valid and effective:
 - i. Perform CPR
 - ii. Administer resuscitation medications with the intent of restarting the heart or breathing
 - iii. Insert an airway adjunct
 - iv. Defibrillation, cardioversion or initiate pacing
 - v. Initiate continuous cardiac monitoring

1004.4 Stipulations

- a. If more than one living will declaration or DNR exists, the most recent supersedes the previous.
- b. The authority of a DPOA-HC supersedes the DNR if the DPOA-HC previously consented to the DNR.
- c. The GMVEMSC protocol will recognize the following special situations as valid. If these scenarios present, then contact MCP and request to honor the DNR with physician permission.
 - i. Out-of-State DNR orders
 - ii. Pediatric DNR orders
 - iii. DNRs signed by Nurse Practitioners or Physician's Assistants.
- d. Blood glucose checks and treatment of [4008 Diabetic Emergencies - Hypoglycemia](#), is acceptable even with a valid DNR
- e. In situations where there are questions about the documents, try to keep the patient's intent in mind.
- f. If there is any confusion on scene, ♦ Call MCP for clarification.

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Subject: General Patient Management

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1005.1 Guideline

- a. The General Patient Management protocol is to be applied to all patients.
- b. Once a primary impression and differential diagnosis is made, then the provider should look to specific treatment algorithms within these standing orders.

1005.2 Basic Patient Care

- a. The emphasis in patient care should ensure airway protection, oxygenation, and adequate ventilation without causing harm.
- b. Injury reduction strategies may include noninvasive ventilation when appropriate, titration of oxygen in certain settings, and being cautious not to over ventilate.
- c. Tailor treatment to the overall clinical picture.
- d. With the exception of suspected acute cerebral herniation, the rate and depth of ventilation in the prehospital setting should not be guided by the EtCO₂ reading alone.
- e. For the patient with cerebral herniation, ventilate the patient at approximately 20 times per minute to obtain an EtCO₂ of 30 mmHg.
- f. Permissive hypercapnia in most cases is appropriate, particularly in those with chronic lung disease who may chronically retain CO₂.
- g. It is recommended to listen to the chest to ensure that adequate exhalation is occurring during manual ventilation.

1005.3 EMT Assisting the Advanced Provider

- a. Per Ohio Revised Code, the EMT is permitted to assist the advanced provider with skills that are outside of the EMT's scope of practice.
- b. The EMT is only allowed to prepare ALS equipment under the direct supervision of the AEMT or Paramedic.
- c. The skills that an EMT may set up for and assist with are:
 - i. Endotracheal intubation
 - ii. Intravenous access
 - iii. IV fluid administration
 - iv. Saline locks
 - v. Placement of 4 Lead EKG for cardiac monitoring
 - vi. Accessing the GMVEMSC Drug Box to locate drugs and/or to assemble pre-jects.

1005.4 General Patient Management

Assessment		
<p>Pediatric Considerations</p> <ul style="list-style-type: none"> • Pediatric patients are defined as patients 16 years old or younger. • A Pediatric reference guide or length-based resuscitation tape may be used to reference pediatric equipment recommendations. • Pedi-Wheel may be used as a reference for pediatric vital signs. • Unless otherwise specified, the maximum dose for pediatric medication administration is the adult dose. 	<p>Signs & Symptoms</p> <ul style="list-style-type: none"> • None 	<p>Differential Diagnosis</p> <ul style="list-style-type: none"> • None
Treatment Algorithm		



Subject: General Patient Management

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- Scene/Crew Safety/PPE with appropriate equipment/medications to patient side.
- Initial Assessment/Physical Exam
- Follow basic life support and airway algorithms as indicated based on current AHA guidelines.
- An unresponsive patient with gasping breaths and poor color should get supplemental oxygen via BVM
- Obtain chief complaint, OPQRST, SAMPLE history, and other pertinent information.
- Vital Signs
 - Blood Pressure (EMR are limited to obtaining manual blood pressures)
 - Pulse, rate and quality
 - Respirations Rate, quality and work-of-breathing
 - Assess every 5 to 15 minutes per patient condition
 - Temperature as needed
- Utilize monitoring devices, pulse oximeter, CO-oximetry, capnography, etc. as appropriate and approved by medical direction.

EMR

- Perform blood glucose check.
- Where indicated, the EMT may obtain a {12 Lead EKG} for the purpose of transmission.
- The EMT may assist the advanced provider with:
 - {12 Lead EKG} application assisting a Paramedic who is present
 - Set up an IV administration kit in the presence of an AEMT or Paramedic

EMT

- Utilize cardiac monitor as appropriate.
- Where indicated, the AEMT may obtain a {12 Lead EKG} for the purpose of transmission.
- The AEMT may apply a {12 Lead EKG} when assisting a Paramedic who is present.
- Start IV crystalloid solutions or saline lock as appropriate.
- **IV Therapy:** Follow [4016 Shock Protocol](#).
 - For medical emergencies, head trauma, cardiac issues with stable BP, etc.: Use **TKO** rate.
 - Shock (not related to penetrating trauma):
 - Run **IV fluid** wide-open
 - Use macro-drip or blood tubing except for penetrating chest or abdominal trauma
 - Decrease fluid rate if SBP greater than 100
- **P IV fluid 20 ml/kg using macro-drip tubing. Titrate to maintain adequate perfusion.**
- Use of IO devices for both Adults and Pediatrics is limited to patients who are unresponsive or hemodynamically unstable, and only when less invasive means are not available or are ineffective (e.g., **Glucagon** IM, **Narcan** IN, and **Versed** IN).
- ♦ If a patient with an existing IV pump experiences an allergic reaction, consider discontinuing the pump.

AEMT

- Use of an {IV pump} is optional for any agency with approval from their Medical Director.
- Existing central venous catheters, dialysis catheters, fistulas, or grafts may be utilized for infusion of IV fluids and medication if the patient is hemodynamically unstable. These may also be used when the patient is deteriorating rapidly.

Paramedic

Consult

- Do not stop the flow of medication in an established medication pump except under direct orders from Medical Control. There are some drugs such as Flolan that could kill the patient if stopped.
- If a patient with an existing IV pump experiences an allergic reaction, call the MCP for an order to discontinue the pump.
- Bring medications or a list of the medications to the hospital include the dose and frequency of administration.

Clinical Pearls

- Crystalloid fluids include Normosol, Plasmalyte, Lactated Ringers or Normal Saline in that order. Their pH is closer to neutral.
 - Medical emergencies, head trauma, cardiac problems with stable BP: Use TKO rate.
- IV medication administration: **Slow IV = over 2 minutes**, unless otherwise specified.
- Any medication given IV can also be administered intraosseous, IO.
- Maintain normothermia.

END OF SECTION



Subject: Patient Abuse and Neglect

Effective: June 1, 2021

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1006.1 Guideline

- a. EMS MUST, by law, report all alleged or suspected **pediatric** and adult abuse/neglect.
- b. Ohio Revised Code requires providers to report incidents of **pediatric** and adult abuse/neglect to:
 - A Their county’s adult protective services agency (for patients over 60 years old)
 - P Their county’s public children services agency**
- iii. Or for both adults and **pediatrics** Law enforcement
- iv. For adult patients see ORC [5101.63](#) and for **pediatric patients see ORC 2151.421**
- c. Simply notifying hospital personnel does not meet mandated EMS reporting responsibilities.
- d. Hospitals have copies of the EMS Social Services Referral Form, supplied by GDAHA, for documenting cases of abuse/neglect.
- e. Use of this form can help providers in providing information needed to their reporting agency, as well as provide for a continuum of care with hospital social services departments.
- f. Document on the Patient Care Report, all efforts that EMS made to report the suspected abuse include name of agency notified, method used, and name of person contacted.

1006.2 Pediatric Abuse and Neglect

P Report all alleged or suspected child abuse or neglect to the appropriate agency.

Pediatric Public Social Services Agencies			
County	Phone	After Hours Phone	Fax
Butler	513-887-4055	513-868-0888	513-887-4260
Champaign	937-484-1500	Contact County SO: 937-484-6092	937-484-1506
Clark	937-327-1700	937-324-8687	937-327-1910
Darke	937-548-7129	937-548-2020	937-548-8723
Greene	937-562-6600	937-372-4357	937-562-6650
Miami	937-335-4103	Contact County SO: 937-440-3965	937-339-7533
Montgomery	937-224-5437	937-224-5437 (same as daytime)	937-276-6597
Preble	937-456-1135	937-456-1135 (same as daytime)	937-456-6086
Shelby	937-498-4981	Contact County SO : 937-498-1111	937-498-1492
Warren	513-695-1558	513-695-1600	513-695-1800

1006.3 Adult Abuse or Neglect

A Report all alleged or suspected abuse or neglect to the appropriate agency.

Adult Public Social Services Agencies			
County	Phone	After Hours Phone	Fax
Butler	513-887-4081	Contact County SO: 513-785-1000	513-785-5969
Champaign	937- 484-1500	Contact County SO: 937-484-6092	937-484-1506
Clark	937-327-1700	937-324-8687	937-327-1910
Darke	937-548-7129	937-548-2020	937-548-4928
Greene	937-562-6315	Contact County SO: 937-562-4800	937-562-6177
Miami	937-440-3471	Contact County SO: 937-440-3965	937-335-2225
Montgomery	937-225-4906	Contact County SO: 937-225-4357	937-496-7464
Preble	937-456-1135	937-456-1135 (same as daytime)	937-456-6086
Shelby	937-498-4981	Contact County SO: 937-498-1111	937-498-1492
Warren	513-695-1420	513-425-1423	513-695-2940

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Subject: Basic Airway Maintenance

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1007.1 Clinical Management

Assessment

Pediatric Considerations

- Repeated and prolonged suctioning could cause hypoxia and bradycardia.

Respirations by Age

Up to 1 year	30-60	7-9 years	16-24
1-3 years	20-40	10-14 years	16-20
4-6 years	20-30	15 years	12-20

Signs & Symptoms

- Respiratory difficulty or distress
- Poor SpO₂ or EtCO₂
- Mechanism of Injury or Nature of Illness that would require O₂ therapy
- Impending airway issues
- Adventitious respiratory sounds

Differential Diagnosis

- None

Treatment Algorithm

- EtCO₂ monitors can be used on all patients with or without adequate perfusion, and with or without artificial airways.
- Administer **Oxygen** as needed. Use the following rates as guidelines:
 - 2 LPM by nasal cannula (NC) for patient with COPD, or as prescribed.
 - 4-6 LPM by nasal cannula (NC) for other patients.
 - 12-15 LPM by non-rebreather mask (NRM) for patients with increased respiratory rates or effort.
 - Ventilate patients who are symptomatic with an insufficient respiratory rate, depth or effort.
- P Patient greater than 2 years old showing respiratory distress with nasal congestion, cough, rales, rhonchi or wheezing - without previous history of wheezing, reactive airway disease, breathing treatments:
 - P Nasopharyngeal suctioning in both nares (3-5 seconds) with an appropriate device
 - P If distress continues, repeat nasopharyngeal suctioning for 3-5 seconds
- P For patients less than 6 years old showing respiratory distress with agitation, upper airway noise, stridor, and/or "barky cough,":
 - P Lower temperature of ambulance as much as possible.
 - P Deliver oxygen as the patient tolerates.
 - P Often these symptoms resolve with less intervention.
 - P Consider keeping distance from the patient.
- Consider patient airway anatomy for the appropriate selection of the airway adjunct.
- If indicated, suction the tracheostomy.
- P If patient has history of reactive airway disease with prescribed breathing treatments then treat with [4003 Asthma](#) protocol.
- Consider the need for a supraglottic or dual lumen rescue airway.
 - The EMT may only place a rescue airway in a pulseless, apneic patient.
 - For guidelines to placement of rescue airways, see protocol [1008 Advanced Airway Management](#)
- Oxygen flow rate for nebulized medications should be 8-10 LPM.
 - Nebulized medication may be administered while ventilating a patient with a BVM. Preferably use two oxygen sources.
- Consider the need for intubation.
 - The AEMT may only intubate if patient is apneic.
- If routine ventilation procedures are unsuccessful, try to visualize obstruction with laryngoscope.
- If a foreign body is seen, attempt to remove it using suction or Magill forceps.
- When deciding whether to intubate, consider the following:
 - Insufficient respiratory rates, less than 10 or greater than 29, that are not rapidly controlled by other measures
 - Irregular respiratory rhythm
 - Abnormal breath sounds
 - Inadequate chest expansion and respiratory depth
 - Excessive effort to breathe
 - Use of accessory muscles
 - Nasal flaring
 - Pallor or cyanosis
 - Cardiac dysrhythmias

EMR

EMT

AEMT

Paramedic

Consult

- None

Clinical Pearls

- COPD patients in severe respiratory distress or with chest pain need the same O₂ devices and flow rates as any other patient in such condition.

END OF SECTION

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Subject: Advanced Airway Management

Effective: June 1, 2021

Last Modified: Dec. 8, 2021

1008.1 Clinical Management

Assessment

Pediatric Considerations	Signs & Symptoms	Differential Diagnosis
<ul style="list-style-type: none"> None 	<ul style="list-style-type: none"> Patient unable to manage their own airway Patient in cardiac arrest Patient in respiratory arrest (AEMT & Paramedic) Rapidly collapsing airway 	<ul style="list-style-type: none"> None

Treatment Algorithm

<ul style="list-style-type: none"> Advanced Airway Management is not an EMR skill 	EMR
<ul style="list-style-type: none"> The EMT may only place a rescue airway in a pulseless, apneic patient If approved, "rescue airways" such as the Supraglottic Airways or Dual Lumen Airways are appropriate airway devices for both adult and pediatric patients. Confirm correct placement of advanced airways by at least 5 methods, see protocol 1009 Advanced Airway Confirmation Devices Reassess advanced airway placement every time the patient is moved. 	EMT
<ul style="list-style-type: none"> An AEMT may only intubate if patient is apneic. Consider patient airway anatomy and condition for proper advanced airway device selection. If a total of two attempts with an ET tube are not successful, move to a rescue airway. <ul style="list-style-type: none"> P Supraglottic airway is recommended as the primary airway except in extreme cases such as airway edema. Always secure the ET tube in place, preferably with a commercial tube-securing device. A cervical collar is effective in maintaining patient's head in a neutral position during the intubation process. If there are indications of tension pneumothorax and the patient is hemodynamically unstable: <ul style="list-style-type: none"> Decompress the chest with a 14-gauge or larger, 3/4" angiocath Location options include: <ul style="list-style-type: none"> Fifth or sixth intercostal space in the mid-axillary line Second or third intercostal space in the mid-clavicular line P If less than 8 years old, site choice will be limited to the 2nd or 3rd intercostal space at the mid-clavicular line 	AEMT
<ul style="list-style-type: none"> Approved advanced airways satisfy the "rescue airway" component for 1010 {Sedate-to-Intubate or RSI}. If a conscious patient requires intubation, consider the following: <ul style="list-style-type: none"> A Apply Lidocaine Jelly to the ET tube. A Lidocaine 100 mg IN (half dose per nostril) or nebulized with 8-10 LPM O₂. P Lidocaine 1.5 mg/kg nebulized with 8-10 LPM O₂ or IN. Maximum dose is 100 mg. If the patient resists the tube after confirmed intubation: <ul style="list-style-type: none"> A SBP is greater than 100, consider Midazolam 2 mg slow IV. A SBP less than 100, consider Ketamine 100 mg slow IV. P SBP is age/weight appropriate consider Midazolam 0.1 mg/kg (max dose 2 mg), slow IV. A Consider nasal intubation A {If a patient needs intubation but is combative, agitated, or has jaws clenched, use 1010 {Sedate to Intubate or RSI} procedures if approved to do so by Medical Direction.} Whenever all reasonable attempts to provide an adequate airway by less invasive means have failed due to a total airway occlusion and you are unable to ventilate: <ul style="list-style-type: none"> A Perform a needle cricothyrotomy or surgical airway utilizing an approved method. P Patient must be 8 years old or greater for a surgical airway. 	Paramedic

Consult

<ul style="list-style-type: none"> None

Clinical Pearls

<ul style="list-style-type: none"> For the EMT, AEMT and Paramedic, Dual Lumen Airways, King Airway or Laryngeal Mask Airways (LMA), are acceptable airway devices. For the AEMT and Paramedic, {Lighted Stylet Intubation} or {Camera Assisted Intubation} may be utilized. For the Paramedic, Nebulized Lidocaine can be administered simultaneously with Albuterol and Ipratropium. <ul style="list-style-type: none"> If feasible, wait one to two minutes before intubation

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Subject: Advanced Airway Confirmation Devices

Effective: June 1, 2021

Last Modified: Dec. 8, 2021

1009.1 General Guidelines

- a. Confirm correct placement of advanced airways by at least 5 methods as listed below.
b. Reassess advanced airway placement every time the patient is moved.
c. CO2 detection methods are highly recommended and Capnography is considered the "gold standard."

1009.2 Confirmation Methods

Table with columns: Assessment (Pediatric Considerations, Signs & Symptoms, Differential Diagnosis), Treatment Algorithm (Advanced Airway Management, Airway device confirmations, ETT depth placement, Nasotracheal tube), Consult, Clinical Pearls. Includes skill level indicators (EMR, EMT, AEMT, Paramedic) on the right side.

1009.3 Confirmation Devices

- a. These devices can help recognize esophageal intubation, but cannot identify bronchial placement.
b. Maintain EtCO2 devices until patient care is transferred to the receiving ED staff.
c. Electronic End Tidal CO2 (EtCO2) Monitors (Capnography)
i. Waveform EtCO2 is the preferred confirmation device.
ii. EtCO2 should be used on EVERY advanced airway
d. End Tidal CO2 Detector (EtCO2) Colorimetric
i. In cardiac arrest, if there is no color change, use other confirmation methods.
ii. Secretions, emesis, etc. can ruin the device.
iii. Large amounts of carbonated beverage in the stomach can give a false positive.
iv. The device can be used for no more than two hours.
v. Follow manufacturer's recommendations for weight restrictions.



Subject: Advanced Airway Confirmation Devices

Effective: June 1, 2021

Last Modified: Dec. 8, 2020

- e. Esophageal Detector Device (EDD)
 - i. Use only for confirmation of endotracheal tube placement, not for any other advanced airways
 - ii. A large amount of gastric air can give a false positive finding.
 - iii. A cold device may give a false negative result.
 - iv. It cannot be used continuously, but may be reused after patient movement.
 - v. Tracheal obstructions in patients with morbid obesity, late pregnancy, status asthmaticus, or copious endotracheal secretions may yield misleading results
 - P Limited to pediatric patients who are more than 5 years old who weigh at least 20 kg (44 lbs)**
- f. Beck Airway Airflow Monitor (BAAM) is authorized for use by the Paramedic during nasal intubation.

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Subject: {Sedate to Intubate or RSI}

Effective: June 1, 2021

Last Modified: Dec. 8, 2021

1010.1 General Guidelines

- a. Sedate to Intubate and Rapid Sequence Intubation are optional skills in the GMVEMSC protocol.
b. These skills are to be performed by the Paramedic only.
c. This standing order applies to agencies whose personnel have received the appropriate training and Medical Director's approval only.
d. Under no circumstances is RSI to be used as "behavioral control" or restraint in patients with otherwise intact airways.
e. Some Medical Directors may recommend Rapid Sequence Intubation as a primary airway control procedure.
f. While this protocol recommends Succinylcholine and Vecuronium as short- and long-term paralytics respectively, a Medical Director may choose to use a different medication.
g. Inclusion criteria:
i. The patient must be 16 years old or older
ii. The patient cannot have suffered a paralyzing injury more than one week and less than 6 months ago (specific to Succinylcholine)

1010.2 Clinical Management

Table with 3 columns: Pediatric Considerations, Signs & Symptoms, and Differential Diagnosis. Includes a Treatment Algorithm section with rows for EMR, EMT, and AEMT skills, and a detailed procedure for sedation and intubation.



Subject: {Sedate to Intubate or RSI}

Effective: June 1, 2021

Last Modified: Dec. 8, 2021

Consult

- Paramedics may seek guidance or approval from medical control prior to initiating the protocol; however, this is not required

Clinical Pearls

- Paralytics or sedation do not change poor airway anatomy.
- The most important decision may be when NOT to paralyze the patient or intubate them.
- Succinylcholine and Vecuronium paralyze the muscles but do not affect LOC. ALWAYS SEDATE THE PATIENT.
- Tachycardia may be a sign that the patient is paralyzed but not adequately sedated.
- No more than 3 intubation attempts.
- If you can still ventilate the patient with a BLS airway, a cricothyroidotomy is not necessary.

1010.3 RSI Educational Recommendations

- a. Rapid Sequence Intubation should not be available to all paramedics in the system.
- b. Only those paramedics willing to undergo additional initial training and continuing training should be allowed to perform it.
- c. In initial training, the paramedic should demonstrate proficiency during the following practical evaluations:
 - i. 2 endotracheal intubations on airway simulators
 - ii. 3 endotracheal intubations on airway simulator with C-spine immobilization
 - iii. 5 surgical cricothyrotomies on simulators using surgical technique or an approved device
 - iv. 4 intubations using the eschmann stylet (gum bougie) on airway simulators (*optional*)
 - v. 4 digital intubations on airway simulators
 - vi. 5 insertions of a rescue airway on airway simulators
- d. Once a quarter, the paramedic should demonstrate proficiency during the following practical evaluations:
 - i. 1 endotracheal intubation on airway simulators
 - ii. 2 endotracheal intubations on airway simulator with C-spine immobilization
 - iii. 1 surgical cricothyrotomy on airway simulator
 - iv. 1 intubation using the eschmann stylet (gum bougie) on airway simulators (*optional*)
 - v. 1 digital intubations on airway simulators
 - vi. 1 insertion of rescue airway on airway simulators
- e. Any of the above evaluations could be credited if the procedure is performed under direct supervision by the Medical Director, Supervisor or Training Officer the field or a clinical setting.

END OF SECTION



Subject: Tracheostomy and Laryngectomy Care

Effective: June 1, 2021

Last Modified: Dec. 8, 2021

1011.1 General Guidelines

- a. Consult the patient's caregiver for assistance. They are typically trained to manage these airways.
b. Find out why they have an artificial airway (cancer, stroke, ventilator dependent, etc.)
c. Ask if there have been any prior difficulties (reinserting, plugging, etc).
d. Find out when the airway was first placed (newer airways may be more difficult to replace).
e. For assessing failed tracheostomies and laryngectomies, consider:
i. D - displaced, dislodged or damaged
ii. O - obstructed (mucus, food, blood, secretions)
iii. P - pulmonary problems
iv. E - equipment failure (bent tubing, ventilator malfunction, depleted oxygen supply)
f. Look for subcutaneous air in the neck as it might indicate a false passage of tube.

1011.2 Clinical Management

Table with columns for Assessment (Pediatric Considerations, Signs & Symptoms, Differential Diagnosis) and Treatment Algorithm. Includes a vertical competency bar on the right with levels EMR, EMT, AEMT, and Paramedic.



Subject: Tracheostomy and Laryngectomy Care

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Clinical Pearls

- Patients with laryngectomy airways have the larynx removed, completely separating oral- and nasal- pharynx from the trachea and lungs.
 - These patients are sometimes referred to as neck breathers.
- Established stomas are less likely to close off.
 - Closed off stomas require surgical techniques to replace the tube and replacement should be avoided in the field.
- Often the cuff is deflated allowing the patient to have more air movement past the vocal cords thus enabling speech.
- There may also be speaking valve (a one-way valve allowing air in not out) attached to the outside end of the tracheal tube.
- Tube replacement is a clean procedure (mask, splash protection, and clean gloves). Keep the patient's airway as clean as possible.

1011.3 Artificial Airway Tube Replacement (AEMT & Paramedic)

a. Necessary Equipment:

- i. Replacement tracheostomy tube or laryngectomy tube (from the patient or care giver).
 1. If patient is pediatric, there is a one size smaller tracheostomy tube in the GoBag that should always be with the patient.
- ii. If no replacement tracheostomy tube is available, use an ETT of similar internal diameter
- iii. If possible, water-based lubricant jelly.

b. Procedure:

- i. Apply high-flow O₂, pulse oximetry, EtCO₂, and cardiac monitor.
- ii. Place patient semi-recumbent with slight neck extension (consider a roll under the neck).
- iii. Keep the head midline (you may additional personnel to maintain head position).
- iv. For adults, consider use of a bougie when removing the old tube. (this is **not** a pediatric practice)
- v. Lubricate the new tracheostomy tube or replacement ETT.
- vi. Deflate the old tracheostomy tube s balloon and remove during exhalation by gently pulling and rotating towards the patient's feet.
- vii. Remove the stoma dressing, then wipe area clean with only saline or medically packaged water.
- viii. Using the replacement tracheostomy tube s obturator or (in adults only)the bougie, gently advance the replacement tracheostomy tube in a fluid fashion, using the natural curvature of the tube until the flange is flush against the neck.
- ix. If present, remove the obturator and insert the hollow internal cannula
 1. Internal cannulas are not part of the most commonly used tracheostomy tubes for pediatric patients).
 2. If possible, use a non-fenestrated (no window) inner cannula.
 - a. Note: A fenestrated inner cannula will allow air leak through the glottis potentially allowing air to enter the stomach and not allowing PEEP (positive end-expiratory pressure) to be achieved.
- x. If using an ETT as a replacement:
 1. Insert a bougie (adults only) into the stoma directed downward.
 2. Slowly advance the lubricated ETT into the stoma.
 3. Only advance the ETT a few centimeters into the stoma (as deep as the trach tube).
 4. Consider shortening the ETT by cutting the tube AFTER the takeoff for the pilot balloon.
- xi. Inflate the cuff of the replacement tracheostomy tube or ETT with the minimum amount of air to stop any audible leak at the stoma.
- xii. Place clean gauze around the stoma to absorb mucous.
 1. Never cut this gauze.

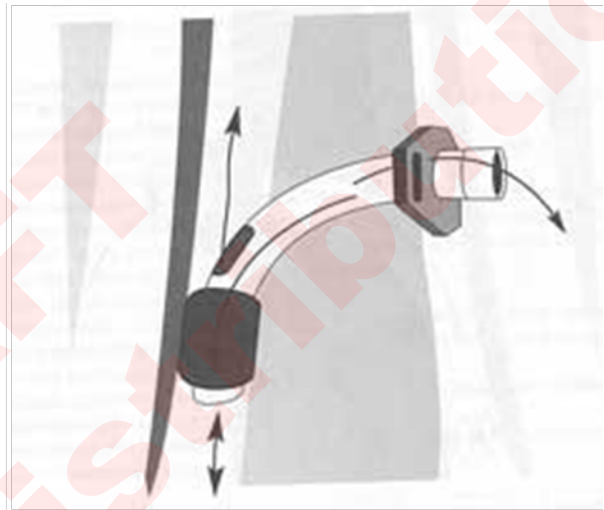
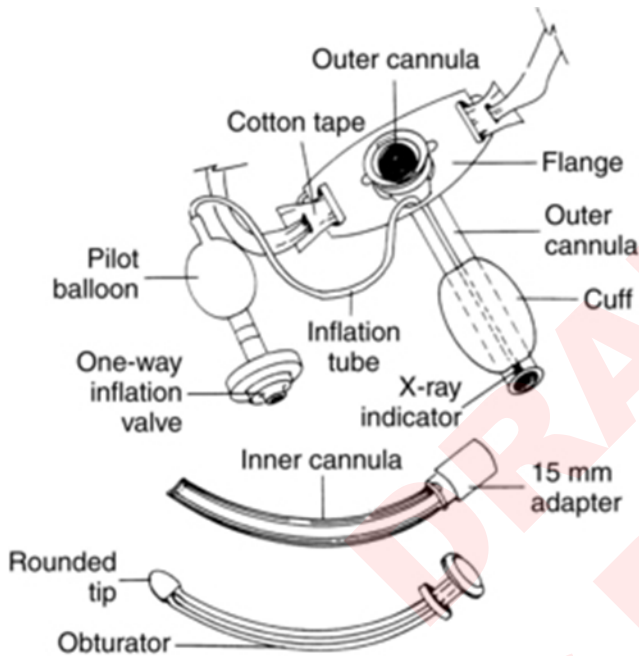


Subject: Tracheostomy and Laryngectomy Care

Effective: June 1, 2021

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- 2. Fold it to size, to avoid creating small particulates of lint that could enter the airway.
 - xiii. Secure the device to the patient's neck.
- c. Emergency Procedures
- i. If the airway has been surgically altered and the glottis is hard to recognize, consider pushing on the chest to force air into the pharynx. Where air bubbles are seen, insert bougie (in adults) and/or insert the ETT into the opening.



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Subject: Intraosseous Infusion

Effective: June 1, 2021

Last Modified: Dec. 8, 2021

1012.1 General Guidelines

- a. Use of IO devices is limited to patients who are unresponsive or hemodynamically unstable and then, only when less invasive means are ineffective or not available (e.g., IM Glucagon, IN Narcan or Versed).
- b. In patients with acceptable perfusion, and all other routes of access have failed, then consider an intraosseous access of the proximal tibia.
- c. For an adult in cardiac arrest, the preferable order of vascular access is:
 - i. External jugular (EJ) vein IV
 - ii. Antecubital (AC) vein IV
 - iii. Proximal humeral head IO (the proximal tibia is not to be used in cardiac arrest)

1012.2 Intraosseous Equipment Sizing

- A The longer yellow (45 mm) needle should be used for proximal humeral IOs in adults.
- P For pediatrics, access the proximal tibia in all cases.
 - P Use the blue IO needle for 3-30 kg.
 - P Use the pink IO needle for 0-3 kg.

1012.3 Clinical Management

Assessment		
<p>Pediatric Considerations</p> <ul style="list-style-type: none"> Consider weight for IO selection 	<p>Signs & Symptoms</p> <ul style="list-style-type: none"> Hemodynamically unstable patient needing vascular access with no IV 	<p>Differential Diagnosis</p> <ul style="list-style-type: none"> None
Treatment Algorithm		
<ul style="list-style-type: none"> IO Insertion is not an EMR skill 		EMR
<ul style="list-style-type: none"> IO Insertion is not an EMT skill 		EMT
<ul style="list-style-type: none"> After IO confirmation, pressure bags may facilitate infusion. For the pain associated with infusion: <ul style="list-style-type: none"> A Lidocaine 2% 1.5 mg/kg via IO up to 100 mg. P Lidocaine 2% 0.5 mg/kg via IO (max 100 mg) 		AEMT
<ul style="list-style-type: none"> No additional orders at this level 		Paramedic
Consult		
<ul style="list-style-type: none"> None 		
Clinical Pearls		
<ul style="list-style-type: none"> None 		

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Subject:

Alternate Vascular Access

Effective:

June 1, 2021

Last Modified:

Dec. 8, 2020

1013.1 General Guidelines

- a. This guideline is not for EMR, EMT or AEMT. Only Paramedics may utilize alternative vascular routes.

1013.2 Central Vascular Access Devices (CVAD)

- a. Patients who require long-term intravascular therapy may have Central Vascular Access Devices (CVAD).
- b. CVADs may be used for IV access if the patient is hemodynamically unstable or in arrest.
 - i. Central catheter: Catheter placed through chest wall into the internal jugular or subclavian vein.
 1. Central catheters can be single or multilumen.
 2. Distal portion of catheter has two access ports, either of which may be used for access.
 - ii. PICC Line: Catheter placed in arm.
 1. Distal portion of catheter is external with access port.
 2. Do not force fluids or drugs through the device or failure could result in an embolism.
 3. PICC line diameter creates significant resistance to fluid flow making it difficult to infuse large quantities of fluids.
 4. Dextrose 10 (D10) by PICC is preferable to IM Glucagon.
 - iii. Subcutaneously Implanted Port: Device surgically placed under the skin on the chest.
 1. No external access.
 2. PARAMEDICS ARE NOT PERMITTED TO ACCESS THIS DEVICE.
- c. Complications of CVADs
 - i. Infection: Thorough cleaning of the port must be done three times during the procedure:
 1. Before attaching each syringe
 2. Before attaching the IV tubing.
 - ii. Air Embolism: The catheter must be clamped before attaching or removing the syringes.
 - iii. Heparin Bolus: These catheters remain in place without fluids continually flowing through them. To prevent blood clot formation, a bolus of Heparin or other anticoagulating agents will be in the catheter. Remove 5 ml of blood to insure that the Heparin is not systemically administered to the patient resulting in a potentially significant complication.
 - iv. Catheter Damage:
 1. Use a 10 ml syringe or larger when drawing off the blood. Smaller syringes create too much pressure.
 2. After verifying blood return, flush catheter with 10 ml of NS with a 10 ml or larger syringe utilizing a pulsating technique.
 3. Administer medications slowly to avoid creating too much pressure. Do not use catheter if unable to get blood return.
 4. DO NOT USE A PRESSURE INFUSION DEVICE ON CVADs.

1013.3 Internal Dialysis Fistula

- a. An artificial passage between an artery and a vein used to gain access for hemodialysis.
- b. Usually located in the inner aspect of the patient's forearm or bicep.
- c. A bulge under the skin that should be visible or easily palpated.
- d. In cardiac arrest or with a profoundly unstable patient, a dialysis fistula may be used to administer IV fluids or medication.
 - i. Use aseptic technique.
 - ii. Be careful not to puncture back wall of vessel.
 - iii. Use IV pressure bag.
 - iv. Blood may still back-up into tubing.
 - v. Control bleeding with direct pressure.
- e. Dialysis patients are usually on anticoagulants.

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Subject: Pain Management

Effective: June 1, 2021

Last Modified: Dec. 8, 2020

1014.1 General Considerations

- a. This protocol is for management of acute moderate to severe pain...
b. It is not for the treatment of exacerbations of chronic pain.
c. Prehospital pain management reduces time to pain relief...
d. Ketamine is not to be administered to patients with suspected cardiac chest pain

1014.2 Clinical Management

Table with 3 columns: Pediatric Considerations, Signs & Symptoms, and Differential Diagnosis.

Table with 1 main column: Treatment Algorithm, and 3 vertical columns for provider levels: EMT, AEMT, Paramedic.

Table with 1 main column: Consult, and 3 vertical columns for provider levels: EMT, AEMT, Paramedic.

Table with 1 main column: Clinical Pearls, and 3 vertical columns for provider levels: EMT, AEMT, Paramedic.

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2000 Series

Cardiac Protocol

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Subject: Resuscitation Guidelines

Effective: June 1, 2021

Last Modified: Oct. 21, 2021

2001.1 Guideline

- a. A patient’s BEST CHANCE for resuscitation is at the scene with high quality CPR and code management.
- b. Paramedics are expected to provide resuscitative care at the scene.

2001.2 Resuscitation and Field Termination

Assessment

Pediatric Considerations <ul style="list-style-type: none"> • FIELD TERMINATION DOES NOT APPLY TO PEDIATRIC PATIENTS 	Signs & Symptoms <ul style="list-style-type: none"> • Pulseless and apneic • Does not meet Non-initiation of Care Guideline 	Differential Diagnosis <ul style="list-style-type: none"> • Meets Non-initiation of Care Guideline
---------------------------------------------------------------------------------------------------------------------------------------------------	----------------------------------------------------------------------------------------------------------------------------------------------------------------	--------------------------------------------------------------------------------------------------------------------------

Treatment Algorithm

<ul style="list-style-type: none"> • The EMR will continue resuscitation until the patient is handed off to a higher level provider. 	EMR
<ul style="list-style-type: none"> • The EMT will continue resuscitation until the patient is handed off to a higher level provider. • If no higher level provider is available, then transport. • ♦ If no ALS equipment is available at the scene, and transport time to a medical facility will exceed 20 minutes, field termination may be considered. 	EMT
<ul style="list-style-type: none"> • Patients will require prolonged resuscitation efforts if: <ul style="list-style-type: none"> ○ They have a PEA greater than 40 ○ They have an upward trending or persistent EtCO₂ greater than or equal to 20 mmHg, refractory to VF or VT • If arrest due to profound hypothermia, then rapidly transport to a Trauma Center • ♦ Following all appropriate efforts, field termination requires MCP approval, and may only be considered when the following criteria are met: <ul style="list-style-type: none"> ○ 18 years or older ○ In asystole or PEA, rates less than 40 ○ Not be in arrest due to hypothermia ○ Have an advanced airway in place ○ Have vascular access in place ○ There are no signs of neurological function such as reactive pupils, response to pain or spontaneous movement 	AEMT
<ul style="list-style-type: none"> • The following should be rapidly transported to a cardiac interventional facility if less than a 30 minute transport and defibrillation is the only needed intervention to establish a perfusing rhythm: <ul style="list-style-type: none"> ○ A documented STEMI and you witness the cardiac arrest ○ ROSC after Ventricular Fibrillation or ROSC with evidence of ST elevation 	Paramedic

Consult

- When the AEMT or Paramedic contacts MCP directly to receive consent for field termination, they must provide the following information:
 - The duration of the resuscitation
 - How long the patient may have been in arrest prior to EMS arrival
 - Whether it was a witnessed or unwitnessed event
 - The current EtCO₂
 - The presenting rhythm

Clinical Pearls

- There are situations where resuscitation may take 30 minutes or more.
- Research has shown that CPR quality diminishes while being transported.
- Consider aeromedical transport for transports greater than 30 minutes if the patient has ROSC.
- In PEA, the patient may not be in true cardiac arrest, but simply not have palpable pulses due to profound shock.
- Send a copy of the run sheet to the EMS Coordinator of the authorizing MCP’s hospital.

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Subject: Cardiac Arrest - BLS

Effective: June 1, 2021

Last Modified: Dec. 8, 2021

2002.1 This protocol has adopted the 2020 American Heart Association CPR Guidelines

Table with 5 columns: CPR Order, ADULTS, CHILDREN, INFANTS, NEWBORNS. Rows include Compression to Breaths Ratio (Without/With Advanced Airway), Compression Rate, Compression Notes, Compression Depth, and Rescue Breathing.

2002.2 Basic Life Support

Table with 4 columns: Pediatric Considerations, Signs & Symptoms, Differential Diagnosis, and Treatment Algorithm. Includes sections for Assessment, Treatment Algorithm, Consult, and Clinical Pearls.

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Subject: Cardiac Arrest:
Asystole or PEA

Effective:
June 1, 2021

Last Modified:
Oct. 10, 2021

2003.1 Guideline

- a. In all cardiac arrest patients, apply the [2002 Cardiac Arrest: Basic Life Support](#) protocol.
- b. Apply the appropriate guideline after rhythm interpretation.
- c. The rhythms may change and will require flexibility to move between the different protocols.
- d. If ROSC, then follow [2001 Resuscitation Guidelines](#)

2003.2 Asystole or PEA

Assessment

Pediatric Considerations

- Pediatric dosing should never exceed adult doses

Signs & Symptoms

- Unresponsive
- Pulseless and apneic
- Either:
 - No electrical activity on cardiac monitor
 - Electrical activity on monitor with no pulse present

Differential Diagnosis

- Ventricular Fibrillation
- Pulseless Ventricular Tachycardia
- Other causes of unresponsiveness
- Device (lead) error
- Signs of irreversible death

Treatment Algorithm

- If witnessed or unwitnessed arrest, initiate quality CPR for up to 2 minutes.
- Follow [2002 Cardiac Arrest -BLS](#) protocol
- Apply the Automatic External Defibrillator (AED) and check for a shockable rhythm.
- If no defibrillation is indicated, continuous CPR

EMR

- Obtain and transmit 12 Lead EKG if patient has ROSC

EMT

- Consider possible causes
- Consider Field Termination as identified in [2001 Resuscitation Guidelines](#)

AEMT

- A **Epinephrine (1:10,000) 1 mg**, IV or IO, repeat every 3-5 minutes.
- P **Epinephrine (1:10,000) 0.01 mg/kg**, IV or IO, repeat every 3-5 minutes.
- The Paramedic may consider Field Termination after administering Epinephrine

Paramedic

Consult

- No consult required unless applying Field Termination Guideline.
- The AEMT or paramedic may consult MCP to field terminate
- Contact for Cardiac Alert if applicable

Clinical Pearls

- Contact receiving hospital prior to arrival

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Subject: Cardiovascular Emergencies-
Renal Failure/Dialysis

Effective: June 1, 2021

Last Modified: Oct. 10, 2021

2004.1 Guideline

- a. This protocol is for cardiac patients who receive renal dialysis treatment and is only to be administered by Paramedics.
- b. Dialysis patients who are bradycardic or experience cardiac arrest should be given both calcium (chloride or gluconate) and sodium bicarbonate.

2004.2 Clinical Management

Assessment		
Pediatric Considerations <ul style="list-style-type: none"> • None 	Signs & Symptoms <ul style="list-style-type: none"> • Cardiac arrest • Confirmed history of renal dialysis 	Differential Diagnosis <ul style="list-style-type: none"> • None
Treatment Algorithm		
<ul style="list-style-type: none"> • No additional orders at this level 	EMR	Paramedic
<ul style="list-style-type: none"> • No additional orders at this level 	EMT	
<ul style="list-style-type: none"> • No additional orders at this level 	AEMT	
<ul style="list-style-type: none"> • For renal dialysis patients in arrest: <ul style="list-style-type: none"> A Calcium Chloride 10% 1 g IV P Calcium Chloride 10%, 20 mg/kg (0.2 ml/kg) IV (max dose 500 mg) A Sodium Bicarbonate 100 mEq IV P Sodium Bicarbonate 1 mEq/kg IV • ♦ For a renal dialysis patient presenting with a wide complex bradycardia: <ul style="list-style-type: none"> A Calcium Chloride 10% 1 g IV. P Calcium Chloride 10%, 20 mg/kg (0.2 ml/kg) IV (max dose 500 mg) A Sodium Bicarbonate 100 mEq IV P Sodium Bicarbonate 1 mEq/kg IV 		
Consult		
<ul style="list-style-type: none"> • In the treatment of hyperkalemia (wide complex bradycardia) 		
Clinical Pearls		
<ul style="list-style-type: none"> • It is critical that these drugs not be given together, as they will precipitate. • Flush well between these medications. 		
END OF SECTION		

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Subject: Cardiac Arrest:
V-Fib or Pulseless V-Tach

Effective: June 1, 2021

Last Modified: Oct. 10, 2021

2005.1 Guideline

- a. In all cardiac arrest patients, apply the [2002 Cardiac Arrest: Basic Life Support](#) protocol.
- b. Apply the appropriate guideline after rhythm interpretation.
- c. The rhythms may change and will require flexibility to move between the different protocols.
- d. If ROSC, then follow [2001 Resuscitation Guidelines](#)

2005.2 Ventricular Fibrillation and Pulseless Ventricular Tachycardia

Assessment		
Pediatric Considerations <ul style="list-style-type: none"> • Pediatric dosing should never exceed adult doses 	Signs & Symptoms <ul style="list-style-type: none"> • Unresponsive • Pulseless and apneic • Ventricular fibrillation or ventricular tachycardia on cardiac monitor or AED 	Differential Diagnosis <ul style="list-style-type: none"> • Asystole • Artifact/Device failure • Signs of irreversible death • Other causes of unresponsiveness

Treatment Algorithm

<ul style="list-style-type: none"> • If witnessed or unwitnessed arrest, initiate quality CPR for 1-2 minutes and proceed to first defibrillation as soon as possible. • Follow Basic Life Support protocol • Defibrillate as indicated by the Automatic External Defibrillator (AED) 	EMR
<ul style="list-style-type: none"> • Obtain and transmit 12 Lead EKG if patient has ROSC 	EMT
<ul style="list-style-type: none"> • Defibrillate as required based on EKG interpretation • Consider possible causes 	AEMT
<ul style="list-style-type: none"> • Alternate between CPR/Defibrillation/Medication Administration A Epinephrine 1 mg 1:10,000, IV or IO, repeat every 3-5 minutes P Epinephrine (1:10,000) 0.01 mg/kg, IV or IO, repeat every 3-5 minutes • After third defibrillation: <ul style="list-style-type: none"> A Amiodarone 300 mg, IV or IO P Amiodarone 5 mg/kg IV or IO (max first dose 300 mg) <ul style="list-style-type: none"> ○ If Amiodarone is not available, use Lidocaine <ul style="list-style-type: none"> A Lidocaine 150 mg, IV or IO P Lidocaine 1.0 mg/kg IV or IO (max first dose 100 mg) • After sixth defibrillation: <ul style="list-style-type: none"> A Amiodarone 150 mg, IV or IO P Amiodarone 5 mg/kg IV or IO (max first dose 150 mg) <ul style="list-style-type: none"> ○ If Amiodarone is not available, use Lidocaine <ul style="list-style-type: none"> A Lidocaine 75 mg, IV or IO P Lidocaine 1.0 mg/kg IV or IO (max first dose 75 mg) • If patient converts with ROSC from a ventricular arrhythmia and no anti-arrhythmic has been given, then: <ul style="list-style-type: none"> A Amiodarone 150 mg in 250 ml NS, IV over 10 minutes using 60 drop/ml tubing <ul style="list-style-type: none"> • Do not infuse unless SBP is greater than 100 • Consider IV fluid 500 ml to increase SBP to 100 or higher prior to infusion 	Paramedic

Consult

- The AEMT or paramedic may consult MCP to field terminate
- Contact for Cardiac Alert if applicable

Clinical Pearls

- For initial and subsequent defibrillations, follow manufacturer recommendation for energy settings
- Pediatric defibrillation settings will start at 2 J/kg (or biphasic equivalent) and increase by 2 J/kg (or biphasic equivalent) each shock.
- Maximum pediatric shock will be 10 J/kg (or biphasic equivalent)
- Resume chest compressions immediately following each defibrillation, without performing pulse check, for 1-2 minutes
- Contacting receiving hospital prior to arrival.

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Subject: AICD Activations

Effective: June 1, 2021

Last Modified: Oct. 10, 2021

2006.1 General Guidelines

- a. A patient experiencing repeated AICD (Automatic Implantable Cardioverter-Defibrillator) activations should receive sedation or pain management from the AEMT or Paramedic.

2006.2 Clinical Management

Assessment		
Pediatric Considerations <ul style="list-style-type: none"> None 	Signs & Symptoms <ul style="list-style-type: none"> AICD in place and firing Sudden pain Muscle spasms 	Differential Diagnosis <ul style="list-style-type: none"> None
Treatment Algorithm		
<ul style="list-style-type: none"> Monitor and be prepared to provide BLS care. Be prepared to defibrillate in the event of AICD failure. 		EMR
<ul style="list-style-type: none"> Monitor and transport as indicated. Consider calling for ALS care. 		EMT
<ul style="list-style-type: none"> Be prepared to defibrillate in the event of AICD failure. Midazolam 2 mg slow IV for sedation. Consider 1014 Pain Management Protocol. 		AEMT
<ul style="list-style-type: none"> Be prepared to manually cardiovert in the event of AICD failure. 		Paramedic
Consult		
<ul style="list-style-type: none"> None 		
Clinical Pearls		
<ul style="list-style-type: none"> None 		
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Subject:

Ventricular Assist Devices

Effective:

June 1, 2021

Last Modified:

Oct. 10, 2021

2007.1 General Guidelines

- a. It is important to recognize the patient with a ventricular assist device (VAD).
- b. Routinely, your agency will be advised when a VAD patient is in your community.
- c. Otherwise, these patients could be travelling through, or visiting in your jurisdiction.
- d. The patient or family members are generally knowledgeable about the VAD and how to troubleshoot it.

2007.2 Assessing the VAD Patient

- a. Skin color and mental status are the best indicators of stability in the VAD patient.
- b. A pulse is usually not palpable in the VAD patient. Nearly all VADs are continuous flow devices.
- c. If the device is a pulsatile flow device, a pulse should be palpable.
- d. Blood pressure may or may not be obtainable and auscultated readings are usually unreliable.
 - i. In a continuous flow device, mean arterial blood pressure (MAP) can be obtained by auscultating with a Doppler.
 - ii. The first sound heard during auscultation reflects the MAP.
 - iii. The MAP displayed by an automated non-invasive measurement may also be used.
 - iv. A normal MAP is 65 – 90 mmHg.
 - v. If the device is a pulsatile flow device, a blood pressure should be measurable.
- e. Pulse oximetry readings seem to be accurate, despite the manufacturer stating otherwise.
- f. Quantitative waveform capnography should be accurate and can be reflective of cardiac output
- g. An EtCO₂ of less than 30 mmHg can be indicative of low perfusion secondary to poor pump function.
- h. ECG 12-lead as usual, no interference from the VAD is expected
- i. Temperature should be measured as infection and sepsis are common.

2007.3 Transporting the VAD Patient

- a. Patients with or without a VAD problem should be transported to the nearest appropriate Hospital ED.
- b. Do NOT delay ground transportation waiting to speak with the patient's VAD Coordinator.
- c. Always bring the patients resource bag with you. It should contain:
 - i. Spare batteries, and battery charging unit
 - ii. Spare control unit
 - iii. Contact information for the VAD Coordinator.
 - iv. Directions for equipment and alarm troubleshooting.
- d. Always bring spare batteries for the VAD with the patient, even if it is not a VAD related problem.
- e. If the transport is going to be prolonged or it is expected that the patient will be away for a while, try to bring the VAD base power unit with you.
 - i. Alternately, you can ask the patient's family/caregiver to bring it to the hospital.
 - ii. There may be a need to bring it with the patient and plug it into an inverter for power.



Subject: Ventricular Assist Devices

Effective: June 1, 2021

Last Modified: Oct. 10, 2021

2007.4 Clinical Management

Assessment

Pediatric Considerations

- None

Signs & Symptoms

- VAD equipment
- VAD vests or battery packs

Differential Diagnosis

- None

Treatment Algorithm

- Determine if you have a patient with a VAD problem, or a patient with a VAD that has a medical/trauma problem.
- If there is no indication of possible VAD malfunction or failure, exit to appropriate protocols.
- Assess the VAD:
 - Auscultate over the VAD pump location (Should be just to the left of the epigastrium, immediately below the heart)
 - If the pump is functioning, a low hum should be audible.
 - Do not assume that the pump is functioning just because the control unit does not indicate a problem.
 - Palpate the control unit.
 - A hot control unit indicates the pump may be working harder than it should be
 - This often indicates a pump problem such as a thrombosis.
 - Look at the alarms on the control panel
 - Trouble with the VAD will usually be identified by an alarm.
 - The patient will usually have a resource guide to direct alarm troubleshooting.
 - Ask if the device is a continuous or pulsatile flow device.
 - Ask if the patient can receive electrical therapy.
 - Ask if chest compressions can be performed in the event of pump failure.
- Inquire about DNR status.
- If there is indication of possible device malfunction or failure:
 - Attempt to restart VAD if previously off for less than 5 minutes.
 - If VAD off longer than 5 minutes, then:
 - Locate the patients "Emergency Contact Card"/VAD ID Card
 - Contact the VAD coordinator.
 - Discuss the plan with caregivers.
- If a VAD patient is unresponsive and pulseless with a non-functioning VAD and has previously indicated a desire for resuscitative efforts, begin chest compressions.
 - AVOID THE USE OF MECHANICAL CPR DEVICES
 - Defibrillation pads should be placed anterior/posterior
 - Ensure that all troubleshooting efforts (reconnecting wires, changing batteries, replacing the control unit) have failed prior to starting chest compressions.
- Follow BLS protocol and transport urgently.

EMR

EMT

AEMT

Paramedic

- No additional directives at this level.

- No additional directives at this level.

- Only symptomatic dysrhythmias not at the patient's baseline should be treated.
- If indicated, place electrical therapy/defibrillation pads away from VAD site and AICD.
- VAD patients may receive ACLS interventions.

Consult

- None

Clinical Pearls

- Utilize the patient and family as a resource.
- Always contact the VAD Coordinator if there is a VAD related problem or question.
- Common complications in VAD patients include stroke (incidence up to 25%), bleeding, dysrhythmias, and infection.
- The most common causes of death in VAD patients are sepsis and stroke. Consider this with a VAD patient showing altered mental status.
- VAD patients are preload dependent. Consider that a fluid bolus can often reverse hypoperfusion.

END OF SECTION



Subject: Suspected Cardiac Chest Pain

Effective: June 1, 2021

Last Modified: Dec. 1, 2021

2008.1 General Guidelines

- a. Unstable cardiac patients are hypotensive, or have chest pain with poor skin color or diaphoresis.

2008.2 Clinical Management

Assessment

Pediatric Considerations

- Chest pain in the pediatric patient is rarely related to a cardiac event.
- Assessment for other causes (e.g., muscle pain, respiratory difficulties, injury) should be completed to determine the source of pain.
- Apply supplemental oxygen and transport.
- **THE REST OF CHEST PAIN ALGORITHM DOES NOT APPLY TO PEDS.**

Signs & Symptoms

- Chest pain
- Shortness of breath
- Syncope
- Pallor, Diaphoresis
- Radiation of pain
- Weakness
- Nausea
- Vomiting

Differential Diagnosis

- Pericarditis
- Pulmonary embolism
- Asthma/COPD
- Pneumothorax
- Aortic dissection or aneurysm
- GE reflux or hiatal hernia
- Chest trauma
- Esophageal spasm

Treatment Algorithm

<ul style="list-style-type: none"> • Arrange for rapid ALS transport. • Apply O₂ as appropriate. <ul style="list-style-type: none"> ○ Oxygen saturations less than 94 , should be given oxygen via NC and titrated to 94 . ○ Oxygen saturations 94 or higher, should not get any oxygen. • Do not withhold oxygen from a patient with SOB or respiratory distress. 	EMR			
<ul style="list-style-type: none"> • ♦ Give Aspirin (ASA) 324 mg (chewed) to every patient greater than 25 y/o with symptoms of Acute Coronary Syndrome (ACS). • ♦ Administer Nitroglycerin 0.4 mg SL, every 5 minutes, for pain, to a total of three pills with vital signs between doses. <ul style="list-style-type: none"> ○ Patient must have a prescription. ○ SBP must be greater than 100. ○ Patient must be greater than 25 y/o. • Prior to moving patient, acquire a supine {12-lead EKG} on all patients with ACS symptoms. • {Transmit} EKG with two identifiers to MCP. • The MCP shall be contacted after at least the initial {12-lead EKG transmission} is completed. • Consult MCP for appropriate destination. • Consider and transmit repeat {12-lead EKGs} during transport. 		EMT		
<ul style="list-style-type: none"> • Only the EMT requires MCP permission to administer Aspirin (ASA) • The AEMT must also transmit the {12-Lead EKGs} • Administer Nitroglycerin 0.4 mg SL, every 5 minutes, for pain, to a total of three pills with vital signs between doses. • Prior to Nitroglycerin administration, establish vascular access for patients who have not previously had Nitroglycerin. • Consider 1014 Pain Management Protocol, provided SBP greater than 100 after first dose of Nitroglycerin. <ul style="list-style-type: none"> ○ DO NOT WAIT UNTIL 3 NITROGLYCERIN TABLETS ARE GIVEN BEFORE CONSIDERING FENTANYL. • IV fluid, up to 500 ml, may be administered to a patient with SBP less than 100 without pulmonary edema. 			AEMT	
<ul style="list-style-type: none"> • ♦ If RVI is suspected with hypotension, consult MCP for fluid bolus. • If evidence of STEMI, transport to an interventional cardiac cath lab. • The Paramedic should only transmit a {12-lead EKG} that meets Cardiac Alert criteria, or that is questionable. 				Paramedic

Consult

- Without consultation, the Suspected Cardiac Chest Pain protocol only applies to patients greater than 25 years old with ACS symptoms.
- **Contact MCP for further advice with pediatric chest pain as needed.**
- For the EMT, the following requires MCP orders:
 - Subsequent doses of the patient's own Nitroglycerin
 - Accessing the GMVEMSC Drug Bag

Clinical Pearls

- No significant change in patient condition in the field should be expected from the administration of Aspirin.
- Patient must chew Aspirin.
- Do not administer Nitroglycerin (NTG) if the patient has taken Viagra, Cialis, Levitra, Revatio, or similar medications within the last 24 hours.

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Subject: Cardiac Alert Program

Effective: June 1, 2021

Last Modified: Oct. 10, 2021

2009.1 General Guidelines

- a. The intent of the Program is to decrease the "Door to Balloon" time for pre-hospital AMI Patients.
b. Providers will make early notification to the receiving facility and speak directly with the Physician.
c. The Physician may activate a Cardiac Alert, based on provider impression and {12 Lead EKG} interpretations.

2009.2 Inclusionary Criteria

- a. Patients presenting with anginal-type chest pain or an equivalent anginal event may be candidates.
b. Evidence of an AMI (greater than 1mm ST elevation in 2 contiguous leads) on a diagnostic {12-lead EKG}.

2009.3 Exclusionary Criteria

- a. Patient with a Left Bundle Branch Block (QRS greater than 120 milliseconds).
b. Patients with a pacemaker rhythm.

2009.4 Clinical Management

Table with 3 columns: Pediatric Considerations, Signs & Symptoms, and Differential Diagnosis. Includes sections for Assessment, Treatment Algorithm, Consult, and Clinical Pearls. Treatment algorithm includes steps like 'Acquire and transmit the {12 Lead ECG} in any suspected AMI or in cardiac arrest with ROSC' and 'Consider aggressive fluid administration to manage cardiogenic shock'.

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Subject: Bradycardia

Effective: June 1, 2021

Last Modified: Oct. 10, 2021

2010.1 General Guidelines

- a. Bradycardia is any rate less than 60 bpm.
- b. Non-symptomatic bradycardia may be a normal finding in otherwise healthy individuals.
- c. Assess the patient and determine medical history.
- d. Treat unexplained or symptomatic bradycardia

2010.2 Clinical Management

Assessment

<p>Pediatric Considerations</p> <ul style="list-style-type: none"> • With adequate perfusion, monitor vital signs, and apply oxygen if needed. • Hypoxia in pediatric patients will produce bradycardia. 	<p>Signs & Symptoms</p> <ul style="list-style-type: none"> • Heart rate less than 60/minute • Syncope • Unstable bradycardia <ul style="list-style-type: none"> ○ Hypotension ○ Altered mental status ○ Unresolved chest pain ○ Poor skin color ○ Diaphoresis 	<p>Differential Diagnosis</p> <ul style="list-style-type: none"> • Acute myocardial infarction • Hypoxia • Hypothermia • Elevated ICP (Stroke or Trauma) • Spinal cord lesion • Sick sinus syndrome • Athletic patients
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Treatment Algorithm

<ul style="list-style-type: none"> • Administer oxygen as indicated. • Call for transport immediately. • For adequate perfusion, observe and monitor vital signs. 	EMR
<ul style="list-style-type: none"> • Obtain {12-lead EKG}, transmit and call receiving facility. • Transport immediately unless ALS intercept is less than 5 minutes. P Perform CPR if HR less than 60/min. 	EMT
<ul style="list-style-type: none"> • No additional orders at this level. 	AEMT
<ul style="list-style-type: none"> A Obtain and interpret {12 Lead EKG} A ♦ Wide complex bradycardia patients should spark consideration of treatment of hyperkalemia. <ul style="list-style-type: none"> A Administer both Calcium Chloride 10% 1 g (Calcium Chloride or Gluconate) and Sodium Bicarbonate 100 mEq. <ul style="list-style-type: none"> ○ Flush well between these medications. It is critical that these drugs not be given together, as they will precipitate. • With evidence of poor perfusion in adults and pediatrics: <ul style="list-style-type: none"> A Consider Atropine 1 mg IV, up to total of 3 mg. A If treatments are ineffective begin pacing: <ul style="list-style-type: none"> A If time permits, Midazolam 2 mg slow IV prior to pacing. A Set at 70 BPM, 20 mA and increase until mechanical capture is obtained. P Epinephrine (1:10,000) 0.01 mg/kg, IV, repeat every 5 minutes. P If AV block: <ul style="list-style-type: none"> P Consider Atropine 0.02 mg/kg IV (minimum dose 0.1 mg, maximum single dose 0.5 mg) P May repeat dose every 5 minutes. Max total dose of 1 mg. P Consider pacing: <ul style="list-style-type: none"> P Pediatric electrodes should be used on patients less than 15 kg. P Consider Midazolam 0.1 mg/kg (max dose 2 mg) slow IV prior to pacing. P Start with 5 mA increasing as needed to 200 mA at a rate of 80 bpm until capture. 	Paramedic

Consult

- The paramedic will consult for administration of Calcium Chloride 10 (or Gluconate) and Sodium Bicarbonate.

Clinical Pearls

- None

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Subject: Tachycardia

Effective: June 1, 2021

Last Modified: Oct. 10, 2021

2011.1 General Guidelines

- a. Tachycardia is any heart rate greater than 100 bpm.
- b. Assess the patient and determine medical history.
- c. Treat unexplained or symptomatic tachycardia

2011.2 Clinical Management

Assessment

Pediatric Considerations

- With adequate perfusion, monitor vital signs, and apply oxygen if needed.

Signs & Symptoms

- Heart rate greater than 100 bpm
- Dizziness
- Chest pain
- Shortness of breath
- Unstable tachycardia
 - Hypotension
 - Altered mental status thought to be due to tachycardic rhythms

Differential Diagnosis

- Myocardial infarction
- Electrolyte imbalance
- Exertion/pain/emotional stress
- Fever
- Hypoxia
- Hypovolemia or anemia
- Drug overdose
- Hyperthyroidism
- Pulmonary embolus

Treatment Algorithm

- Administer oxygen as indicated.
- Call for transport immediately.
- Obtain {12-lead ECG}, transmit and call receiving facility.
- Transport immediately unless ALS intercept is less than 5 minutes.
- No additional orders at this level.

EM	R
EMT	AEMT

- A Obtain and interpret {12 Lead ECG}
- A Stable:
 - A Narrow Complex - Regular
 - A Vagal maneuvers
 - A **Adenosine 6 mg rapid IVP**
 - A May repeat **Adenosine 12 mg rapid IVP** x 2.
 - A Wide Complex Regular or Irregular
 - A **Amiodarone 150 mg in 250 ml NS, IV** over 10 minutes using 60 drop/ml tubing.
 - A **IF AMIODARONE NOT AVAILABLE USE LIDOCAINE**
 - A **Lidocaine 150 mg IV/IO**
- A Unstable:
 - A Consider **Midazolam 2 mg slow IV** prior to cardioversion.
 - A **Cardioversion: 100, 200, 300, 360 J** for monophasic or biphasic equivalent

- P Stable Pediatrics:
 - P Vagal maneuvers (blowing through a straw or oxygen tubing, etc.)
- P Unstable Pediatrics:
 - P **Adenosine 0.1 mg/kg rapid IVP** (max dose 6 mg), saline flush.
 - P If no response, **Adenosine 0.2 mg/kg rapid IVP** (max dose 12 mg), saline flush. Repeat x 1.
 - P Consider cardioversion.
 - P If time permits, **Midazolam 0.1 mg/kg slow IV** (max dose 2 mg).
 - P **Cardioversion 1 J/kg**
 - P If no response, repeat cardioversion at 2 J/kg

Paramedic

Consult

- None

Clinical Pearls

- Paramedics should **not** cardiovert:
 - Patients without hemodynamic changes.
 - Patients whose hemodynamic changes have other apparent causes (e.g., blood loss).
- If patient has history of Paroxysmal Supraventricular Tachycardia (PSVT) and advises it takes 12 mg of Adenosine, then skip the 6 mg dose.

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Trauma Protocol

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Subject: General Trauma Management

Effective: June 1, 2021

Last Modified: Dec. 8, 2021

3001.1 General Guidelines for Care of a Trauma Patient

- a. Minor trauma patients may be transported to non-trauma centers.
b. Major trauma patients are to be transported as soon as possible to the nearest appropriate facility.
c. Scene size-up, with rapid assessment and recognition of major trauma/multiple system trauma and effective evaluation of the mechanism of injury are essential to the subsequent treatment.
d. If patient meets criteria as defined in 3019 Trauma Transport Guidelines, then call "Trauma Alert".
e. If transporting by helicopter, ensure a copy of the patient care report gets to the receiving facility.

3001.2 Clinical Management

Table with 3 columns: Pediatric Considerations, Signs & Symptoms, Differential Diagnosis, and Treatment Algorithm. Includes sections for Assessment, Treatment Algorithm, Consult, and Clinical Pearls.

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Subject: Major Trauma

Effective: June 1, 2021

Last Modified: Oct. 10, 2021

3002.1 Clinical Management

Assessment

Pediatric Considerations

- None

Signs & Symptoms

- Significant injuries or life threats

Differential Diagnosis

- None

Treatment Algorithm

- Patients meeting criteria for transport to a Trauma Center are considered "Load and Go."
- Place the patient in a correct position to maintain the airway.
- Open pneumothorax: cover wound with an occlusive dressing, tape down three sides.
- Tension pneumothorax: lift one side of any occlusive dressing.
- Flail chest: stabilize immediately with a gloved hand, then immobilize with a bulky dressing or towels taped to the chest
- Apply positive pressure ventilation where indicated.

EMR

- No additional orders at this level.

EMT

Tension pneumothorax:

- Use caution not to confuse right main stem intubation for a pneumothorax.
 - Perform needle decompression as indicated
 - Decompress the chest with a 14-gauge or larger, 3 ¼" angiocath
 - Location options include:
 - Fifth or sixth intercostal space in the mid-axillary line
 - Second or third intercostal space in the mid-clavicular line (use nipple line as a guide)
- P** In patients less than 8 years old, decompression site choice will be limited to the 2nd or 3rd intercostal space at the mid-clavicular line

AEMT

Paramedic

- No additional orders at this level.

Consult

- Contact Medical Control and advise them of patient condition with MIVT, ETA, and GCS components.

Clinical Pearls

- For pregnant patient in arrest consider need for manual uterine displacement and perform chest compressions slightly higher on the sternum.

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Subject: Glasgow Coma Score

Effective: June 1, 2021

Last Modified: Oct. 10, 2021

3003.1 General Guideline

- a. When assessing the level of consciousness, use the Glasgow Coma Score.
- b. All patients should have at least one recorded and reported GCS.

	LESS THAN 2 YEARS OLD		ADULT & PEDIATRIC OVER 2 YEARS OLD	
E ES	SPONTANEOUSL	4	SPONTANEOUSL	4
	TO VOICE	3	TO VOICE	3
	TO PAIN	2	TO PAIN	2
	NO RESPONSE	1	NO RESPONSE	1
VERBAL	COOS, BABBLES	5	ORIENTED	5
	IRRITABLE CR , CONSOLABLE	4	CONFUSED	4
	CRIES TO PAIN	3	INAPPROPRIATE WORDS	3
	MOANS TO PAIN	2	GRUNTS, GARBLED SPEECH	2
	NO RESPONSE	1	NO RESPONSE	1
MOTOR	NORMAL MOVEMENTS	6	OBE S COMMANDS	6
	WITHDRAWS TO TOUCH	5	LOCALI ES PAIN	5
	WITHDRAWS TO PAIN	4	WITHDRAWS TO PAIN	4
	FLE ION (DECORTICATE)	3	FLE ION (DECORTICATE)	3
	E TENSION (DECEREBRATE)	2	E TENSION (DECEREBRATE)	2
	NO RESPONSE	1	NO RESPONSE	1

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Subject: Trauma Arrest

Effective: June 1, 2021

Last Modified: Oct. 10, 2021

3004.1 General Guidelines

- a. Traumatic cardiac arrest care will follow the same algorithm as other cardiac arrest scenarios.
b. If appropriate, providers may consider termination of resuscitation (TOR).

3004.2 Termination of Resuscitation

- a. Emergency medical responders (EMRs) may not terminate a trauma cardiac arrest.
b. The criteria for termination of resuscitation in arrest from blunt or penetrating trauma is:
i. No immediately reversible cause can be determined after rapid primary survey and treatment.
ii. No signs of life after BLS (e.g. respiratory effort, purposeful movement, reactive pupils, etc.)
iii. Sustained EtCO2 of below 10 mmHg
iv. If no ALS equipment is available at the scene and transport will exceed 20 minutes.
c. Continue care and transport if patient arrests after in the care of EMS.

3004.3 Clinical Management

Table with 3 columns: Pediatric Considerations, Signs & Symptoms, and Differential Diagnosis. Includes sections for Assessment, Treatment Algorithm, Consult, and Clinical Pearls. Treatment algorithm is color-coded by provider level: EMT (orange), AEMT (green), and Paramedic (blue).

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Subject: Burns and Smoke Inhalation

Effective: June 1, 2021

Last Modified: Dec. 8, 2021

3005.1 General Guidelines

- a. It is strongly recommended that at dispatch, agencies immediately call for the nearest available cyanide antidote cache whenever any of the following occur:
i. Dispatched on a report of a person trapped with exposure to fire or smoke in an enclosed area.
ii. Dispatched on a report of an incident involving hydrogen cyanide.
iii. Report of a Mayday or firefighter down with exposure to fire or smoke in an enclosed area.
b. Estimate and report total Body Surface Area (BSA) involved using universally accepted methods.
i. BSA estimates should include only full and partial thickness burns.
c. Inhalation injuries with an unsecured airway should be transported to the nearest facility.
d. Chemical burns are hazardous material situations and must be grossly decontaminated at the scene.

3005.2 Specific Care for Different Burns

- a. Radiation burns:
i. If there is radioactive material on the patient, then they must be decontaminated.
1. Consider contacting a Hazardous Materials Team for assistance with decontamination.
2. Contact the hospital prior to arrival like with any other hazardous materials case.
ii. Treat critical medical conditions first.
iii. Treat injuries like thermal burns once the area is decontaminated

3005.3 Clinical Management

Assessment

Pediatric Considerations

- None

Signs & Symptoms

- Burns, pain, swelling
• Loss of consciousness
• Hypotension/shock
• Airway compromise/distress
• Singed facial or nasal hair
• Hoarseness/wheezing

Differential Diagnosis

- Superficial burns
• Partial thickness burns
• Full thickness burns
• Chemical, Thermal, Electrical, Radiation burns

Treatment Algorithm

- Stop the burning and minimize contamination.
• Assess for respiratory distress, stridor, hoarseness, sooty sputum, singed eyebrows and nares, or burns of the face or airway.
• If available, use {CO oximeter}.
• For inhalation burns: Administer high flow oxygen via non-rebreather mask.
• Keep patient warm.
• Superficial or partial thickness burns less than 10 BSA may have wet dressings applied.
• Burns greater than 10 BSA may be covered with clean, dry sheets or dressings.
• Do not apply ice or ice packs to burns, if ice was applied prior to arrival, then remove.
• Remove clothing and jewelry from injured parts. Do not remove items which have adhered to the skin.

EMR

EMT

AEMT

Paramedic

- If available deliver {humidified} oxygen.

- For inhalation burns: If no humidifier is available, administer Saline 3 ml via nebulizer. Repeat PRN.
• Apply cardiac monitor, especially if patient has suffered a lightning strike or electrical burn.
• Provide endotracheal intubation if apneic.
• Administer fluids to maintain perfusion, do not overhydrate. Fluids should be a balanced electrolyte solution when available.
• IV access can be acquired in areas with burnt tissue if necessary and before intraosseous needle access.
• Consider 1014 Pain Management Protocol.

- Early intubation as indicated. Do not wait for complete airway obstruction or respiratory arrest.
• For known or suspected cyanide poisoning, use 3014 Cyanide Poisoning and Antidotes

Consult

- None

Clinical Pearls

- Patients with severe burns should be transported to a Burn Center unless ETA greater than 30 minutes.
• BP may be taken over damaged tissue if no other site is accessible.

END OF SECTION

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Subject: Carbon Monoxide Poisoning

Effective: June 1, 2021

Last Modified: Oct. 10, 2021

3006.1 Clinical Management

Assessment

Pediatric Considerations

- None

Signs & Symptoms

- Malaise, fatigue, drowsiness
- Flu like symptoms
- Headache
- Dyspnea
- Nausea/vomiting
- Diarrhea
- Abdominal pain
- Syncope
- Seizures

Differential Diagnosis

- Flu/Severe cold
- Chronic fatigue
- Myocardial infarction
- Diabetic crisis
- Altitude sickness
- Ingested toxins
- Hypothyroidism

Treatment Algorithm

- Remove patients from the environment.
- Provide high flow O₂ to all suspected carbon monoxide poisonings.
- Pulse oximeter will give false readings and should not be utilized.
- {CO oximeter}

EMR

- Contact MCP to discuss transport considerations.

EMT

- No additional orders at this level.

AEMT

- No additional orders at this level.

Paramedic

Consult

- Look to Medical Control for guidance on transport destination.

Clinical Pearls

- Consider Hyperbaric Oxygen treatment for the following patients with suspected CO exposure:
 - Underlying cardiovascular disease or symptoms such as chest pain or shortness of breath
 - Greater than 60 years of age
 - Obvious neurological symptoms, such as any interval of unconsciousness, loss of time, inability to perform simple motor tasks, or loss of memory
 - Smoke inhalation victims
 - Pregnancy

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Subject: Crush Syndrome Trauma

Effective: June 1, 2021

Last Modified: Oct. 10, 2021

3007.1 Clinical Management

Assessment

Pediatric Considerations

- No pediatric medication doses should exceed total adult doses.

Signs & Symptoms

- Patient entrapped
- Patient under a heavy load and crushed
- Hypotension
- Hypothermia
- Abnormal ECG findings
- Pain
- Anxiety

Differential Diagnosis

- None

Treatment Algorithm

- ◆ Contact MCP immediately and prior to relieving the load.
- Prepare for the patient to decompensate when extricated.
- Monitor and reassess

- {12-lead ECG} as soon as feasible

A 1 liter IV fluid bolus IV. Then 500 ml/hour IV

P IV fluid, 20 ml/kg IV

- Follow 1014 Pain Management protocol
- If hypotensive and the patient has been entrapped 1 hour:

A Give additional IV fluid, 1 liter IV.

P Give additional IV fluid, 20 ml/kg IV.

- ◆ Consider sedation:

A Ketamine 250 mg IM, may repeat after 2 minutes

P Ketamine 5 mg/kg IM, max dose of 250 mg

- Monitor for fluid overload

- Normal ECG and hemodynamically stable, immediately prior to extrication:

A Sodium Bicarbonate 100 mEq IV

P Sodium Bicarbonate 1mEq/kg IV

or

- Abnormal ECG and hemodynamically unstable:

- If after release, hyperkalemia causes wide bizarre EKG complexes with:

- Peaked T waves with a QRS greater than or equal to 0.12 seconds
- QT 0.46 seconds
- Loss of P wave
- Bundle Branch Blocks
- Premature ventricular contractions
- Bradycardia

- ◆ Consider Calcium Chloride, 1 gm, flush line well before Sodium Bicarbonate

- Albuterol 10 mg nebulized

A Sodium Bicarbonate 100 mEq IV

P Sodium Bicarbonate 1mEq/kg IV

Consult

- Contact MCP immediately and prior to relieving the load.
- MCP orders needed for sedation.
- The paramedic must call MCP for orders to give Calcium Chloride to the unstable patient.

Clinical Pearls

- Consider the potential for multiple system trauma
- Consider the potential for hypo or hyperthermia

END OF SECTION

EMR

EMT

A/EMT

Paramedic

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Subject: Cyanide Poisoning & Antidotes

Effective: June 1, 2021

Last Modified: Dec. 8, 2021

3008.1 General Guidelines

- a. Cyanide antidotes are located in multiple caches in each of the counties throughout the region, and are available by contacting 937-333-USAR (8727).
b. The cache agency closest to your incident will be dispatched, which will respond with both a Cyanokit and 3 doses of Sodium Thiosulfate, to provide for the potential of multiple patients.

3008.2 Indications To Call For The Cache

- a. It is strongly recommended that agencies immediately call for the nearest available cyanide antidote cache at the time of dispatch whenever any of the following occur:
i. Report of a person trapped with exposure to fire or smoke in an enclosed area.
ii. Report of an incident involving hydrogen cyanide.
iii. Report of a Mayday or firefighter down with exposure to fire or smoke in an enclosed area.

3008.3 General Treatment

- a. Treatment of cyanide poisoning must include immediate attention to airway patency, adequacy of oxygenation and hydration, cardiovascular support, and management of any seizure activity.

3008.4 Clinical Management

Assessment

Pediatric Considerations

- None

Signs & Symptoms

- Known or strongly suspected cyanide exposure
• Altered mental status
• Seizures
• Shock
• Difficulty breathing

Differential Diagnosis

- None

Treatment Algorithm

- Provide 100% O2 via non-rebreather mask.
• If unconscious, provide 100% O2 by BVM.
• Consider CPAP for suspected smoke inhalation.

- Intubate if patient is apneic
• Establish one IV in each arm if possible.
• It is critical to control any seizure activity, as defined in 4014 Seizures

- If available consider {BiPAP} for suspected smoke inhalation.
• ♦ Hydroxocobalamin (Cyanokit):
A ♦ Administer 5 grams via slow IV infusion over 15 minutes at a rate of 15 ml/min.
A ♦ May repeat 5 grams via slow IV infusion over 15 min to 2 hours, depending on clinical response.
P ♦ Administer 70 mg/kg slow IV over 15 minutes; max dose of 5000 mg (5 grams);
P ♦ May repeat 35 mg/kg slow IV; max dose 2500 mg (2.5 grams), depending on clinical response.

- or
• ♦ Sodium Thiosulfate:
A ♦ If greater than 25 kg: Administer 12.5 grams (50 ml) 25% solution slow IV.
P ♦ If less than 25 kg: Administer 412.5 mg/kg (1.65 ml/kg) 25% solution, slow IV (max dose 12.5 g (50 ml)).

Consult

- Orders for cyanide antidotes are not needed in cardiac arrest.
• ♦ Contact MCP to administer both Hydroxocobalamin (Cyanokit) and Sodium Thiosulfate to the same patient.

Clinical Pearls

- If a patient is in arrest, administer Hydroxocobalamin as quickly as possible.
• Only CAB, defibrillation, intubation, and epinephrine should precede use of the cyanide antidotes.
• Hydroxocobalamin is incompatible with numerous drugs including Diazepam.
• Whenever possible establish two IV lines in a different vein or limb, one for standard protocol drugs and one for cyanide antidotes.
• While IV infusion is the preferred method of cyanide antidote administration, in extreme cases the medications could be given via IO.
o If administering cyanide antidotes via IO, a traditional drip set may not be effective and measures may need to be taken to slowly push the medication in.

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Subject: Drowning

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3009.1 Clinical Management

Assessment

Pediatric Considerations

- None

Signs & Symptoms

- History of submersion
- Period of unconsciousness
- Decreased or absent vital signs
- Vomiting
- Coughing

Differential Diagnosis

- Trauma
- Pre-existing medical problem
- Barotrauma (diving)
- Decompression sickness

Treatment Algorithm

- Consider Spinal Motion Restriction
- Consider possibility of hypothermia. If present follow [3016 Hypothermia](#)
- Evaluate neurological status.
- Drowning patients should be transported to a Trauma Center.
- Establish vascular access.
- No additional orders at this level

EMR	EMT	AEMT	Paramedic
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Consult

- None

Clinical Pearls

- All submersion victims should be transported due to potential for worsening over the subsequent few hours.

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Subject: Extremity Injuries

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3010.1 Clinical Management

Assessment

Pediatric Considerations

- None

Signs & Symptoms

- Deformities
- Inflammation
- Pain upon movement
- Immobility
- Paresthesia

Differential Diagnosis

- None

Treatment Algorithm

- For open fractures, control bleeding with direct pressure and cover with dry, sterile dressing.
- If practical consider elevating the limb.
- Apply appropriate splinting device.
- If the extremity is severely angulated and pulses are absent, apply gentle traction in an attempt to bring the limb back into a natural anatomic position. If resistance is encountered, splint the extremity in the angulated position.
- Apply cold pack to reduce swelling.

- No additional orders at this level

- Consider [1014 Pain Management](#) Protocol

- No additional orders at this level

EMR
EMT
AEMT
Paramedic

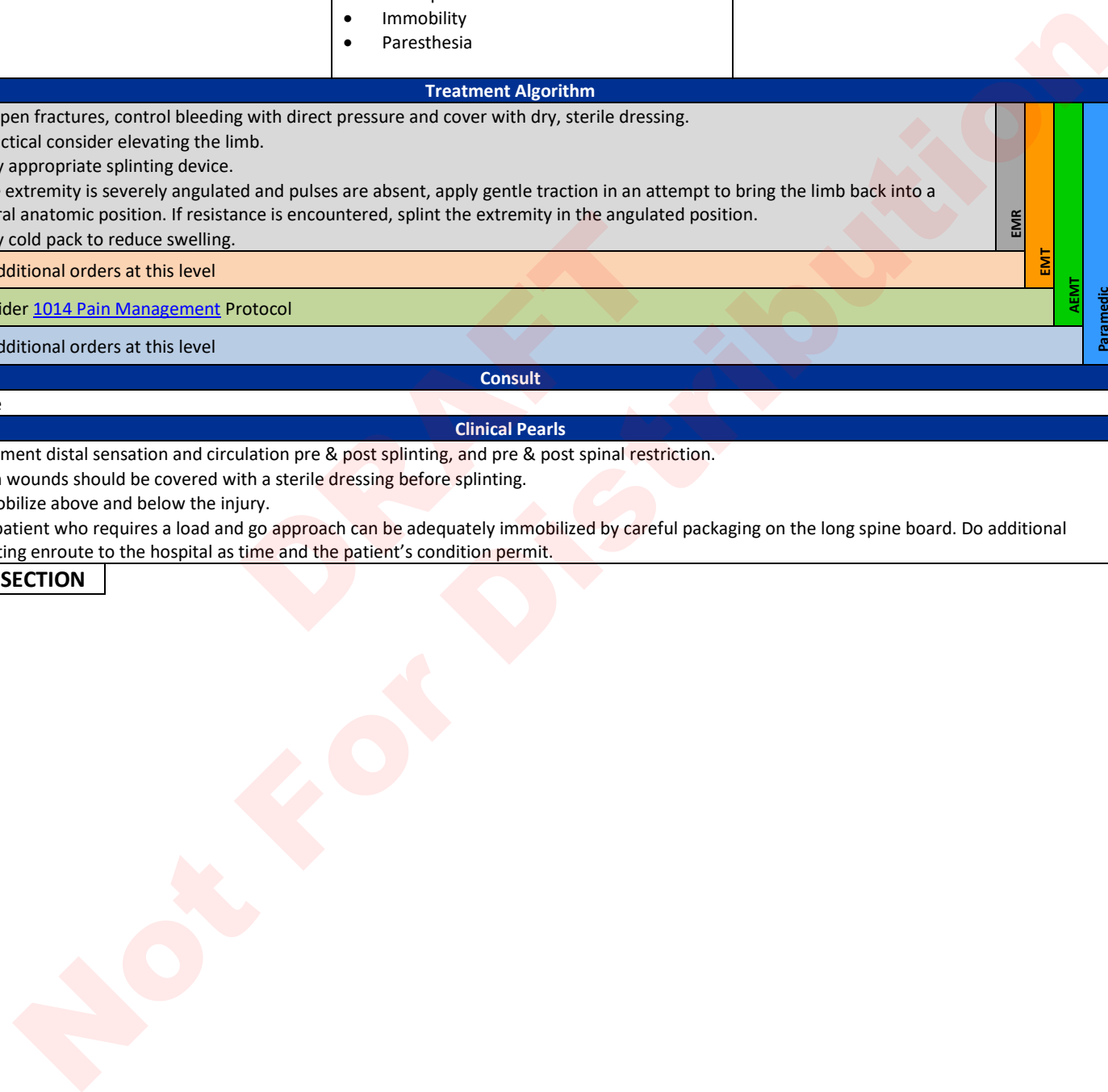
Consult

- None

Clinical Pearls

- Document distal sensation and circulation pre & post splinting, and pre & post spinal restriction.
- Open wounds should be covered with a sterile dressing before splinting.
- Immobilize above and below the injury.
- The patient who requires a load and go approach can be adequately immobilized by careful packaging on the long spine board. Do additional splinting enroute to the hospital as time and the patient's condition permit.

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Subject: Eye Injuries

Effective: June 1, 2021

Last Modified: Oct. 11, 2021

3011.1 Clinical Management

Assessment

Pediatric Considerations

- None

Signs & Symptoms

- Irritation to eye
- Visual disturbances or loss of vision
- Obvious penetrating injury
- Burns
- Nausea

Differential Diagnosis

- Hypertension
- Contact lens issue

Treatment Algorithm

- If possible, contact lenses should be removed. Contacts should be transported with patient.
- Use nasal cannula with IV tubing for irrigation.
- Chemical Burns:
 - Irrigate immediately with **IV fluid** or water for a minimum of 30 minutes or until patient transport is completed.
 - Determine chemical involved. Bring MSDS, if available.
- Major Eye Trauma:
 - Do not irrigate if there is penetrating trauma to the eye.
 - Cover both eyes to limit movement.
 - Do not use a pressure or absorbent dressing on or near any eye that may have ruptured or have any penetrating trauma.
- The patient should be transported with head elevated at least 30°.

EMR
EMT
AEMT
Paramedic

- No additional orders at this level.

- No additional orders at this level.

- Prior to irrigation with IV fluid or for significant eye pain, **Tetracaine** 2 drops in affected eye.
 - Do not irrigate or use Tetracaine if penetrating trauma to the eye is present.
- Use {Morgan Lens} or nasal cannula with IV tubing for irrigation.

Consult

- None

Clinical Pearls

- None

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Subject: Frostbite

Effective: June 1, 2021

Last Modified: Dec. 8, 2020

3012.1 Clinical Management

Assessment

<p>Pediatric Considerations</p> <ul style="list-style-type: none"> None 	<p>Signs & Symptoms</p> <ul style="list-style-type: none"> Cold, clammy skin Shivering Mental status changes Extremity pain or sensory abnormality Bradycardia Hypotension or shock 	<p>Differential Diagnosis</p> <ul style="list-style-type: none"> Head Injury Spinal cord injury
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Treatment Algorithm

<ul style="list-style-type: none"> Protect injured areas. Remove clothing and jewelry from injured parts. Do not attempt to thaw injured part with local heat. Maintain core temperature. 	EMR
<ul style="list-style-type: none"> Severe frostbite injuries should be transported to a Burn Center. 	EMT
<ul style="list-style-type: none"> Establish vascular access and consider {warmed} fluids. Consider 1014 Pain Management Protocol. 	AEMT
<ul style="list-style-type: none"> No additional orders at this level 	Paramedic

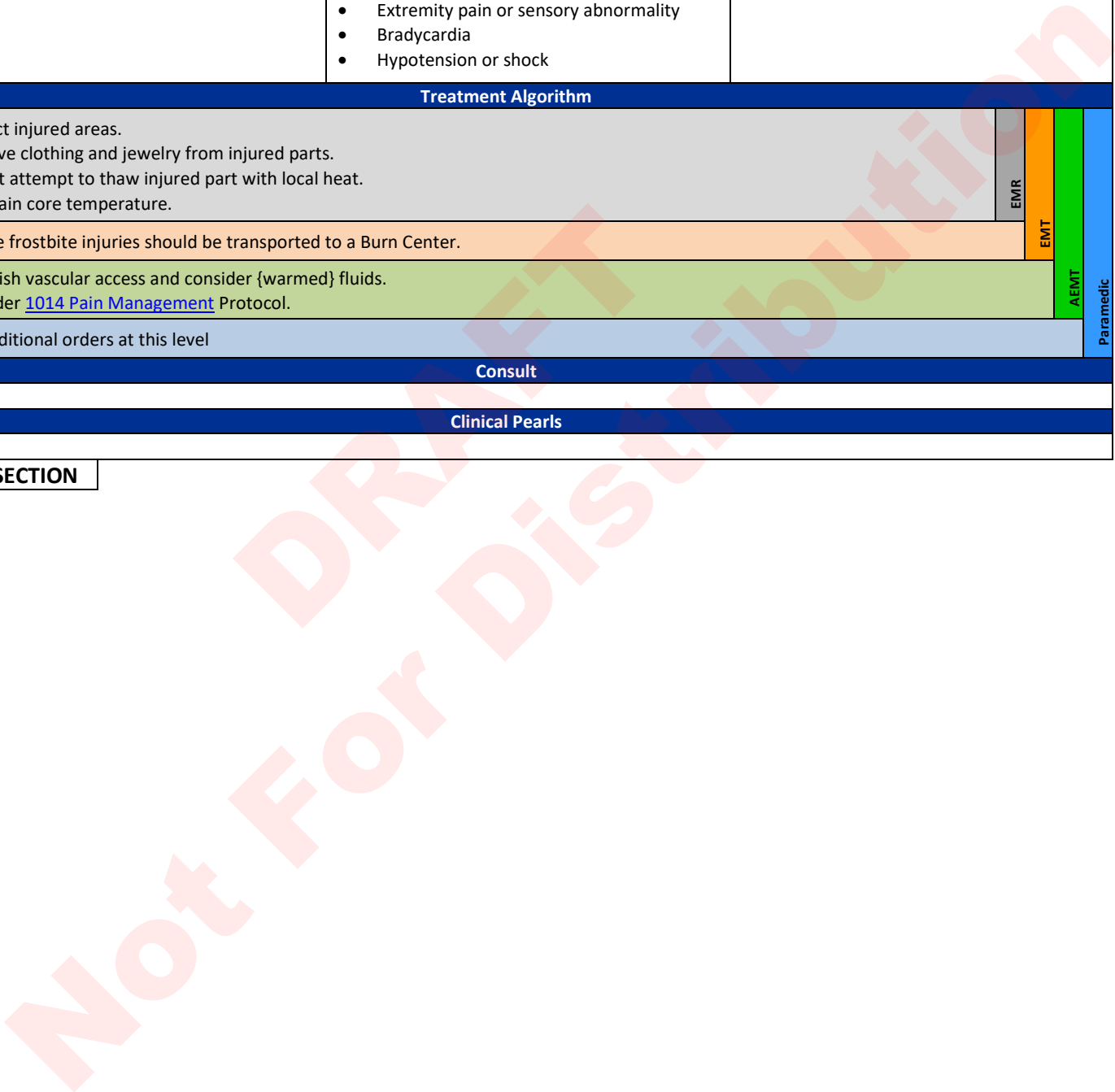
Consult

<ul style="list-style-type: none"> None

Clinical Pearls

<ul style="list-style-type: none"> None

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Subject: Head Injury

Effective: June 1, 2021

Last Modified: Oct. 10, 2021

3013.1 Clinical Management

Assessment

Pediatric Considerations

- Assess the fontanelles in younger patients

Signs & Symptoms

- Visible head trauma
- Altered LOC
- Cushing's Triad or similar V/S
 - Ataxic Respirations
 - Increased B/P
 - Bradycardia
- Pupillary changes
- Posturing

Differential Diagnosis

- Alcohol/Acidosis
- Epilepsy/Endocrine
- Infection
- Overdose/Oxygen Deficiency
- Uremia
- Tumor
- Insulin
- Psychogenic/Poison
- Stroke/Shock

Treatment Algorithm

- Evaluate level of consciousness, pupillary size and reaction.
- Establish Glasgow Coma Score and reassess frequently.
- Ventilate at 20 breaths per minute when signs of cerebral herniation are present:
 - {Ventilate to maintain EtCO₂ readings of 30 mmHg (30 torr)}.
 - Never ventilate at less than 8 per minute.

P Ventilate at a rate of ten faster than normal respiratory rate when the signs of cerebral herniation are present.

- No additional orders at this level

- No additional orders at this level

- No additional orders at this level

EMR
EMT
AEMT
Paramedic

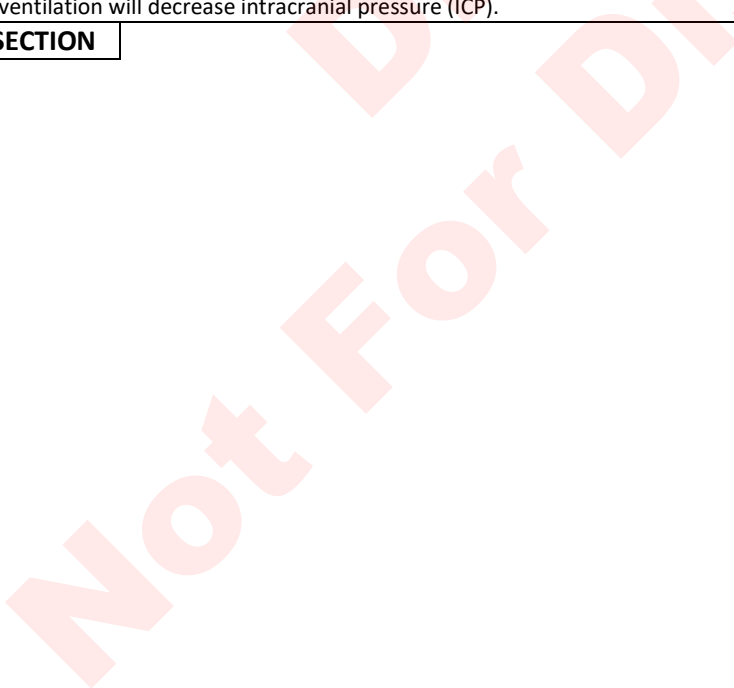
Consult

- None

Clinical Pearls

- Signs of cerebral herniation: Dilated and unresponsive pupils, bradycardia, posturing, decreased mental status.
- Hyperventilation will decrease intracranial pressure (ICP).

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Subject: Heat Exposure

Effective: June 1, 2021

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3014.1 Clinical Management

Assessment

Pediatric Considerations

- May not exhibit typically
- Do not thermoregulate well

Signs & Symptoms

- History of heat exposure
- Cramping
- Hot or flushed skin
- Excessive sweating
- Nausea/vomiting
- Mental status changes

Differential Diagnosis

- Thyroid storm
- Excited delirium
- Malignant hyperthermia
- Alcohol
- Epilepsy
- Insulin
- Trauma
- Infection
- Psychosis
- Stroke

Treatment Algorithm

- Move patient to a cool environment
- Remove patient's clothing
- Continuously apply water to the skin to cool the patient, use fan for evaporation if available
- Apply cold packs to underarms and groin area
- Cold water submersion is an acceptable method for cooling heat stroke patients. You may encounter patients in cooling body bags. The goal is to lower temperature to less than 102.5°F
- If conscious and not vomiting or extremely nauseous, provide oral fluids
- Be prepared for seizures
- Consider other medical conditions (e.g., overdose, hypoglycemia, CVA) and treat accordingly

EMR

EMT

- Hyperthermia patients should be transported to a Trauma Center

- If hypotensive or mental status changes:
 - **A IV fluid 500 ml IV**
 - **P IV fluid 20 ml/kg IV (max 500)**
- May repeat both adult and pediatric fluid bolus one time
- ♦ Additional IV fluid, if indicated
- Consider other medical conditions (e.g., overdose, hypoglycemia, CVA) and treat accordingly

AEMT

- No additional orders at this level

Paramedic

Consult

- For additional (more than 2) fluid challenges in adults

Clinical Pearls

- Geriatric patients, pediatric patients, patients with a history of spinal injury, and diabetics are most likely to suffer heat-related illnesses
- Other contributory factors may include heart medications, diuretics, cold medications, and psychiatric medications
- Heat exposure can occur due to increased environmental temperatures, prolonged exercise or a combination of both
- Environments with temperatures above 90°F and humidity over 60% present the most risk

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Subject: Hemorrhage Control

Effective: June 1, 2021

Last Modified: Nov. 5, 2021

3015.1 Clinical Management

Assessment

Pediatric Considerations

- None

Signs & Symptoms

- Significant bleeding
- Shock-like symptoms

Differential Diagnosis

- None

Treatment Algorithm

- Control of life-threatening external hemorrhage takes priority over any other treatment.
- Constant, direct pressure is the primary method of bleeding control.
- If direct pressure fails to control bleeding from extremities, use a tourniquet.
 - {Commercial tourniquets such as the CAT or SOFTT are recommended}
 - Only use wide, flat materials such as cravats or BP cuffs as improvised tourniquets
 - Place a tourniquet as proximal as possible to the torso on the femur or humerus
 - Tighten the tourniquet until the bleeding stops
 - If bleeding persists, place another tourniquet abutted to the first tourniquet
 - Document time and location
 - Be sure that the ER staff is aware of the tourniquet
- {For life-threatening hemorrhage that can't be controlled by tourniquets, consider hemostatic dressings}.
 - Combat Gauze, or ChitoFlex PRO are examples
 - These can be used on or in the chest or abdomen
 - Place in direct contact with the source of bleeding and apply a pressure dressing or use Kerlix
 - DO NOT USE GRANULAR AGENTS
- {Wound Packing may be performed by providers at any level, as long as they have received proper training}
 - This procedure is not to be used on open wounds to the head
 - Use sterile gauze or approved hemostatic products
 - Gauze should be placed as deeply in the wound as possible using a gloved digit and continuous pressure
 - Excessive force is not necessary and may be harmful.
 - Apply a pressure dressing and manual direct pressure over the packed wound for at least 3 minutes
 - Do not remove wound packing once placed in the cavity
 - Notify the ED staff of the use of wound packing on arrival at the destination
- Treat for hypovolemic shock as indicated.

• No additional orders at this level

• No additional orders at this level

• No additional orders at this level

EMR

EMT

AEMT

Paramedic

Consult

- None

Clinical Pearls

- None

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Subject: Hypothermia

Effective: June 1, 2021

Last Modified: Oct. 11, 2021

3016.1 Clinical Management

Assessment

<p>Pediatric Considerations</p> <ul style="list-style-type: none"> None 	<p>Signs & Symptoms</p> <ul style="list-style-type: none"> Cold, clammy skin Shivering Mental status changes Extremity pain or sensory abnormality Bradycardia Hypotension or shock 	<p>Differential Diagnosis</p> <ul style="list-style-type: none"> Sepsis Hypoglycemia Stroke Head Injury Spinal cord injury
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Treatment Algorithm

<ul style="list-style-type: none"> Move patient to warm environment, remove all wet clothing, dry the patient, and cover with blankets. Avoid any rough movement that may cause cardiac dysrhythmias or cardiac arrest. It may be beneficial to consider spinal motion restriction measures. Assess neurological status. Oxygenate the patient with 100 O₂. If patient goes into cardiac arrest: <ul style="list-style-type: none"> CPR continuously In severe hypothermia (less than 86°F 30°C), limit defibrillation attempts to <u>one</u> except on orders from MCP. If body temperature is (more than 86°F 30°C), follow normal arrest protocols. 	EMR			
<ul style="list-style-type: none"> If available, provide {warmed and humidified} 100 O₂. Hypothermic patients should be transported to a Trauma Center. Resuscitative efforts should be continued while in transit, even if there is no response. 		EMT		
<ul style="list-style-type: none"> Use the least invasive means possible to secure airway. Intubate if necessary, as gently as possible. Establish vascular access and consider {warmed} fluids. 			AEMT	
<ul style="list-style-type: none"> Treat bradycardia only if patient is hypotensive. 				Paramedic

Consult

<ul style="list-style-type: none"> Consult with MCP for cardiac arrest management of the severely hypothermic patient. <ul style="list-style-type: none"> All levels should consult with MCP for orders to administer second and subsequent defibrillations. Paramedics must consult with MCP for orders to administer cardiac arrest medications.

Clinical Pearls

<ul style="list-style-type: none"> It may be necessary to assess pulse and respirations for up to 45 seconds to confirm arrest. Do not initiate CPR if there is any pulse present, no matter how slow.

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Subject: SALT Triage System

Effective: June 1, 2021

Last Modified: Dec. 8, 2021

3017.1 General Guidelines

- a. SALT stands for Sort, Assess, Life-Saving Intervention, and Treatment/Transport.
- b. Developed by the Centers for Disease Control and Prevention to address limitations in other systems.
- c. The CDC has proposed SALT as the national standard for MCI triage.

3017.2 Primary and Secondary Triage Prior to Transporta. Initial Triage:

- i. Use triage ribbons (color-coded strips), not triage tags, during initial triage.
- ii. One should be tied to an upper extremity in a **VISIBLE** location (on the right wrist, if possible).
- iii. SALT Triage Levels:
 1. **RED – Immediate**
 2. **YELLOW – Delayed**
 3. **GREEN – Minimal**
 4. **GRAY – Expectant** (The patient is unlikely to survive given the current resources)
 5. **BLACK – Dead** (black & whiteebra stripe for easier visibility in low light)
 6. **ORANGE and Polka Dot** - used in addition to one of the above ribbons to indicate victim has been contaminated with a hazardous material.
- iv. Move as quickly and safely as possible, making quick decisions.
- v. The victim will be re-triaged, probably multiple times, and the category may be revised.
- vi. Over-triage can be as harmful as under-triage. If everyone is tagged red, those who are truly red will receive delayed treatment, delayed transport, and delayed definitive care.
- vii. Treatment and transport should be delayed until more resources, field or hospital, are available.
- viii. If there are delays in the field, consider requesting orders for palliative care, e.g., pain medications if time and resources allow.
- ix. Only tag a patient as **BLACK** if the demands on the system outstrip the needs.

b. Secondary Triage:

- i. This must be performed on all victims prior to transport.
- ii. Treatment Area may also be the Casualty Collection Point (CCP), or the CCP may be separate.
 1. Patients should be reassessed periodically, including when moved to a CCP, or when their condition or resources change.
- iii. Utilize Triage Tags and complete pertinent and available information on the tag.
 1. Use Triage Tags with individual barcodes consistent with this Standing Order and the Ohio patient tracking system (OHTrac).
 2. Tags are applied after patients enter the Treatment Area or CCP, or by Transport Group if the patient is being directly removed without going to the Treatment Area.
 3. Affix the tag to the victim using the triage ribbon.
- iv. **Orange & Polka-dot** ribbons (indicating contaminated patients) are to be removed after decontamination.
 1. When contaminated patients are discovered, each of those patients initially receives two ribbons: one with the appropriate triage category (**Red, Yellow, Green, Gray, or Black**), and the second, the **Orange & Polka-dot** ribbon indicating contamination.
 2. Providers have the responsibility for performing primary decontamination prior to transport, however, the hospital must be aware of both contamination and the decontamination procedures taken.
 3. Make sure to decontaminate under the ribbons.
 4. After patients are decontaminated, the **Orange & Polka-dot** ribbon is removed
 5. The triage tags for contaminated patients get two check marks on the orange strip:



Subject:

SALT Triage System

Effective:

June 1, 2021

Last Modified:

Dec. 8, 2021

- a. Both the box “dirty” and “decontaminated” should be marked.
- b. This indicates to the hospital personnel that the patient has had field decontamination, but may still be somewhat “dirty”.
6. Notify hospitals of an MCI involving victim contamination.
 - a. Consider use of the Regional Hospital Notification System.
- c. Transport
 - i. Priority for transport is determined in the Treatment Area or by the Transport Group.
 - ii. Distribution of patients among various hospitals is one of EMS’ most crucial tasks.
 - iii. **Do not overload any hospital**, regardless of transport distance to other hospitals.
 - iv. In an MCI, many trauma patients will need to be transported to non-Trauma Centers.
 1. All hospitals will accept and stabilize trauma patients during MCIs.
 - v. As Transport assigns patient allocation, consider the likelihood that the closest hospitals may be overwhelmed by patients who were not transported by EMS.
 - vi. In large scenarios, consider activation of the Forward Movement of Patients Plan as defined in [2021 Crisis Standards of Care in Massive Events](#).

3017.3 Sort, Assess, Life-Saving Intervention, Treatment/Transport Process

a. Sort

- i. Global Sorting: Action 1
 1. Action: “Everyone who can hear me please move to designated area and we will help you” (use loudspeaker if available)
 2. Goal: Group ambulatory patients using voice commands
 3. Result: Those who follow commands last priority for individual assessment (Green)
 4. Assign someone to keep them together and notify Incident Command or EMS Group/Branch of number of patients and their location.
 5. Do not forget these victims.
 6. Someone must re-triage them as soon as possible.
 7. In smaller incidents, such as a motor vehicle crash with a few victims where you do not want any of them to move on their own, skip Action 1, and go to Global Sorting Action 2
- ii. Global Sorting: Action 2
 1. Action: “If you need help, wave your arm or move your leg and we will be there to help you as soon as possible”
 2. Goal: Identify non-ambulatory patients who can follow commands or make purposeful movements
 3. Result: Those who follow this command second priority for individual assessment
- iii. Global Sorting: Result
 1. Casualties are now prioritized for individual assessment
 - a. Priority 1: Still, and those with obvious life threat
 - b. Priority 2: Waving or purposeful movements
 - c. Priority 3: Walking
- iv. Begin assessing all non-ambulatory victims where they lie, performing the four Life Saving Interventions (LSIs) as needed, but only within your scope of practice, and only if the equipment is readily available.

b. Assess

- i. Is the patient breathing
 1. If not, open the airway. In children, consider giving two rescue breaths.
 2. If the patient is still not breathing, triage them to **BLACK** (dead).
 3. Do not move patients triaged **BLACK** except to gain access to a living patient.
 4. If patient is breathing, conduct next assessment.



Subject: SALT Triage System

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- ii. Assess for the following:
 1. Can the patient follow commands or make purposeful movements
 2. Does the patient have a peripheral pulse
 3. Is the patient not in respiratory distress
 4. Is hemorrhaging under control

Two mnemonics to remember the four assessment questions	
C follows <u>C</u> ommands	Think of the questions in terms of "bad" or "good" If the answer to the questions is "bad" then the patient is tagged either RED (Immediate) or GRAY (Expectant)
R No <u>R</u> espiratory distress	
A No (uncontrolled) <u>A</u> rterial bleeding	
P <u>P</u> eripheral <u>P</u> ulse <u>P</u> resent	

- iii. Grading the Assessment
 1. If the answer to **any** of those questions is no and the patient **IS** likely to survive given current resources, tag them as **RED (Immediate)**.
 2. If the answer to **any** of those questions is no and the patient is **NOT** likely to survive given current resources, tag them as **GRAY (Expectant)**.
 3. If the answer to **all** of those questions is yes but injuries are not minor and require care, tag patient as **YELLOW (Delayed)**.
 - a. **YELLOWs** have serious injuries and need care, though not as urgently as **REDs**.
 - b. On secondary triage, some **Yellow**s will need higher priority transport than others.
 4. If the answers to **all** of those questions is yes and the injuries are minor, tag patient as **GREEN (Minimal)**.
- c. Life Saving Interventions
 - i. Only correct life-threatening problems during triage.
 1. Control major hemorrhage
 2. Open airway (if child, consider giving two rescue breaths)
 3. Needle chest decompression
 4. Auto injector antidotes
- d. Treatment/Transport
 - i. Transport/treatment priority is typically given (in order) to
 1. **RED (Immediate)**
 2. **YELLOW (Delayed)**
 3. **GREEN (Minimal)**
 4. **GRAY (Expectant)** patients should be treated and transported as resources allow.

3017.4 Special Considerations

- a. Patients should be reassessed periodically, including when moved to the CCP, or when their condition or resources change.
- b. Even after applying Triage Tags, the main indicator of patient condition is the Triage Ribbon.
- c. Continue to use the same tag, even if the condition changes repeatedly, changing the ribbon to indicate the patient's current condition.
- d. If the patient's condition or the triage priority changes, indicate that on the tag.

END OF SECTION

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Subject:

Spinal Motion Restriction

Effective:

June 1, 2021

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Aug. 12, 2021

3018.1 General Guidelines

- a. Studies indicate traditional spinal restriction has risks and may even cause harm in some cases.
- b. Spinal Motion Restrictions allows for an assessment based management of the injured patient.
- c. Spinal precautions should always be taken when dealing with at risk patients.
- d. This protocol does not indicate that providers do not immobilize the spine it simply provides a different means of restriction in selected patients.
- e. These guidelines apply to providers at all certification levels.

3018.2 Blunt Trauma Patients – Full Immobilization

- A All patients with clinical indications of a spinal injury and/or with altered levels of consciousness must be immobilized with both a C-collar and a spinal restriction device. (e.g., spine board, KED, vacuum splint).
- P Pediatric trauma patients less than 3 years of age with a GCS of less than 15 must be immobilized with both a C-collar and a spinal restriction device.

3018.3 Blunt Trauma Patients – SMR

- a. Other alert trauma patients, including all those listed below, should have a c-collar placed and moved with caution in-line as a unit to the cot. They would not need a backboard:
 - i. Patients with neck pain
 - ii. Patients with midline neck or spinal tenderness
 - iii. Patients with pain upon motion of the neck
 - iv. Cases with high risk mechanism (high speed MVC, fall greater than 10 feet, axial loading injury)

3018.4 Penetrating Trauma

- a. Patients with penetrating trauma do not need immobilization with either a cervical collar or backboard.
- b. Delays in transport are to be minimized and place the patient at greater risk.

3018.5 Airway or Ventilatory Management

- a. Patients who are immobilized and require airway and or ventilatory interventions (including intubation) may have the cervical collar removed during the intervention.
 - i. In-line stabilization should be maintained while the intervention is performed.
- b. The cervical collar should be reapplied after the intervention is either accomplished or abandoned.

3018.6 Equipment Issues

- a. In an emergency situation with equipment intensive sports such as football, hockey and lacrosse, the protective equipment shall be removed prior to transport to an emergency facility.
- b. Helmets of any kind that prevent either effective SMR or airway management should be removed.

3018.7 Other Considerations

- a. Patients older than 69 y/o should be considered “high risk” patients for spinal injury and require closer assessment. With these patients, lean towards applying a cervical collar.



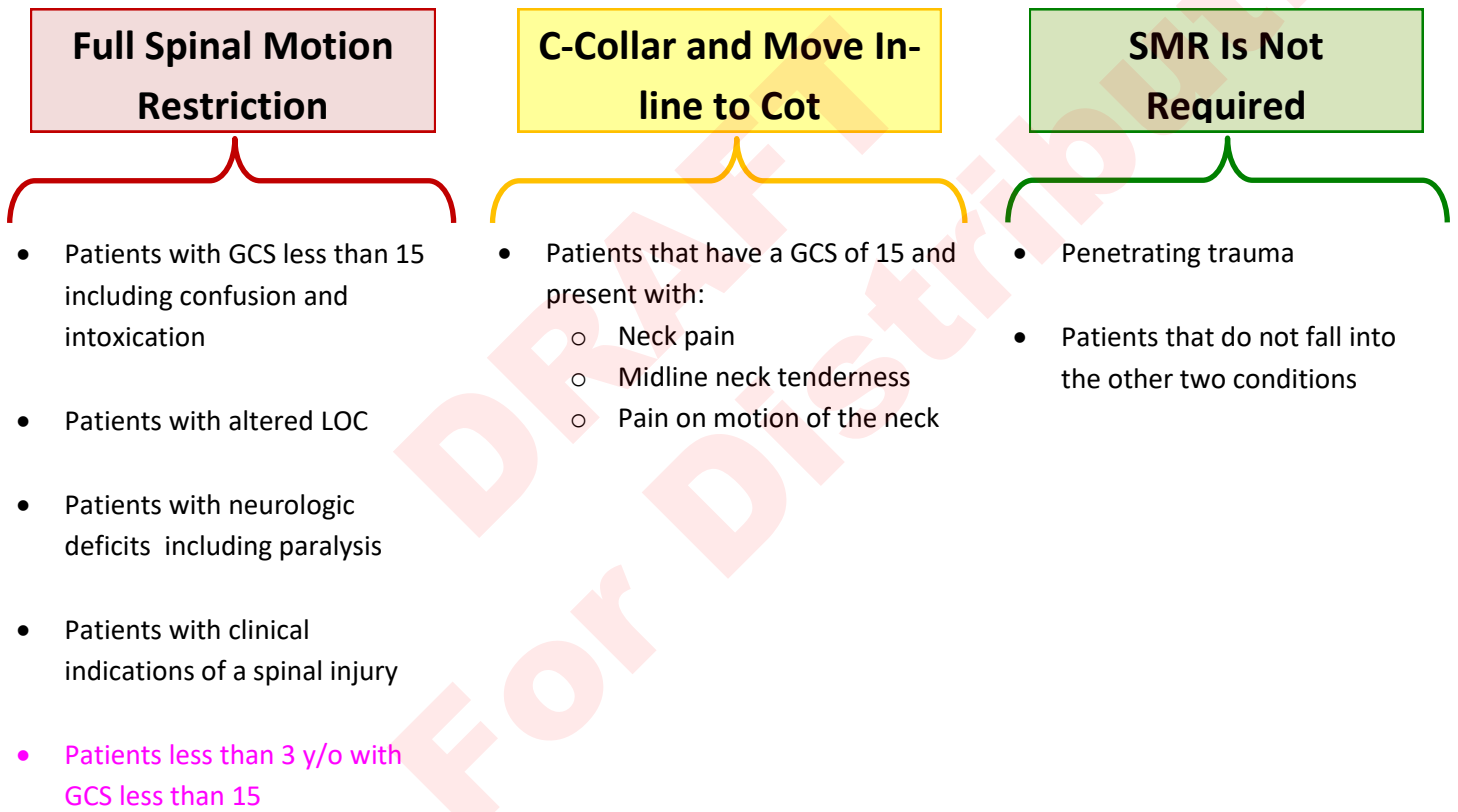
Subject: Spinal Motion Restriction

Effective: June 1, 2021

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- b. If the patient meets the standards for a Trauma Alert Activation, consider a cervical collar at a minimum.
- c. Patients who do not tolerate any level of restriction should have that restriction adjusted to the point of removal if necessary based on clinical response.
 - i. Examples include shortness of breath, anxiety, and body habitus
 - ii. They should be transported in the manner of restriction that they can tolerate.
- d. Spinal restriction of the purpose of patient movement
 - i. Spinal restriction devices may be utilized for movement from a site of injury to the cot.
 - ii. Patients who do not require restriction should be removed from the device prior to transport.

3018.8 Clinical Management



EXCEPTIONS

- Patients who require airway or ventilatory intervention may have the collar removed with inline stabilization during the intervention.
- Patients who do not tolerate restriction should have it adjusted to the point of removal if necessary.

END OF SECTION



Subject:

Trauma Transport Guidelines

Effective:

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Oct. 10, 2021

3019.1 State of Ohio Trauma Triage Age Considerations

- a. For the purposes of trauma guidelines the criteria for patient age is:
 - i. Less than 16 years old will be pediatric patients
 - ii. 16 years old to 69 years old will be adult patients
 - iii. Greater than 69 years old will be geriatric patients

3019.2 Trauma Center or Facility Capabilities:

- a. Level I and II Trauma Centers can care for the same trauma patients.
- b. Level III Trauma Centers offer services, based on individual hospital resources that provide for initial assessment, resuscitation, stabilization, and treatment of the trauma patient.
- c. In some areas of the region a Level III Trauma Center is the only trauma facility within 30 minutes ground transport time. This hospital may act as the primary receiving facility for the critically injured patient.
- d. In areas where the trauma patient is closer to a Level III Trauma Center, but a Level I or Level II Trauma Center is still within 30 minutes, the EMS Provider should decide whether the patient would benefit more from an immediate evaluation, stabilization, and treatment at the Level III Trauma Center, or from direct transport to a Level I or Level II Trauma Center.
- e. In areas of the region where there are no Trauma Centers within 30 minutes ground transport time, the acute care hospital may act as the primary receiving facility for critically injured trauma patients, or EMS Provider may arrange for air medical transport from the scene.

P If a pediatric patient meets the trauma triage guidelines, transport to a Pediatric Trauma Center.

P Pediatric patients should be transported in an appropriately sized child restraint system.

- f. If transportation time is 30 minutes, transport to the nearest acute care hospital, or EMS providers may arrange for air medical transport from the scene.
- g. All pregnant trauma patients should be rapidly transported to the nearest Adult Trauma Center with labor and delivery capabilities, unless transport time is greater than 30 minutes.

3019.3 Air Medical Transportation:

- a. Prolonged delays at the scene waiting for air medical transport should be avoided.
- b. Cardiac arrest is not appropriate for air transport.
- c. In the rural environment, direct transfer of trauma patients by air medical transport may be appropriate and should be encouraged.

3019.4 Exceptions to Transportation Guidelines:

- a. It is medically necessary to transport the victim to another hospital for initial assessment and stabilization before transfer to a Trauma Center.
- b. It is unsafe to transport the victim directly to a Trauma Center due to adverse weather or ground conditions or excessive transport time.
- c. Transporting the victim to a Trauma Center would cause a shortage of local EMS resources.
- d. No Trauma Center is able to receive and provide trauma care to the victim without undue delay.
- e. Before transport begins, the patient requests to be taken to a particular hospital even if it is not a Trauma Center.
- f. If the patient is a minor or otherwise considered incapable of making medical decisions, an adult relative or other legal representative may make this request.

3019.5 Trauma Criteria:

- a. Anatomical Criteria:
 - i. All penetrating trauma to head, neck, torso, and extremities proximal to elbow or knee with



Subject: Trauma Transport Guidelines

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- neurovascular compromise.
- ii. Abdominal injury with tenderness, distention, or seat belt sign
- iii. Chest injury: flail chest or tension pneumothorax
- iv. Two or more proximal long bone fractures
 - G One proximal long bone fracture in MVC only
- v. Evidence of pelvic fracture (exception: isolated hip fracture)
- vi. Spinal cord injury with paralysis
- vii. Burns greater than 10 total body surface area (BSA) or other significant burns involving the face, feet, hands, genitals or airway
 - P Burns greater than 5 total BSA or other significant burns involving the face, feet, hands, genitals or airway
- viii. Amputation proximal to wrist or ankle
- ix. Evidence of serious injury of 2 or more body systems
- x. Crush injury to head, neck, torso, or extremities proximal to knee or elbow
- xi. Open skull fracture

Meets Above Criteria = Transport to Trauma Center	Does Not Meet Above Criteria = Assess Physiologic
Call Trauma Alert	

b. Physiological Criteria:

i. **Adult Physiological Criteria**

- A GCS less than or equal to 13
- A Loss of consciousness greater than five minutes at any time
- A Alteration in level of consciousness with evidence of head injury at time of exam or thereafter
- A Failure to localize pain
- A Respirations less than 10 or greater than 29
- A Needs ventilatory support
- A Tension pneumothorax
- A Pulse higher than 120 in combination with any other physiologic criteria
- A SBP less than 90 or absent radial pulse with carotid pulse present

ii. **Pediatric Physiological Criteria:**

- P GCS less than or equal to 13
- P Loss of consciousness greater than five minutes at any time
- P Alteration in level of consciousness with evidence of head injury at time of exam or thereafter
- P Failure to localize pain
- P Evidence of poor perfusion (e.g., weak distal pulse, pallor, cyanosis, delayed capillary refill, tachycardia)
- P Evidence of respiratory distress or failure (e.g., stridor, grunting, retractions, cyanosis, nasal flaring, hoarseness, or difficulty speaking)
- P Respiratory rate less than 20 per minutes in infants less than 1 year old.

iii. **Geriatric Physiological Criteria:**

- G GCS less than 15 with evidence of TBI
- G Loss of consciousness greater than five minutes at any time
- G Alteration in level of consciousness with evidence of head injury at time of exam or thereafter
- G Failure to localize pain
- G Respirations less than 10 or greater than 29



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- G Needs ventilatory support
- G Tension pneumothorax
- G Pulse higher than 120 in combination with any other physiologic criteria
- G SBP less than 100 or absent radial pulse with carotid pulse present
- G Known or suspected proximal long bone (femur/humerus) fracture sustained in MVC
- G Multiple body regions injured

Meets Above Criteria = Transport to Trauma Center

Does Not Meet Above Criteria = Evaluate Mechanism of Injury

Call Trauma Alert

c. Mechanism of Injury:

- i. Auto-pedestrian/auto-bicycle injury with significant (faster than 5 mph) impact
- ii. Death in same passenger compartment
- iii. Ejection from motor vehicle
- iv. Extrication time longer than 20 minutes
- v. Fall of more than 20 feet
 - P Fall greater than 3 times child's height
 - G Falls, even from a standing position, with evidence of Traumatic Brain Injury
- vi. High-speed auto crash
 - 1. Estimated speed faster than 40 mph
 - 2. Intrusion into passenger compartment of more than 12 inches
 - 3. Major auto deformity of more than 20 inches
- vii. Open motor vehicle crashes faster than 20 mph or with separation of rider from vehicle
- viii. Pedestrian thrown or run over
 - G Pedestrian struck by a motor vehicle
- ix. Unrestrained rollover
- x. Vehicle telemetry data consistent with high risk of injury

Meets Above Criteria = Consider Trauma Center

Does Not Meet Above Criteria = Check Special Situations

Consult with Medical Control if Necessary

d. Special Situations:

- i. Pre-existing cardiac or respiratory disease
- ii. Insulin dependent diabetes, cirrhosis, morbid obesity, seizure disorder
- iii. Patient with bleeding disorder or on anticoagulants
- iv. Immuno-suppressed patients (renal dialysis, transplant, cancer, HIV)
- v. Congenital disorders

e. Geriatric Considerations:

- i. Special consideration should be given for the geriatric trauma patient to be evaluated at a Trauma Center if they have diabetes, cardiac disease, clotting disorders, immunosuppressive disorder, are on anticoagulants, or require dialysis.

Meets Above Criteria = Consider Trauma Center

Does Not Meet Above Criteria = Go to closest appropriate Hospital

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Subject: Regional Hospital Notification System (RHNS)

Effective: June 1, 2021

Last Modified: Dec. 8, 2020

3020.1 General Guidelines

- a. The purpose of the Regional Hospital Notification System is to provide one number for EMS, hospitals, and EMAs to call that will make rapid, simultaneous notifications in a Mass Casualty Incident or Event (MCI/MCE), or other major emergency.
- b. The system can be used when an incident could involve a significant number of the region’s hospitals.

3020.2 RHNS Activation

- a. To activate the system, an incident commander calls 937-333-USAR (8727), and requests a “Regional Hospital Notification.”
- b. The agency calling must ask for a Dispatch Supervisor, and should provide the information below:
 - i. Name of agency
 - ii. Nature of emergency
 - iii. Location of emergency
 - iv. General statement on severity, such as approximate number of victims
 - v. Any other information to be conveyed
- c. The Montgomery County Regional Dispatch Center (RDC) will immediately put out a computerized message to the RHNS Group with the information provided.

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Subject: Crisis Standards of Care in
Massive Events

Effective:
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Dec. 8, 2020

3021.1 General Guidelines

- a. Some incidents are so large as to require extraordinary EMS procedures. Those scenarios are sometimes referred to as Mass Casualty Events (MCEs), instead of Mass Casualty Incidents (MCIs).
- b. These EMS procedures should be utilized in very large emergency scenarios, or when the duration is extended.
- c. In the event of an MCE, especially one lasting days or longer, Greater Miami Valley EMS Council, with the approval of the Regional Physicians Advisory Board (RPAB), may promulgate "Just in Time Standing Orders" (JITSO).
- d. With approval from Ohio Department of Public Safety, these orders might include triage standards for transport to other healthcare facilities and other crisis standards of care possibly exceeding the standard scope of practice for EMS.
- e. Full information on the process can be found in the Dayton MMRS Regional MCI Plan Template

3021.2 Alternate Transports

- a. In some circumstances, EMS may be authorized to triage selected patients for transport to other healthcare facilities, including:
 - i. Urgent Care Centers
 - ii. Acute Care Center (ACC)
 - iii. Neighborhood Emergency Help Center (NEHC)
 - iv. Disaster Medical Assistance Team (DMAT)

3021.3 Forward Movement of Patients

- a. Planned by Dayton MMRS
- b. The intent is to relieve the burden on local hospitals by transporting patients, possibly directly from the scene, to more distant hospitals.

3021.4 Functional Needs Shelter Triage

- a. A regional protocol for Functional Needs Shelter Triage has been added to the Optional Standing Orders Manual and is also available at gmvemsc.org on the Training Materials page.
- b. Will help determine whether individuals with functional needs can be safely sheltered in a Red Cross Shelter during a disaster
- c. This Shelter Triage Protocol is a pre-approved Just-In-Time Standing Order (JITSO), authorized by the RPAB for use by an EMS agency assisting the Red Cross with shelter triage.
- d. It is intended to be printed and given to paramedics, nurses, and other healthcare personnel at the time of a shelter operation.
- e. At the option of local department chiefs and medical directors, the same protocol can be used during a disaster to determine patients who would be more appropriate for transport to Red Cross Shelters than to hospitals.
- f. In those cases, EMS should, if possible, contact the shelter before transporting.
- g. If locations or contact information for shelters is not known, contact the County EMA or the Red Cross.
- h. When transporting these non-emergency patients to shelters, it is critical that the patients bring their medications and medical equipment with them.

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Medical Protocol

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Subject: Abdominal Pain

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4001.1 General Guidelines

- a. Ensure an abdominal exam which includes inspection, auscultation and palpation is performed and documented on every patient with abdominal pain.
- b. Assess all abdominal pain patients for trauma, pregnancy, illness, or potential ingestion.

4001.2 Clinical Management

Assessment

<p>Pediatric Considerations</p> <ul style="list-style-type: none"> • None 	<p>Signs & Symptoms</p> <ul style="list-style-type: none"> • Pain (location/migration) • Tenderness (point, palpation, rebound) • Nausea and/or vomiting • Diarrhea • Dysuria • Constipation • Vaginal bleeding/discharge • Pregnancy 	<p>Differential Diagnosis</p> <ul style="list-style-type: none"> • Hepatitis • Peptic ulcer disease/gastritis • Gallbladder • Pancreatitis • Abdominal aneurysm • Appendicitis • Pelvic (PID, ovarian cyst, ectopic pregnancy) • Diverticulitis • Gastroenteritis • Bladder/prostate disorders • Kidney stone • Myocardial infarction • Pneumonia • Pulmonary embolus
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Treatment Algorithm

<ul style="list-style-type: none"> • Place patient in position of comfort. • Give nothing by mouth. 	EMR	EMT	AEMT	Paramedic
<ul style="list-style-type: none"> • No additional orders at this level. 				
<p>▲ Consider Ondansetron (Zofran) 4 mg PO dissolving tablet for nausea or active vomiting.</p> <p>▶ Ondansetron (Zofran) 4 mg PO if patient is 12 y/o or older and weight is more than or equal to 40 kg.</p> <p>▲ For pain relief, including with unilateral flank pain, consider 1014 Pain Management Protocol.</p> <p>▶ ♦ For pain relief, call MCP for orders.</p>				
<p>▲ For active vomiting, Ondansetron 4 mg slow IV.</p> <p>▲ For nausea or if no IV access established, Ondansetron (Zofran) 4 mg PO (dissolving tablet) or administer the IV dose/form PO.</p> <p>▶ Ondansetron 0.1 mg/kg IV (max 4 mg).</p>				

Consult

- The AEMT and Paramedic need MCP orders when providing abdominal pain relief to pediatric patients.

Clinical Pearls

- The Paramedic can administer the IV form of Ondansetron orally to adults by spraying it into the patient's mouth.

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Subject: Allergic Reaction/Anaphylaxis

Effective: June 1, 2021

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4002.1 General Guidelines

- a. Epinephrine is the mainstay of anaphylaxis in allergic reaction treatment.
- b. Epinephrine is particularly important in cases of any airway edema, hypotension, or when multiple body systems are involved.
- c. Advanced age is not a contraindication to epinephrine.

4002.2 Clinical Management

Assessment

Pediatric Considerations

- None

Signs & Symptoms

- Itching
- Hoarseness or stridor
- Wheezing
- Respiratory distress
- Altered level of consciousness
- Cyanosis
- Pulmonary edema
- Facial/airway edema
- Urticaria/hives

Differential Diagnosis

- Rash only
- Shock (vascular effect)
- Angioedema
- Aspiration/airway obstruction
- Vasovagal event
- Asthma

Treatment Algorithm

- Provide O₂ as needed.
- If allergic reaction:
 - If equal to or greater than 30 kg, give both **Adult EpiPen and EpiPen Jr.**
 - P** If less than 15 kg, **EpiPen Jr.**
 - P** If equal to or greater than 15 kg and less than 30 kg, **Adult EpiPen**
- If applicable, apply ice pack.
- ♦ If symptoms persist, may repeat **Epinephrine** in 5 minutes.
- Call for transport.

EMR

- If patient develops wheezing, assist them with their prescribed metered dose inhaler or
 - ♦ **Albuterol 2.5 mg and Ipratropium 0.5 mg**, nebulized with O₂ flowing at **8-10 LPM.**
 - ♦ Albuterol may be repeated two times.

EMT

- If an allergic reaction:
 - If equal to or greater than 30 kg, give both **Adult EpiPen and EpiPen Jr or Epinephrine (1:1,000) 0.5 mg IM**
 - P** If less than 15 kg, **EpiPen Jr or Epinephrine (1:1,000) 0.01 mg/kg IM (max 0.15 mg).**
 - P** If equal to or greater than 15 kg and less than 30 kg, **Adult EpiPen or Epinephrine (1:1,000) 0.01 mg/kg IM (max 0.3 mg)**
 - May repeat **Epinephrine (1:1,000) 0.5 mg IM** after 5 minutes.
 - P** May repeat **Epinephrine (1:1,000) 0.01 mg/kg IM (max dose should be equal to initial dose) after 5 minutes.**
- If apneic, intubate, possibly with smaller than normal ET tube.
- For wheezing, no orders needed for **Albuterol 2.5 mg and Ipratropium 0.5 mg**, nebulized with O₂ flowing at **8-10 LPM**
- If patient intubated, **Albuterol 2.5 mg** by nebulizer into the ETT. If Ipratropium not given before intubation, add to first Albuterol.
- If hypotensive, **IV fluid** to maintain adequate BP.
- P** if hypotensive, **IV fluid 20 ml/kg IV** to maintain adequate BP.
- A** **Diphenhydramine 50 mg IM or IV**
- P** **Diphenhydramine 1 mg/kg IM or IV (max dose 50 mg).**
- A** For patients unresponsive to Epinephrine, **Glucagon, 1mg IV** or if no IV, then **IM**
- P** For patients unresponsive to Epinephrine, and less than 8 years old then **Glucagon, 0.5 mg IV** or if no IV, then **IM**
- P** For patients unresponsive to Epinephrine, and 8 years old or older then **Glucagon, 1 mg IV** or if no IV, then **IM**

AEMT
Paramedic



Subject: Allergic Reaction/Anaphylaxis

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- If patient deteriorating or unresponsive, consider early intubation, possibly with a smaller than normal size endotracheal tube
- If a conscious patient requires intubation:
 - ▲ Lidocaine 100 mg IN half dose per nostril or added to nebulizer with breathing treatment.
 - ▲ Lidocaine 1.5 mg/kg nebulized with O₂ 8-10 LPM or IN. Maximum dose is 100 mg.
- ▲ If patient remains hypotensive after IV fluid, Epinephrine (1:10,000) 0.1 mg, slow IV, every 3 minutes up to 0.5 mg.
- ▲ Solu-Medrol 125 mg IV
- ▲ Solu-Medrol 2 mg/kg IV, max dose 125 mg.

Consult

- The EMR and EMT need MCP orders to administer repeat epinephrine.
- EMT needs MCP orders to administer breathing treatments.

Clinical Pearls

- No significant change in patient condition in the field should be expected from the administration of Solu-Medrol.
- Solu-Medrol will be given to all patients treated within the allergic reaction or anaphylaxis protocol only after all other applicable first-line medications have been delivered.

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Subject: Asthma/Emphysema/COPD

Effective: June 1, 2021

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4003.1 Clinical Management

Assessment

Pediatric Considerations

- Younger patients may exhibit nasal flaring

Signs & Symptoms

- Shortness of breath
- Pursed lip breathing
- Increased respiratory rate and effort
- Wheezing, rhonchi
- Accessory muscle use
- Cough
- Tachycardia
- Tripod position

Differential Diagnosis

- Anaphylaxis
- Aspiration
- Pleural effusion
- Pneumonia
- Pulmonary embolus
- Pneumothorax
- Cardiac event (AMI or CHF)
- Pericardial tamponade
- Hyperventilation
- Inhaled toxins

Treatment Algorithm

- Provide O₂ as needed.
- Call for transport.

EMR

- If patient develops wheezing, assist them with taking their prescribed metered dose inhaler.
- ♦ Consider **Albuterol 2.5 mg** and **Ipratropium 0.5 mg**, nebulized with O₂ flowing at **8-10 LPM**
- ♦ May repeat **Albuterol 2.5 mg** nebulized X 2.
- For any patient who is bronchial constricted: **CPAP**
- Transport unless ALS intercept is less than 5 minutes.

EMT

- No orders needed for **Albuterol 2.5 mg** and **Ipratropium 0.5 mg**, nebulized with O₂ flowing at **8-10 LPM**
- If patient intubated, **Albuterol 2.5 mg** by nebulizer into the ETT. If Ipratropium not given before intubation, add to first Albuterol.
- After intubation of an asthma patient, limit rate of ventilation to avoid auto-PEEP and hypotension, provided that you can adequately oxygenate the patient at below rate:
 - P** 8-10 breaths per minute for adults
 - P** 10-15 breaths per minute for pediatric patients
- Consider needle decompression in the presence of auto-PEEP or hyperinflation:
 - Bilateral needle decompression at the 2nd or 3rd intercostal space, mid-clavicular line if the patient is in cardiac arrest.
 - If unilateral or bilateral diminished breath sounds and the patient is hemodynamically unstable, consider decompression of only the affected sides.
- P** In patients less than 8 years old, decompression site choice will be limited to the 2nd or 3rd intercostal space at the mid-clavicular line
- Asthmatics in severe distress (NOT for emphysema or COPD):
 - P** If equal to or greater than 30 kg, give both **Adult EpiPen and EpiPen Jr or Epinephrine (1:1,000) 0.5 mg IM**
 - P** If less than 15 kg, **EpiPen Jr or Epinephrine (1:1,000) 0.01 mg/kg IM (max 0.15 mg).**
 - P** If equal to or greater than 15 kg and less than 30 kg, **Adult EpiPen or Epinephrine (1:1,000) 0.01 mg/kg IM (max 0.3 mg)**
 - P** May repeat **Epinephrine (1:1,000) 0.5 mg IM** after 5 minutes.
 - P** May repeat **Epinephrine (1:1,000) 0.01 mg/kg IM (max dose should equal initial dose) after 5 minutes.**

AEMT

- If a conscious patient requires intubation:
 - A** **Lidocaine 100 mg IN** half dose per nostril or added to nebulizer with breathing treatment.
 - P** **Lidocaine 1.5 mg/kg** nebulized with O₂ 8-10 LPM or IN. Maximum dose is 100 mg.
- For any patient who is bronchial constricted: **CPAP** or **{Bi-PAP}**
- A** **Solu-Medrol 125 mg IV**
- P** **Solu-Medrol 2 mg/kg IV, max dose 125 mg.**

Paramedic

Consult

- The EMT needs MCP orders to administer breathing treatments.

Clinical Pearls

- A patient who has received a breathing treatment should be transported for evaluation.
- No significant change in patient condition in the field should be expected from the administration of Solu-Medrol.

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Subject: Behavioral Emergencies

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4004.1 General Guidelines

- a. Per Ohio Revised Code, EMS providers may not "pink slip" an individual even if they are threatening harm to themselves or others.
b. Only a health officer such as a police officer, crisis worker, psychiatrist or licensed physician can administer an involuntary admission form ("pink slip") for a patient.
c. Each EMS department, in consultation with its medical director and local law enforcement, should have a procedure to deal with these types of situations.

4004.2 Precautions

- a. Consider staging until law enforcement has made the scene safe.
b. Have law enforcement search patient for weapons.
c. Consider possible medical causes for patient's condition:

- i. Anemia, ii. Hypoxia, iii. Hypoglycemia, iv. Stroke, v. Dysrhythmias, vi. Hypertension, vii. Toxicological ingestion, viii. Pulmonary embolism, ix. Hemorrhage, x. Metabolic disorders, xi. Seizures and postictal states, xii. Shock, xiii. Infection (especially meningitis /encephalitis), xiv. Electrolyte imbalance, xv. Myocardial ischemia or infarction, xvi. Head trauma or intracranial, xvii. Drug or alcohol intoxication, side effects, drug withdrawal

4004.3 Clinical Management

Assessment

Table with 3 columns: Pediatric Considerations (None), Signs & Symptoms (Anxiety, agitation, confusion, Affect change, hallucinations, Delusional thoughts, bizarre behavior, Violent or combative, Expression of suicidal/homicidal ideations), Differential Diagnosis (Other altered mental status issues, Alcohol intoxication, Substance abuse, Medication effect/overdose, Withdrawal symptoms, Depression, Bipolar (manic-depressive), Schizophrenia, Anxiety disorders)

Treatment Algorithm

Table with 3 columns: Treatment steps (Determine patient capacity and consent, Take actions to prevent imminent harm, Do not judge, just treat, Consider possible medical causes, Transport all patients who are not making rational decisions, Pediatric patients with mental health issues should be transported to Dayton Children's Hospital, No additional orders at this level, Severe agitation is a medical emergency), and a vertical column for provider levels (EMR, EMT, AEMT, Paramedic)

Consult

- Consult with MCP if requesting a "pink slip" and no one else is able to request it.



Subject: Behavioral Emergencies

Effective: June 1, 2021

Last Modified: Oct. 10, 2021

Clinical Pearls

- Consider that a patient may be incapable to make medical decisions if they are:
 - Suicidal
 - Confused
 - Severely developmentally or mentally disabled
 - Intoxicated
 - Injured/ill with an altered mental status
 - Physically/verbally hostile
 - Unconscious
- When obtaining medical history, determine:
 - Suicidal or violent history
 - Previous psychiatric hospitalization, when and where
 - Location where patient receives mental health care
 - Medications
 - Recreational drugs/alcohol: amount, names
- Exceptions to the outlined transport recommendations include:
 - It is medically necessary to transport the patient to the closest hospital for stabilization.
 - It is unsafe to transport the patient to the preferred/recommended facility due to adverse weather or ground conditions or excessive transport time.
 - Transporting the patient to the preferred/recommended facility would cause a critical shortage of local EMS resources.
 - Patient requests transport to a different facility.

END OF SECTION

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Subject: Childbirth

Effective: June 1, 2021

Last Modified: Dec. 8, 2021

4005.1 General Guidelines

- a. Obtain history of patient condition and pregnancy, including:
 - i. Contraction duration and interval
 - ii. Gestation age should be expressed in weeks whenever possible
 - iii. Due date
 - iv. First day of last menstrual period
 - v. Number of pregnancies and number of live births (gravida/para)
 - vi. Presence or absence of prenatal care
 - vii. Possibility of multiple births
 - viii. Any possible complications
 - ix. Any drug use by the mother
- b. The patient should be transported to a hospital with obstetrical capabilities unless delivery is imminent (the baby is crowning during a contraction).
- c. Visualize the perineal area only when contractions are less than five minutes apart.
- d. Run reports must be completed for each patient. The newborn is a separate patient from the mother.

4005.2 Clinical Management

Assessment			
Pediatric Considerations	Signs & Symptoms	Differential Diagnosis	
<ul style="list-style-type: none"> • None, unless the pregnant patient is under 16 years old, then manage in the same manner. 	<ul style="list-style-type: none"> • Spasmodic pain • Vaginal discharge or bleeding • Lengthening and narrowing contractions • Urge to push • Crowning 	<ul style="list-style-type: none"> • Abnormal presentations (foot, and, buttocks) • Prolapsed cord • Placenta previa • Abruptio placenta 	
Treatment Algorithm			
<ul style="list-style-type: none"> • The EMR may only assist with emergency childbirth management 			EMR
<ul style="list-style-type: none"> • Apply gentle pressure on the baby's head with a flat hand to prevent an explosive delivery. • Place a gloved hand inside the birth canal only in the case of: <ul style="list-style-type: none"> ○ Breech delivery with entrapped head ○ Prolapsed umbilical cord limiting fetal circulation • Keep the newborn warm. • Cut the umbilical cord and then place the baby to suckle at the mother's breast. • Obtain one, five and ten minute APGAR scores if time and patient condition permit. (see table below) 			EMT
<ul style="list-style-type: none"> • Establish an IV for patients in active labor. 			AEMT
<ul style="list-style-type: none"> • No additional orders at this level. 			Paramedic
Consult			
<ul style="list-style-type: none"> • None 			
Clinical Pearls			
<ul style="list-style-type: none"> • Changes in fundal (upper part of the uterus) height during pregnancy: <ul style="list-style-type: none"> ○ Above the symphysis pubis Greater than 12 to 16 weeks gestation ○ At the level of the umbilicus Greater than 20 weeks gestation ○ Near the xiphoid process Within a few weeks of term 			

APGAR Score	0	1	2
Appearance	Full body cyanosis	Cyanosis at the extremities	No cyanosis present
Pulse	Absent	Slow (less than 100)	Greater than 100
Grimace	Flaccid	Grimace with stimulation	Cough or sneeze with stimulation
Activity	Absent	Some flexion of extremities	Active motion
Respiratory Effort	Absent	Slow or irregular	Good, vigorous cry

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Subject: Childbirth with Complications

Effective: June 1, 2021

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4006.1 General Guidelines

- a. With all complicated childbirth scenarios, evaluate the need for rapid transport to a birthing center or possibly, the nearest hospital.
- b. These guidelines apply to all levels of certification.
- c. In all complicated childbirth scenarios, place the mother on oxygen by non-rebreather mask.

4006.2 Clinical Management

- a. Cord around Baby's Neck:
 - i. As baby's head passes out of the vaginal opening, feel for the cord.
 - ii. Initially try to slip cord over baby's head.
 - iii. If too tight, clamp cord in two places and cut between clamps.
- b. Breech Delivery:
 - i. When an appendage or buttocks first becomes visible, position patient to discourage delivery, coach patient to avoid pushing and transport patient immediately to the nearest facility.
 - ii. If the delivery is in progress, take care to support the baby's body.
 - iii. If the head is caught in the birth canal:
 1. Apply gentle pressure above the pubis symphysis as the mother pushes.
 2. If the head will not deliver, you must create an airway for the baby.
 3. Support the body and insert two fingers into the birth canal, forming a "V" around the mouth and nose.
- c. Prolapsed Cord:
 - i. When the umbilical cord is exposed prior to delivery, check cord for pulse.
 - ii. Transport immediately with hips elevated and a moist dressing around cord.
 - iii. Insert two fingers into the birth canal to displace the presenting part away from cord, distribute pressure evenly if occiput presents.
 - iv. Do not attempt to reinsert cord.
- d. Excessive Bleeding:
 - i. Treat for shock.
 - ii. Post-delivery, massage uterus firmly and put baby to mother's breast.

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Subject: Combative Patients/Emergency Sedation

Effective: June 1, 2021

Last Modified: Dec. 8, 2021

4007.1 General Guidelines

- a. Restrained patients should not be transported in a prone position with hands & feet behind their back.
b. Restrained patient should not be sandwiched between backboards or other items.
c. Always maintain the ability to remove restraints if the patient vomits or develops respiratory distress

4007.2 Combative Patients

- a. Identified as irrational behavior: aggression, violence, and paranoia in the patient.
b. This state can result from a number of causes including:
i. Stimulant intoxication
ii. Psychiatric illness
iii. Hypoglycemia
iv. Other medical illnesses.
c. In excited delirium the patient often becomes significantly hyperthermic and/or hypoxic.

4007.3 Clinical Management

Assessment

Table with 3 columns: Pediatric Considerations, Signs & Symptoms, and Differential Diagnosis.

Treatment Algorithm

Table with 3 columns: Treatment steps, EMT, and EMT/Paramedic. Includes instructions for Ketamine and Midazolam administration.

Consult

- MCP needed for pediatric repeat medications and (for the paramedic) Sodium Bicarbonate in cardiac arrest.

Clinical Pearls

- Any patients who are restrained or sedated should be constantly monitored for an effective airway, adequate breathing and circulation
Patients who have been sedated with Ketamine can be deeply unconscious and present with hypersalivation. Management should include use of an nasopharyngeal airway, proper positioning and persistent suctioning to maintain a clear airway.

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Subject: Diabetic Emergencies - Hypoglycemia

Effective: June 1, 2021

Last Modified: Aug. 28, 2021

4008.1 General Guidelines

- a. Hypoglycemia is defined as a blood glucose level less than 60, or there is strong suspicion of hypoglycemia despite glucometer readings

4008.2 Clinical Management

Assessment

Pediatric Considerations

- None

Signs & Symptoms

- Altered level of consciousness
- Dizziness
- Irritability
- Diaphoresis
- Seizures
- Hunger
- Confusion

Differential Diagnosis

- Alcohol related issues
- Toxic overdose
- Trauma
- Seizure
- Syncope
- CNS disorder
- Stroke or TIA
- Pre-existing condition

Treatment Algorithm

- Provide basic care
- Call for transport.

EMR

- Administer **1 tube of Oral Glucose.**
- Maintain normothermia. Unconscious diabetics are often hypothermic.
- In a diabetic patient with an insulin pump and blood glucose less than 60, treat the hypoglycemia.

EMT

- A Administer **Dextrose 10% (D10), 250 ml** at wide open rate, (250 ml = 25 g of Dextrose)
- P Administer **Dextrose 10% (D10) 5 ml/kg, maximum single dose of 250 ml.**
- P For newborn, **Dextrose 10% (D10) 5 ml/kg, 2 ml/kg if BGL is less than 40.**
- A If unable to establish vascular access, **Glucagon, 1 mg IM.**
 - P Less than 8 years old then **Glucagon, 0.5 mg IV**
 - P 8 years old or older then **Glucagon, 1 mg IV**

AEMT

- **Dextrose 10% (D10)** may be repeated in ten minutes if blood sugar remains less than 60.
- No additional orders at this level.

Paramedic

Consult

- None

Clinical Pearls

- Oral glucose is indicated for any conscious but disoriented patient with BS less than 60, or in a strong suspicion of hypoglycemia despite BGL readings.
- Oral glucose may be administered carefully under the tongue or between the gum and cheek of an unresponsive patient who then must be placed in the lateral recumbent position to promote drainage of secretions away from the airway.
- When documenting the administration of **Dextrose 10% (D10)**, do so in terms of milliliters.
- Insulin Pumps
 - For a diabetic patient with an insulin pump who is hypoglycemic, treat the hypoglycemia.
 - **Do not disconnect or turn off pump.**
 - Take extra tubing and medication reservoir or vials to the receiving facility for patients with insulin pumps.

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Subject: Diabetic Emergencies
Refusal of Transport

Effective: June 1, 2021

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4009.1 General Guidelines

- a. EMTs and above may allow for diabetic patients to refuse transport after treatment.
- b. EMRs should call for transport or a provider of a higher level certification.

4009.2 Procedures

- a. Patients 18 years of age or older may be permitted to refuse. Follow these guidelines:
 - i. Repeat physical examination and vital signs. Patient must be A&O x 3.
 - ii. Warn the patient that there is a significant risk of going back into hypoglycemia, especially if on oral hypoglycemics.
 - iii. Advise the patient to eat something substantial immediately.
 - iv. Advise the patient to contact their family physician as soon as possible to minimize future episodes.
 - v. Advise the patient to stay with someone.
 - vi. Follow normal patient refusal procedures.
- b. If the diabetic patient is under 18, but a parent or guardian is present, then the responsible adult may refuse patient transportation under the same guidelines as listed above in 4009.2.a.
- c. Send a copy of the run sheet to the EMS Coordinator of the hospital that replaces your Drug Bag and supplies.

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Subject: Extrapyramidal (Dystonic) Reactions

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4010.1 General Guidelines

- a. A patient who is currently on a phenothiazine (e.g., Phenergan, Thorazine, Compazine) or a butyrophenone (e.g., Haldol, Droperidol) and exhibiting signs of acute muscle spasm or motor restlessness may be suffering from an Extrapyramidal Reaction.
b. Extrapyramidal reactions can occur with ingestion of recreational drugs
c. Physical examination findings may include any of the following:
i. Oculogyric crisis (spasmodic deviation of eyes in all directions generally fixed upward.)
ii. Buccolingual crisis (protrusion of tongue with slurred speech)
iii. Trismus (closing of the jaw due to spasm of the muscles also called lockjaw.)
iv. Difficulty in speaking
v. Facial grimacing
vi. Torticollis crisis (stiff neck with deviation of the head with the chin pointing to the other side)
vii. Opisthotonus (extreme back arching)
viii. Tortipelvic crisis—Involves hip, pelvis, and abdominal wall muscles, causes difficulty walking.
ix. Mental status is unaffected.
x. Vital signs are usually normal.
xi. Remaining physical examination findings are normal.

4010.2 Clinical Management

Table with 3 columns: Pediatric Considerations, Signs & Symptoms, and Differential Diagnosis. Includes sections for Treatment Algorithm, Consult, and Clinical Pearls. Includes a vertical legend for EMR, EMT, AEMT, and Paramedic roles.

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Subject:

Obstetrical Emergencies

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4011.1 General Guidelines

- a. Consider the possibility of ectopic pregnancy in females of child-bearing age.
- b. Ask for first day of last menstrual period.
- c. Gestational age should be expressed in weeks whenever possible.
- d. Aggressively treat for hypovolemic shock (do not rely on standard vital sign parameters).
- e. Give psychological support to patient and family.
- f. Be sure to take all expelled tissue with you to the hospital.

4011.2 Transport Decisions

- a. **ABSOLUTELY NO PREGNANT PATIENTS TO DAYTON or CINCINNATI CHILDREN'S HOSPITAL.**
- b. Pregnant patients 20 weeks or greater gestation should be taken to a maternity department.
- c. Pregnant patients less than 20 weeks gestation should go to the emergency department.
- d. If unsure of time of gestation, then consider transport to a maternity department
- e. Pregnant patients with non-obstetric complaints should go to the emergency department.
- f. Pregnant trauma patients should be rapidly transported to the ED at an Adult Trauma Center with labor and delivery capabilities.
- g. Transport the pregnant patient with consideration for postural hypotension caused by fetus pressure on venous return.
- h. Passively or actively move the fetus off the vena cava by doing either:
 - i. Place in left lateral recumbent position or place a pillow under the right abdominal flank/hip.
 - ii. Apply continuous manual displacement of the uterus towards the patient's left side.

4011.3 Cardiac Arrest In Pregnancy

- a. Causes of cardiac arrest in pregnant patients can include:
 - i. Pulmonary embolism
 - ii. Trauma
 - iii. Hemorrhage
 - iv. Congenital or acquired cardiac disease.
- b. Load and go to the closest hospital and follow all cardiac arrest protocols enroute.

4011.4 Third Trimester Bleeding

- a. Aspirin is contraindicated in third trimester.

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Subject: Overdose/Poisoning

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4012.1 General Guidelines

- a. ♦ EMS personnel should contact MCP for direction on suspected poisonings.
- b. Poison Control is intended for use by the general public.
- c. If possible, provide receiving facility all available information about the substance:
 - i. Safety data sheets (SDS)
 - ii. The container (if it is safe to do so)
 - iii. The label or an image of the label and warning information if it is unsafe or unpractical to transport the actual substance container

4012.2 Clinical Management

Assessment

Pediatric Considerations

- Most pediatric patients with respiratory depression do not have narcotic overdose. They are either septic or have respiratory failure.

Signs & Symptoms

- Mental status changes
- Hypo/hypertension
- Decreased respiratory rate
- Tachy/bradycardia
- Cardiac dysrhythmias
- Seizures

Differential Diagnosis

- Respiratory depression
- Insecticides (organophosphates)
- Solvents, cleaning agents
- Cardiac medications
- Stimulants
- Depressants

Treatment Algorithm

- If respirations are impaired or there is suspicion of narcotic overdose:
 - ▲ Administer **Naloxone, up to 4 mg IN**
 - ▲ May repeat Naloxone doses in 2 minutes.
 - **Naloxone:**
 - **Less than or equal to 20 kg then 0.1 mg/kg IN, (max dose 2 mg), may repeat x one**
 - **Greater than 20 kg 2 mg, IN, may repeat as needed**
- Titrate Naloxone to adequate respirations.
- Consider patient restraint before administration of Naloxone.

EMR

EMT

- No additional orders at this level.

- If patient has a pulse, Naloxone should be administered before inserting an ETT.
- When given IV or IN, the onset of action for Naloxone is approximately 2 minutes.
- If respirations are impaired or there is suspicion of narcotic overdose:
 - ▲ Administer **Naloxone, up to 4 mg IN, 2mg IV or 4 mg IM**
 - ▲ May repeat Naloxone doses in 2 minutes.
 - Consider repeat IV dosing if no or inadequate response is noted
 - **Naloxone:**
 - **Less than or equal to 20 kg then 0.1 mg/kg IN, IV, IM (max dose 2 mg), may repeat x one**
 - **Greater than 20 kg 2 mg, IN, IV, IM, may repeat as needed**
 - **Naloxone slow IV is preferred, but it may be given IN or IM before IV is established.**
 - **Titrate to adequate respirations.**
 - **If using IN route and respirations don't improve after 2 minutes, establish IV and administer IV dose.**
- Stimulant Overdose (cocaine, methamphetamines, amphetamines, crack cocaine) with chest pain:
 - ▲ **Nitroglycerin 0.4 mg SL**, if SBP 100, every 5 minutes to a total of three doses with vital signs between doses
 - ▲ **Midazolam 10 mg, IN** (5 mg in each nostril) **or 2 mg slow IV, or 4 mg IM**
 - ▲ **Repeat Midazolam 5 mg IN** (2.5 mg in each nostril) **or 2 mg slow IV or 4 mg IM** for unrelieved chest pain
- Calcium Channel Blocker Overdose:
 - ▲ ♦ **Glucagon 1 mg IM or IV**
 - **Less than 8 years old then Glucagon, 0.5 mg IM or IV**
 - **8 years old or older then Glucagon, 1 mg IM or IV**
- Beta Blocker Overdose:
 - ▲ ♦ **Glucagon 1 mg IM or IV**
 - **Less than 8 years old then Glucagon, 0.5 mg IM or IV**
 - **8 years old or older then Glucagon, 1 mg IM or IV**

AEMT



Subject: Overdose/Poisoning

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- Tricyclic Antidepressant Overdose may be evidenced by bradycardia, tachycardia, hypotension and prolongation of the QRS complex. Risk of rapid deterioration or sudden onset V Fib is high.
 - A ♦ Sodium Bicarbonate 100 mEq, slow IV
 - P ♦ Sodium Bicarbonate 1 mEq/kg slow IV
 - A ♦ Repeat Sodium Bicarbonate 50 mEq, slow IV for persistent QRS prolongation
 - P ♦ Repeat Sodium Bicarbonate 0.5 mEq/kg slow IV for persistent QRS prolongation
- Calcium Channel Blocker Overdose:
 - A ♦ Calcium Chloride, 1 Gm slow IV
 - P ♦ Calcium Chloride, 0.2 ml/kg (20 mg/kg) slow IV (max dose 500 mg)
 - A ♦ Glucagon 1 mg IM or IV
 - P ♦ Less than 8 years old then Glucagon, 0.5 mg IM or IV
 - P ♦ 8 years old or older then Glucagon, 1 mg IM or IV

Paramedic

Consult

- For guidance on suspected poisonings contact MCP.
- Calcium Channel Blocker, Beta Blocker and Tricyclic antidotes in this protocol are by MCP order only.

Clinical Pearls

- Consider other causes of altered mental status such as hypoglycemia, head trauma, sepsis, and stroke.
- When Naloxone is given intranasal (IN), the onset of action is approximately 2 minutes.
- Naloxone is not felt to be effective in the reversal of cardiac arrest from opioid overdose. Airway control, ventilation, and quality CPR are still the mainstay of treatment.
- Ondansetron (Zofran) is NOT to be given prophylactically with Naloxone.
- Tricyclic Antidepressant Examples:
 - Amitriptyline (Elavil, Endep, Etrafon, Limbitrol)
 - Nortriptyline (Pamelor, Aventyl)
 - Amoxapine (Asendin)
 - Clomipramine (Anafranil)
 - Desipramine (Norpramine)
 - Doxepin (Sinequan)
 - Imipramine (Tofranil)
 - Protriptyline (Vivactil)
 - Trimipramine (Surmontil)
- Calcium Channel Blocker examples:
 - Amlodipine (Norvasc)
 - Diltiazem (Cardizem, Dilacor)
 - Felodipine (Plendil)
 - Isradipine (Dynacirc)
 - Nifedipine (Procardia, Adalat)
 - Verapamil (Calan, Isoptin, Verelan)
- Beta Blocker examples
 - Acebutolol (Sectral)
 - Atenolol (Tenormin)
 - Carvedilol (Coreg)
 - Corzide, Inderide, Lopressor, HCT, Tenoretic, Timolide, iac
 - Labetalol (Normodyne, Trandate)
 - Metoprolol (Topral, Lopressor)
 - Nadolol (Corgard)
 - Pindolol (Viskin)
 - Propranolol (Inderal)
 - Sotalol (Betapace)
 - Timolol (Blocadren)

END OF SECTION



Subject: Respiratory Distress/Pulmonary Edema

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Last Modified: Sept. 9, 2021

4013.1 Clinical Management

Assessment

Pediatric Considerations

- None

Signs & Symptoms

- Cyanosis
- Clammy skin
- Presence/Absence of fever
- Coughing
- Wheezing
- Labored breathing
- Diaphoresis
- Pitting edema
- Bilateral lower lobe rales
- Tachypnea
- Apprehension
- Jugular vein distension (JVD)
- Inability to talk.

Differential Diagnosis

- Myocardial infarction
- Congestive heart failure
- Asthma
- Anaphylaxis
- Aspiration
- Chronic obstructive pulmonary disease
- Pleural effusion
- Pneumonia
- Pulmonary embolus
- Pericardial tamponade

Treatment Algorithm

- Evaluate breath sounds.
- Obtain pulse oximetry reading.
- Obtain capnography reading.
- Provide high flow O₂.
- Call for transport.

EMR

- {Obtain and transmit 12 Lead EKG}
- ▲ If Pulmonary Edema, then Continuous Positive Pressure Airway (CPAP)

EMT

- If Pulmonary Edema:
 - ▲ CPAP use is encouraged prior to the initiation of drug therapy.
 - ▲ If patient has SBP greater than 100, Nitroglycerin 0.4 mg SL up to 3, 1 every 5 minutes.

AEMT

- Cardiac monitoring
- If Pulmonary Edema:
 - CPAP or {Bi-PAP} use is encouraged prior to the initiation of drug therapy.
 - Consider need for possible early endotracheal intubation.

Paramedic

Consult

- None

Clinical Pearls

- Evaluate breath sounds:
 - Clear: treat cause (e.g. MI, pulmonary embolism, metabolic disturbance, and hyperventilation).
 - Wheezes: treat cause (e.g. pulmonary edema, FBAO, asthma, allergic reaction).
 - Rales: treat cause (e.g. pulmonary edema, pneumonia).
 - Diminished or absent:
 - Unilateral: treat cause (e.g., pneumothorax, hemothorax, pneumonia, surgically removed lung).
 - Bilateral: treat cause (e.g., respiratory failure, COPD, asthma).
- Pneumonia may look like CHF with pulmonary edema. However, the pneumonia patient is often dehydrated and has an elevated temperature.

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Subject: Seizures

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4014.1 Clinical Management

Assessment

Pediatric Considerations

- None

Signs & Symptoms

- Decreased mental status
- Sleepiness
- Incontinence
- Observed seizure activity
- Evidence of trauma

Differential Diagnosis

- Head trauma
- Tumor
- Metabolic, hepatic or renal failure
- Hypoxia
- Electrolyte abnormality
- Drugs, medications
- Infection/fever
- Alcohol withdrawal
- Eclampsia
- Stroke/TIA
- Hyperthermia
- Psychogenic Non-epileptic Seizures

Treatment Algorithm

- BVM and nasopharyngeal airway during seizure as needed.
- Maintain normothermia.
- Obtain Pulse Oximeter and {Capnography} reading.

EMR

EMT

AEMT

Paramedic

- If glucose less than 60, or there is strong suspicion of hypoglycemia despite glucometer readings, then follow [4008 Hypoglycemia](#)
- Place patient in the recovery position during assessment and transport.

- Cardiac monitor
- A For actively seizing adult patients:
 - A **Midazolam 10 mg IN** (5 mg in each nostril), or **Midazolam 2 mg slow IV**, or **Midazolam 4 mg IM**
 - A If still seizing, repeat Midazolam doses:
 - A Repeat **Midazolam 5 mg IN** (2.5 mg in each nostril) after 5 minutes.
 - A Or repeat **Midazolam 2 mg slow IV** after 5 minutes.
 - A Or repeat **Midazolam 4 mg IM** after 10 minutes.
- P For actively seizing pediatric patients:
 - P **Midazolam 0.2 mg/kg IN** (max IN dose 10 mg) or **Midazolam 0.1 mg/kg slow IV** (max IV dose 2 mg) or **Midazolam 0.2 mg/kg IM** (max IM dose 4 mg)
 - P If still seizing, repeat Midazolam doses:
 - P Repeat **Midazolam 0.2 mg/kg IN** (max IN dose 5 mg) after 5 minutes
 - P Or repeat **Midazolam 0.1 mg/kg slow IV** (max IV dose 2 mg) after 5 minutes
 - P Or repeat **Midazolam 0.2 mg/kg IM** (max IM dose 4 mg) after 10 minutes

- No additional orders at this level.

Consult

- None

Clinical Pearls

- When obtaining history be sure to include the following:
 - Description of seizures, areas of body involved, and duration
 - Other known medical history (e.g., head injury, diabetes, drugs, alcohol, stroke, heart disease, recent fever or illness, possible toxicological agents)

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Subject:

Sepsis

Effective:

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4015.1 General Guidelines

- a. Severe sepsis is characterized by poor perfusion, leading to a buildup of serum lactate and resulting metabolic acidosis.
- b. To compensate for metabolic acidosis, patients increase their minute ventilation.
- c. This increased respiratory rate “blows off” carbon dioxide and lowers EtCO₂.
- d. EtCO₂ levels decline in the setting of both poor perfusion and metabolic acidosis.
- e. Poor tissue perfusion decreases the amount of blood flow to the alveoli of the lungs, reducing the amount of carbon dioxide that can be exhaled
- f. Sepsis is often associated with a high mortality rate. The key to improve patient outcomes in septic shock is early recognition, fluid resuscitation, O₂ therapy and rapid transport.

4015.2 Clinical Management

Assessment			
Pediatric Considerations <ul style="list-style-type: none"> • None 	Signs & Symptoms <ul style="list-style-type: none"> • Known or suspected infection • EtCO₂ less than 32 or greater than 47 with 2 or more of the following criteria: <ul style="list-style-type: none"> ○ Respiratory rate greater than or equal to 22 ○ Altered mental status (GCS less than 13) ○ Temperature over 100.4 (38 C) or under 96.8 (36 C) ○ Heart rate greater than 90 ○ Systolic BP less than 100 or Mean Arterial Pressure (MAP) below 65 		Differential Diagnosis <ul style="list-style-type: none"> • Fever • Flu-like symptoms
Treatment Algorithm			
<ul style="list-style-type: none"> • Administer oxygen • Call for transport immediately. 			EMR
<ul style="list-style-type: none"> • No additional orders at this level. 			EMT
<ul style="list-style-type: none"> • Administer a bolus of 1 liter of IV fluid. • ♦ For additional fluid administration. 			AEMT
<ul style="list-style-type: none"> • ♦ Consider Norepinephrine by adding 4 mg to 250 ml of IV fluids. Infuse starting at 30 drops per minute (max. 45 drops) with 60 drop tubing and titrate to effect. Increase by 5 drops/minute every 5 minutes. 			Paramedic
Consult			
<ul style="list-style-type: none"> • Consult with MCP to give more than 1 liter of fluids. • The paramedic should consult on the use of Norepinephrine. 			
Clinical Pearls			
<ul style="list-style-type: none"> • Mean Arterial Pressure (MAP) is considered to be the organ perfusion pressure. • MAP (SBP 2 DBP) / 3 and is normally 70 110 mm/hg. • Patients may be in septic shock with a normal blood pressure. • CAUTION: Be especially suspicious of sepsis in geriatric patients with altered mental status 			

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Subject: Shock

Effective: June 1, 2021

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4016.1 General Guidelines

- a. Shock is inadequate tissue perfusion.
- b. Be proactive in treatment of shock. Do not wait for symptoms to present.
- c. Management of shock should include trying to find and correct the underlying cause (if possible).

4016.2 Clinical Management

Assessment

Pediatric Considerations

- Pediatric patients will compensate longer than adults.
- Apparent signs and symptoms of shock can indicate a critical patient.

Signs & Symptoms

- Restlessness, confusion
- Weakness and dizziness
- Tachycardia
- Tachypnea
- Hypotension
- Decreased mentation
- Pale, cool, clammy skin

Differential Diagnosis

- Hypovolemia
- Cardiogenic
- Septic
- Neurogenic
- Anaphylactic
- Pulmonary emboli
- Tension pneumothorax
- Medication/overdose
- Vasovagal hypotension

Treatment Algorithm

- Call for transport immediately.
- Provide O₂ as appropriate
- Keep patient warm.
- Control external bleeding and treat for hypovolemic shock as indicated.

EMR

- Transport immediately unless ALS intercept is less than 5 minutes.

EMT

- Only give fluids for specific signs and symptoms of shock and not to every trauma patient.
- For persistent shock, establish additional vascular access.

Non-traumatic shock without Pulmonary Edema: Patient does not have JVD, edema, or rales.

- A IV fluid 500 ml IV. Maintain adequate perfusion. May repeat x 1.
- P IV fluid 20 ml/kg IV.
- P Titrate to maintain adequate perfusion.
- A additional IV fluid 500 ml IV, if needed.
- P ♦ Additional IV fluid 20 ml/kg IV, if needed.

Non-traumatic shock with Pulmonary Edema: Patient may have JVD, edema, or rales present.

- A Consider IV fluid 250 ml IV.

Exsanguinating Hemorrhage:

- A IV fluid to maintain SBP 100 enroute to hospital. Do not allow SBP to get too high.
- P IV fluid 20 ml/kg IV. May repeat x 2. Titrate to maintain adequate perfusion.

AEMT

- For non-traumatic shock:
 - o Treat arrhythmias as indicated.
 - A If SBP remains less than 100, begin Norepinephrine by adding 4 mg to 250 ml of IV fluids. Infuse starting at 30 drops per minute (max. 45 drops) with 60 drop tubing and titrate to effect. Increase by 5 drops/minute every 5 minutes.

Paramedic

Consult

- ♦ For repeat fluid challenges in non-traumatic shock without pulmonary edema.

Clinical Pearls

- Perform manual BP on all patients presenting with signs and symptoms of shock.

END OF SECTION

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Subject: Stroke

Effective: June 1, 2021

Last Modified: Dec. 8, 2021

4017.1 General Guidelines

- a. If one or more signs of the Cincinnati Prehospital Stroke Scale are abnormal, and less than 24 hours since patient was last seen normal, call a "Stroke Alert", and transport to the closest Stroke Center.
b. With such a diverse group of agencies covered by this protocol, agencies should discuss "best practice" stroke transport destinations with their individual Medical Directors.
c. State actual clock time for last known normal. Do not say, "20 minutes ago."

4017.2 Stroke Centers

- a. Telemedicine Stroke Center with tPA Ready : Also known as drip and ship, has tPA capabilities and immediate access to a Neurologist via telemedicine.
b. Primary Stroke Center: Facility with capability to administer tPA and also has an ICU.
c. Comprehensive Stroke Centers: Facilities with 24/7 endovascular capabilities.
i. Miami Valley Hospital
ii. Kettering

4017.3 Clinical Management

Assessment

Pediatric Considerations

- None

Signs & Symptoms

- Facial drooping
• Arm drift or weakness
• Slurred or difficult speech
• Aphasia (expressive or receptive)
• Pupillary changes (in hemorrhagic strokes)
• Gaze deviation/abnormal eye movement (indicative of large vessel occlusions)

Differential Diagnosis

- Seizure
• Subdural hematoma
• Brain tumor
• Syncope
• Toxic or metabolic disorders (e.g., hypoglycemia)
• Migraine headaches

Treatment Algorithm

- A patient in respiratory distress with pale, moist skin and altered mental status should get oxygen via NRB mask.
• Be prepared to assist ventilations with OPA/NPA and Bag-valve-mask.
• If signs of cerebral herniation are present, ventilate at the following rates:
A Approximately 20 times per minute.
P Ventilate at a rate of ten faster than normal respiratory rate if the signs of cerebral herniation are present.
o {If numeric EtCO2 readings are available, ventilate at a rate to maintain readings at approximately 30 mmHg (30 torr)}
o Never ventilate at less than 8 per minute.
• A patient with indications of stroke with a SpO2 less than 94%, should be given oxygen via NC and titrated to 94%.
• A patient with indications of stroke with a SpO2 greater than 94%, should not get any oxygen.

- Transport the patient with the bed flat, if able to tolerate. If showing signs of increased ICP, do not lay patient flat.
• When determining a transport destination, the following contradictions to tPA will be considered:
o Major surgery or serious non-head trauma in the previous 14 days
o History of gastrointestinal or urinary tract hemorrhage within 21 days
o Current (within the last 48 hours) use of anticoagulants. Examples include:
Warfarin (Coumadin, Jantoven)
Edoxaban (Savaysa)
Apixiban (Eliquis)
Rivaroxaban (Xarelto)
Abigatran (Pradaxa)
Lovenox injections
• If glucose is less than 60, or there is strong suspicion of hypoglycemia despite glucometer readings, then follow 4008 Diabetic Emergencies - Hypoglycemia protocol

- No additional orders at this level
• No additional orders at this level

Consult

- Contact MCP for Stroke Alerts or for advice regarding transport destination, if not clear.

EMR

EMT

AEMT

Paramedic



Subject: Stroke

Effective: June 1, 2021

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Clinical Pearls

- Cincinnati Prehospital Stroke Scale: (normal or abnormal)
 - Facial Droop (*patient shows teeth or smiles*).
 - Arm Drift (*patient closes eyes and holds both arms straight out for about 10 seconds*).
 - Abnormal Speech (*have patient say "You can't teach an old dog new tricks." or any other phrase*).
- The presence of a single abnormal finding in the Cincinnati Prehospital Stroke Scale should dictate a stroke alert and transport to a stroke center
- Possible indicators of a large vessel occlusion (LVO):
 - The presence of abnormal findings in all three categories of the Cincinnati Prehospital Stroke Test increase the possibility of LVO
 - Visual neglect, gaze deviation, or abnormal eye movement are key clinical findings
 - New onset loss of balance or coordination may indicate a possible LVO stroke
- Arrange for transport a historian with patient both to provide patient history and for permission to treat.

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5000 Series

Pediatric Protocol

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Subject: **Apparent Life Threatening Event (ALTE)**Effective: **June 1, 2021**Last Modified: **Jan. 8, 2021****5001.1 General Guidelines**

- a. An Apparent Life-Threatening Event involves any infant under 1 year of age that is witnessed with a frightening event by an observer and involves some combination of the following:
 - i. Apnea
 - ii. Choking or gagging
 - iii. Color change (cyanosis, pallor)
 - iv. Change in muscle tone (limpness, sometimes rigidity)
- b. Also referred to as a BRUE (Brief Resolved Unexplained Event)
- c. Children who experience an ALTE event often have a normal exam on assessment.
- d. A cause cannot be determined in 50% of ALTE cases.

5001.2 Important Information to Gather:

- a. Document the symptoms of the event given by the observer:
 - i. Was the child apneic, cyanotic or limp during event
 - ii. Infant's color, respirations and muscle tone
 - iii. Was seizure-like activity noted
 - iv. Was any resuscitation attempted or did event resolve spontaneously
 - v. How long did the event last
- b. Obtain past pertinent medical history:
 - i. Recent trauma, infection (e.g., fever, cough)
 - ii. History of gastroesophageal reflux (GERD)
 - iii. History of congenital heart disease
 - iv. History of seizures
 - v. Medication history
 - vi. Birth defects

5001.3 Clinical Management

- a. Support airway, breathing, circulation.
- b. Keep warm.
- c. Head-to-Toe exam for trauma, bruising, or skin lesions.
- d. Check anterior fontanel: is it bulging, flat or sunken
- e. Pupillary exam.
- f. Respiratory exam for rate, pattern, work of breathing and lung sounds.
- g. Cardiovascular exam symmetry of brachial and femoral pulses.
- h. Neuro exam for level of consciousness.
- i. Observe for repetition of reported occurrences.
- j. The patient should be transported to the hospital for further assessment.

5001.4 Management and Transport of Febrile Pediatric Patients

- a. Transport all infants older than 2 months of age with a history or reported temperature of greater than 38.0 C (100.4 F) or less than 35.6 C (96.0 F).

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Subject: Newborn Care and Resuscitation

Effective: June 1, 2021

Last Modified: Mar. 4, 2021

5002.1 General Guidelines

- a. Maintain airway. Place in the sniffing position (1" towel under shoulders).
- b. If drying and suctioning has not provided enough tactile stimulation, flick the infant's feet or rub the infant's back.
- c. Suction only infants in distress, until airway is clear of all secretions. Bulb suctioning is preferred.
- d. If meconium staining is present:
 - i. Newborn is vigorous, with strong respirations, good muscle tone, and heart rate greater than 100 BPM monitor the patient and maintain a patent airway.
 - ii. Newborn is depressed, has poor respiratory effort, decreased muscle tone, or heart rate less than 100 BPM clear the airway by suctioning before taking other resuscitative steps.
- e. Avoid direct application of cool oxygen to infant's facial area as may cause respiratory depression due to a strong mammalian dive reflex present immediately after birth.
- f. If stimulation does not improve the infant's breathing, then BVM assist may be necessary.

5002.2 Viable Fetus

- a. If the fetus is greater than 23 weeks gestation, follow normal resuscitative procedures.
- b. A fetus is viable if:
 - i. Eyelids not fused
 - ii. If measurable or known, must be greater 500 grams

5002.3 Clinical Management

Assessment			
Pediatric Considerations <ul style="list-style-type: none"> • Nothing additional 	Signs & Symptoms <ul style="list-style-type: none"> • Respiratory distress • Central cyanosis • Altered level of consciousness • Bradycardia 	Differential Diagnosis <ul style="list-style-type: none"> • Peripheral cyanosis (normal) • Infection • Maternal medication effect • Hypothermia, hypoglycemia, hypovolemia 	
Treatment Algorithm			
P After delivery of the infant <ul style="list-style-type: none"> P Assess the airway and breathing. P Warm, dry and stimulate P Position head lower than body. 		EMR	
P Ventilate with BVM at 40-60/minute to increase HR (if less than 100) or for apnea or persistent central cyanosis. P If heart rate is less than 60 bpm begin CPR. <ul style="list-style-type: none"> P Compress at 120/min. P Compression to Ventilation ratio of 3:1 			
P Obtain APGAR scores at 1, 5 and 10 minutes post-delivery.			EMT
P If hypovolemic, IV fluid 10 ml/kg over 5-10 minutes. P Consider Naloxone 0.1 mg/kg, IV, IO or IM every 3 minutes until respirations improve. NEWBORN: Dextrose 10% (D10) 2 ml/kg if blood glucose less than 40.			AEMT
P If heart rate remains less than 60 bpm after CPR: <ul style="list-style-type: none"> P Epinephrine 1:10,000, 0.01 mg/kg IV P If no response, repeat Epinephrine 1:10,000, 0.01 mg/kg IV, every 3-5 minutes. 		Paramedic	
Consult			
<ul style="list-style-type: none"> • Contact MCP for instructions and guidance when attempting to determine the viability of a fetus. 			
Clinical Pearls			
<ul style="list-style-type: none"> • Use length-based resuscitation tape on all neonatal resuscitations. • Mechanical suction may be used on infants only if the suction pressure does not exceed 100 mmHg or 136 cmH₂O. 			

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Subject: Pediatric Assessment Triangle

Effective: June 1, 2021

Last Modified: Dec. 8, 2020

5003.1 General Guidelines

- a. The Pediatric Assessment Triangle establishes a level of severity, assists in determining urgency for life support measures, and identifies key physiological problems using observational & listening skills.
- b. This assessment tool can be utilized by providers of all certification levels.

5003.2 Appearance

- a. Appearance reflects adequacy of: oxygenation ventilation, brain perfusion, CNS function.
 - i. The mnemonic used for pediatric assessment of appearance is: TICLS.
 1. Tone- Moves spontaneously, sits or stands (age appropriate)
 2. Interaction- Alert, interacts with environment
 3. Consolability- Stops crying with comfort measures (holding, warmth, distraction)
 4. Look/gaze Makes eye contact with clinician, tracks objects
 5. Speech/cry Uses age appropriate speech or crying

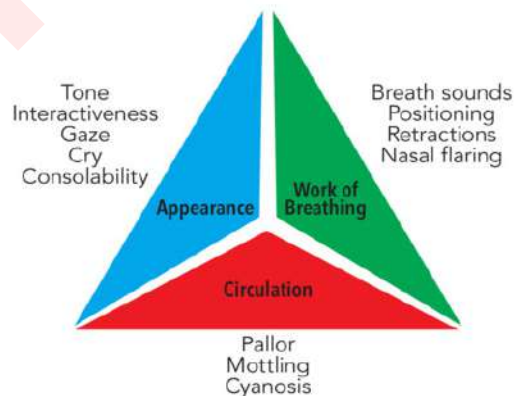
5003.3 Work of Breathing

- a. WOB is a more accurate indicator of oxygenation and ventilation than respiratory rate or breath sounds.
- b. Assess for effort in breathing, accessory muscle use, and depth of breathing.
- c. Capillary refill is an accurate predictor of pediatric oxygenation.
- d. Under work of breathing, the patient should fall into one of four categories:
 - i. Normal Breathing
 - ii. Respiratory difficulty
 - iii. Respiratory failure
 - iv. Respiratory arrest

5003.4 Circulation

- a. Circulation reflects adequacy of cardiac output and perfusion of vital organs (core perfusion).
- b. Cyanosis reflects decreased oxygen levels in arterial blood, vasoconstriction and respiratory failure.
- c. Mottling of the skin indicates hypoxemia, vasoconstriction and respiratory failure.

5003.5 The Pediatric Assessment Triangle



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Subject: Safe Harbor

Effective: June 1, 2021

Last Modified: Dec. 8, 2020

5004.1 General Guidelines

- a. Safe Harbor is for the voluntary separation of newborn infant.
- b. It is designed to allow desperate parents to separate from their babies to hospitals, EMS, or law enforcement agencies, confidentially.

5004.2 Clinical Management

- a. Stipulations of separation:
 - i. Infant can be no older than be 30 days old.
 - ii. Infant can have no signs of abuse or neglect
- b. History which should be obtained:
 - i. Date and time of birth
 - ii. Any pertinent family medical history
 - iii. Information regarding prenatal care
 - iv. Information concerning the birth.
- c. Information should be obtained in a manner, which will not lead to the revealing of the identity of the parents.
- d. Information collected should be based on patient (infant) care needs and assure confidentiality.
- e. Transport the infant to the hospital.

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6000 Series

Special Operations

Protocol

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Subject: General Management for Haz Mat

Effective: June 1, 2021

Last Modified: Dec. 8, 2020

6001.1 General Guidelines

- a. This section will provide the responders with direction toward the management and mitigation of Hazardous Material event.
- b. The initial goal of any hazardous materials release is to isolate and identify.

6001.2 Initial Actions

- a. Personnel safety:
 - i. Consider potential for secondary devices.
 - ii. Don appropriate PPE.
 - iii. Stage personnel & equipment.
- b. Call for additional resources. (Haz Mat Teams, Decon crews, Law Enforcement, etc.)
- c. Field decontamination:
 - i. Remove **all** contaminated clothing.
 - ii. Thoroughly wash the patient with {Dawn} dishwashing detergents.
 - iii. Pay special attention to skin folds and other areas where simple irrigation may not remove it.
 - iv. If a patient has been contaminated with any fuel, irrigate well.
- d. Contact Medical Control and the hospital immediately to allow time for their set-up of decontamination equipment.
 - i. Provide the following information:
 1. Estimated number of confirmed or potential adult and pediatric patients
 2. Signs and symptoms exhibited by the patients
 3. Name and identification information of the contaminant if known, or as much information as possible
 4. Form of the contaminant (liquid, gas, etc.) if known
 5. Routes of exposure of the patients (percutaneous, inhalation, ingestion, etc.) if known
 6. Additional anticipated decontamination needs if necessary.
 - ii. Obtain permission from hospital upon arrival before entering with a potentially contaminated patient or crew.
- e. ♦ In the event of an MCI involving cyanide or nerve agents, request an “Antidote free” order, allowing you to treat all of the patients on the scene with the appropriate antidote, rather than calling for patient orders individually.
- f. Do **not** transport a patient until gross decontamination is completed.
- g. Decontaminate EMS vehicles prior to leaving hospital.

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Subject: Antidote Resources

Effective: June 1, 2021

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6002.1 Antidote Options

- a. {EMS Departments are authorized to stockpile **Atropine, 2-PAM**, auto-injectors, and supplies}
- b. Dayton MMRS Caches
 - i. Dayton MMRS stores additional supplies of organophosphate and cyanide antidotes in each county in Ohio Homeland Security Region 3.
 - ii. To obtain Dayton MMRS antidotes: call 937-333-USAR (8727).
 - iii. The closest department with an antidote cache will respond as a mutual aid request.
 - iv. Dayton MMRS antidotes may be requested for incidents too small to require a CHEMPACK.
 - v. If requesting a CHEMPACK, simultaneously request MMRS antidotes.
- c. CHEMPACK Resources:
 - i. Store of antidotes to treat about 500 victims of a nerve agent or organophosphate incident
 - ii. Pre-hospital CHEMPACK contents:
 1. **Atropine**—blocks effects of excess acetylcholine
 - a. **0.5 mg AtroPen** auto-injectors (for patients less than 20 kgs)
 - b. **1.0 mg AtroPen** auto-injectors (for patients 20-40 kgs)
 - c. Multi-dose vials
 2. **Pralidoxime Chloride (2-PAM)**—reduces levels of acetylcholine
 - a. **600 mg** auto-injectors
 - b. Multi-dose vials
 3. **Diazepam (Valium)**—treats seizures.
 - a. **Convulsive Antidote, Nerve Agent (CANA)** (10mg **Diazepam** auto-injector)
 4. Multi-dose CHEMPACK types (both contain same drugs)
 - iii. Hospital CHEMPACK contents
 1. More multi-dose vials for more precise dosing of children and long-term patients.
 2. Hospital CHEMPACKs are partitioned into thirds
 - a. Marked with a red, yellow, or blue dot.
 - b. Hospitals have the option to keep the red dot materials for use at their hospital.
 3. If a hospital opens its CHEMPACK, it must notify OSP Central Dispatch.
 4. Hospitals may request materials from Dayton MMRS by calling 937-333-USAR (8727).
 - iv. CHEMPACK Limitations
 1. Only useful against nerve agents or organophosphate
 2. Only to be utilized when other resources are inadequate for number of victims.
 3. CHEMPACKs opened contrary to guidelines will not be replaced by CDC and will result in the loss of a 250,000 asset.



Subject: Antidote Resources

Effective: June 1, 2021

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v. CHEMPACK procurement:

1. ♦ Obtain MCP approval
2. ♦ Contact OSP Central Dispatch 866-599-LERP (5377) and request a CHEMPACK
3. You must indicate that the scenario meets both of the following criteria:
 - a. The agent has been identified, or patients are exhibiting signs and symptoms of organophosphate/nerve agent exposure.

AND

 - b. The need for antidotes is greater than the available resources.
4. Simultaneously contact 937-333-USAR (8727) and request MMRS caches.
5. OSP Central Dispatch will:
 - a. Notify closest CHEMPACK hospital
 - b. Dispatch Troopers to deliver the CHEMPACK to the MCI's staging area.
 - c. Troopers will expect EMS to sign a form indicating receipt.

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Subject: Hazardous Drug Exposure

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6003.1 Identification or Recognition of a Hazardous Drug Situation

- a. Hazardous drug situations include:
 - i. Patients who have just had IV chemotherapy at the clinic or hospital
 1. Body fluids could have traces of hazardous drugs for up to 48 hours.
 - ii. Patients taking oral chemotherapy drugs.
 - iii. Patients who have continuous IV chemotherapy at home.
- b. Potential routes of exposure include:
 - i. Absorption through skin or mucous membranes
 - ii. Accidental injection by needle stick or contaminated sharps
 - iii. Inhalation of drug aerosols, dust, or droplets
 - iv. Ingestion through contaminated food, tobacco products, beverage, etc.
- c. Don PPE listed below whenever there is a risk of hazardous drug being released into the environment.
 - i. When handling leakage from tubing, syringe, and connection sites.
 - ii. When disposing of hazardous drugs or items contaminated by hazardous drugs.
 - iii. When handling the body fluids of a patient who received hazardous drugs in the past 48 hours.
 - iv. When cleaning hazardous drug spills

6003.2 Guidelines for Personal Protective Equipment:

- a. Gloves: two sets of nitrile gloves are recommended. Change gloves every 30 minutes.
- b. Disposable, non-permeable gowns
- c. NIOSH-approved respirator masks
- d. Eye and face protection: wear a face shield whenever there is a possibility of splashing.

6003.3 Procedures:

- a. Wipe up liquids with an absorbent pad or spill-control pillow.
- b. If necessary, consult with the appropriate Haz-Mat team.
- c. Dispose hazardous drugs or contaminated materials per MSDS or Haz Mat Team direction.
- d. Report and document spills as required.
- e. For accidental skin exposure: Remove contaminated garments, place in leak-proof plastic bag, and immediately wash contaminated skin with soap and water. Rinse thoroughly.
- f. For accidental eye exposure: immediately flush eye with saline solution or water for at least 30 minutes or until patient transport is completed.

6003.4 Identification or Clarification

- a. For more information about a hazardous drug or handling procedures, contact:
 - i. The homecare agency that is supplying the infusion.
 - ii. The physician who ordered the infusion.
 - iii. A hospital pharmacy, if necessary (there should be a label on the IV bag with the drug's name, concentration and dosage.

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Subject: Hydrofluoric Acid Exposure

Effective: June 1, 2021

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6004.1 Clinical Management

Assessment

<p>Pediatric Considerations</p> <ul style="list-style-type: none"> None 	<p>Signs & Symptoms</p> <ul style="list-style-type: none"> Breathing difficulty Abdominal pain Chest pain Burns (with blisters) Stridor (if inhaled) 	<p>Differential Diagnosis</p> <ul style="list-style-type: none"> Chemical burns
-----------------------------------------------------------------------------------------------	--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	-------------------------------------------------------------------------------------------------------

Treatment Algorithm

<ul style="list-style-type: none"> Ensure the safety of all responders. Begin decontamination and irrigate the chemical burn with water as quickly as possible. Flush affected eyes and skin with copious amounts of water or IV Fluids for a minimum of 30 minutes. <ul style="list-style-type: none"> Continue flush until patient transport is completed. If ingested, do not induce vomiting. Dilute with water or milk. Monitor for cardiac arrest. 	EMR
<ul style="list-style-type: none"> {Perform a 12-lead EKG and transmit it to the hospital} 	EMT
<ul style="list-style-type: none"> Intubate if apneic. Consider 1014 Pain Management Protocol 	AEMT
<ul style="list-style-type: none"> When feasible, use {Magnesium Sulfate solution (Epsom salt)} as an additional irrigating solution for affected skin. <ul style="list-style-type: none"> Magnesium Sulfate is not for eyes or mucous membranes. Getting water on the burn is more urgent than the use of Epsom salt. Do not delay irrigation or decontamination. If available, use {Epsom salt solution} on the skin for at least 30 minutes. If ingested, in addition to water or milk, give {3-4 ounces of magnesium-containing antacid (i.e., Maalox or Mylanta)}. Intubate if unconscious or at <u>first sign</u> of pulmonary edema or respiratory distress. Perform a 12-lead EKG and monitor for prolonged QT interval. Apply {magnesium-containing antacid (Maalox or Mylanta)} topically to burned areas. <ul style="list-style-type: none"> Omit if topical agents have already been applied prior to arrival. ♦ If patient with HF exposure experiences tetany or cardiac arrest, administer Calcium Chloride 10% 1 g (10 ml), IV. <ul style="list-style-type: none"> Calcium Chloride 10% should be considered a first line drug in cardiac arrest associated with Hydrofluoric Acid. Only ABCs, defibrillation, intubation and Epinephrine should precede its administration. ♦ If patient was exposed to high concentration HF (greater than 40), discuss prophylactic Calcium Chloride 10% 400 mg (4 ml), slow IV with MCP. 	Paramedic

Consult

- The paramedic should contact MCP for administration of **Calcium Chloride 10%**

Clinical Pearls

- Death due to Hydrofluoric Acid has been reported from burns involving less than 3 body surface area.

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Subject: Organophosphate or Nerve Agent Exposure

Effective: June 1, 2021

Last Modified: Oct. 10, 2021

6005.1 Clinical Management

Assessment

Pediatric Considerations

- None

Signs & Symptoms

- Salivation
- Lacrimation
- Urination
- Defecation
- Gastrointestinal Issues
- Emesis
- Miosis
- Muscle Twitching

Differential Diagnosis

- None with a recent history of exposure to nerve agents

Treatment Algorithm

- Administer oxygen
- ♦ Administer **Atropine** by **DuoDote** every 5 minutes, as available until the lungs are clear to auscultation.
 - ♦ DuoDotes can be given to adult and **pediatric over 40 kgs** patients.
- Treat seizures with **Diazepam Auto-injector (CANA)**.

EMR

- No additional orders at this level.

EMT

- ♦ Treat seizures with **Midazolam** or **Diazepam Auto-injector (CANA)**.

AEMT

- ♦ Administer **Atropine** every 5 minutes (up to a total of three doses), as available until lungs are clear to auscultation.
 - **Atropine** may be given **IV, IM, IO** or by **AtroPen** auto-injector for children, or by **DuoDote**.
 - A ♦ Adults and **children greater than 40 kgs**, give **DuoDote**, or **Atropine 2 mg, IV, IM**.
 - P ♦ Children **20 - 40 kg**, give **1.0 mg Atropine**, or the **1.0 mg Atropen** auto-injector.
 - P ♦ Children **less than 20 kg**, give **0.5 mg Atropine**, or the **0.5 mg Atropen** auto-injector.
 - A ♦ Follow Atropine with **2-PAM (Pralidoxime) 600 mg IM**. If DuoDote was used, no second auto-injector is needed.
 - P ♦ **Infants and young children should receive Pralidoxime, 25-50 mg/kg IV or IM, if available.**
- Treat seizures with **Midazolam** or **Diazepam Auto-injector (CANA)**.

Paramedic

Consult

- Contact MCP for administration of medications listed above.

Clinical Pearls

- Treat any case of known or suspected Organophosphate or Carbamate (e.g., insecticides such as Parathion or Malathion) or nerve agent (e.g., Tabun, Sarin, Soman, V) exposure.
- Mild to moderate cases should be treated with one or two doses of **DuoDote**.
 - Severe cases will generally require repeating every 5 minutes up to 3 doses.
 - Organophosphate poisonings may require more Atropine (3 DuoDotes).
 - Atropine in these circumstances is not for bradycardia, which may or may not be present.
- Procedures for DuoDotes, pediatric AtroPens, and Diazepam auto-injectors are the same as administering an Epi-Pen.
- Primary endpoints for treatment are diminished airway secretions (lungs are clear to auscultation), hypoxia improves, airway resistance decreases, and dyspnea improves

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Subject: Other Hazardous Materials

Effective: June 1, 2021

Last Modified: Dec. 8, 2020

6006.1 General Guidelines:

- a. These guidelines are for the management of specific materials.
- b. Unless otherwise noted, these orders apply to all certification levels.

6006.2 Specific Materials

a. Biological materials

- i. ♦ {For the possibility of a bioterrorist attack, agencies may store their own supply of Ciprofloxacin (Cipro) or Doxycycline.}
- ii. They can also provide prophylaxis against Anthrax, Cholera, and some protection against Plague.
- iii. Dayton MMRS maintains a supply of Cipro and Doxy sufficient to provide treatment for the first three days for all firefighters, EMS personnel, law enforcement officers, EMA personnel, public safety dispatchers, and their immediate families in the event of a bioterrorist attack.
- iv. The cache may be obtained by contacting 937-333-USAR (8727).

b. Pepper Spray

- i. **{Sudecon Wipes}** can assist in the decontamination of patients or public safety personnel who have been sprayed with Pepper Spray.

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7000 Series

Administrative

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Subject: Drug Box Exchange Program:
General Operating Guidelines

Effective:
June 1, 2021

Last Modified:
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7001.1 Drug Bag Exchange Committee Make-up

- a. Co-Chairpersons:
 - i. 1 Hospital EMS coordinator
 - ii. 1 Hospital pharmacy representative from each participating county
- b. Members:
 - i. EMS Coordinator from each participating hospital
 - ii. Pharmacy representative from each participating hospital
 - iii. Any interested GMVEMSC (Greater Miami Valley EMS Council) member
- c. Meetings
 - i. Two scheduled meetings per year
 - ii. Unscheduled as needed to discuss problem areas

7001.2 General Operating Guidelines

- a. In order to participate in the GMVEMSC Drug Bag program, an agency must have the capability to communicate with Medical Control at participating hospitals.
- b. There are two types of drug bags: ALS/BLS and BLS (fanny pack style).
- c. All drug bags, both ALS/BLS and BLS, are the property of the GMVEMSC
- d. GMVEMSC drug bags are only for use by EMS providers located or stationed within GMVEMSC's region.
- e. Agencies may not use GMVEMSC drug bags for runs originating from stations outside of or responding to an address outside of GMVEMSC's region.
- f. Except in extreme circumstances, a GMVEMSC drug bag should not be used on multiple runs.
- g. There is an initiation fee for each new bag that EMS agencies add to the program.
- h. There is an annual maintenance fee for each ALS/BLS bag and BLS bag.
- i. For replacement of lost or stolen drug bags, see [7005 Lost or Stolen Drug Bag Policy](#).
- j. To maintain the integrity of the drug bag contents, pharmacy departments' seal each compartment of stocked drug bags with a blue plastic device. The seal should only be broken for administration of prehospital emergency medical treatment by approved EMS personnel. After prehospital emergency medical treatment use, the drug bag should be cleaned and re-sealed with the red plastic device contained inside each drug bag compartment.
- k. The following actions may be taken for any department found to be in non-compliance with the Drug Bag Exchange Program Operating Guideline regarding opening and resealing the drug bag:
 - i. Notification of the Fire Chief, EMS Administrator, or Private Ambulance Administrator.
 - ii. The governing agency, e.g., city council, trustees, EMFTS for private ambulance service, will be notified that action is being initiated for the Fire, EMS and Private ambulance service.
 - iii. Removal of all drug bags from all locations of said Fire, EMS and Private ambulance service.
 - iv. Written notification to the following that the said service is in violation of the operating policy of the Drug Bag Exchange Program:
 - 1. Medical Director
 - 2. Regional Physician Advisory Board
 - 3. Ohio State Pharmacy Board
 - 4. Ohio Division of EMS
 - 5. All hospitals participating in the drug bag exchange program



Subject: Drug Box Exchange Program:
General Operating Guidelines

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- I. GMVEMS Council maintains an information database for all EMS personnel authorized to participate in the Drug Bag Exchange Program.
- m. Rosters with certification expiration dates for EMS providers are available via an online database for review and updates.

7001.3 Participation Requirements

- a. Active membership in the GMVEMS Council.
- b. Each agency in GMVEMSC must understand that Council typically communicates with departments and agencies via email, and that some of those messages concern changes to Standing Orders, pharmaceuticals in our Drug Bags, or other critical issues. Council maintains two lists of emails:
 - i. The GMVEMSC Listserve
 - ii. A distribution list of Agency Contacts
- c. As such, to participate in the Drug Bag Program, each agency must provide a minimum of one functioning email contact for each of those lists (may be the same person or different). Council desires to communicate as freely and effectively as possible, and agencies may provide as many as they like for each list, but must have at least one person who can reliably receive messages. Since in rare cases, these messages may be urgent, we encourage use of the “three-deep” rule: provide Council with three (or more) emails for each list.
- d. Additional Requirements For Drug Bag Program
 - i. The protocol testing compliance letter ([7008](#)) must be signed by the Chief within two weeks after completion of the CBT cycle, then faxed to Council.
 - ii. The copy of your license needs to go to Council by March 31 of the calendar year. This is required, as the Pharmacy at each hospital needs your license on file in order to exchange drug bags with your department.
 - iii. Complete drug bag updates when scheduled. This is essential. The Pharmacy Board has made it very clear that updates must be completed on time.
 - iv. Signed agreement to abide by the GMVEMS Council Operating Guidelines for the Drug Bag Exchange Program (see [7007 Drug Box Exchange Program Agency Agreement Letter](#))
- e. **No department which participates in the Drug Bag Exchange Program shall possess a DEA License.**
- f. Area hospital participation according to Council guidelines. (See [7006 Hospital Participation Policy](#)).
- g. Document medical advisor approval for the use of the GMVEMS Council Operating Protocols with a signed, notarized letter, which is attached to the drug license renewal application form with a copy submitted to Council. Notarized letter is not required for renewal unless medications are added or there is a change in Medical Director from previous year.
- h. Agreement to complete the GMVEMSC annual skills and annual written test between 1 March and 31 May unless otherwise scheduled by Council (see Non-Compliance Procedures).
- i. **Maintain all drugs at all times in a clean, temperature-controlled environment per Rule 4729-33-03 of the OH State Pharmacy Board Administrative Code.**
- j. The rules can be seen at: <https://codes.ohio.gov/ohio-administrative-code/rule-4729:3-3-03>
- k. The ideal temperature span is 59-86 degrees F.
- l. In order to utilize an ALS/BLS or BLS drug bag in the pre-hospital emergency setting, the following equipment must be available, unless otherwise noted:



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- i. BLS Provider:
 1. Oxygen
 2. Pulse Oximetry
 3. Extraglottic Airways
 4. CPAP administration and management
 5. Oral Glucose
 6. Glucometry
 7. Ice Packs
 8. Suction (manual is acceptable)
 9. AED (if approved by Medical Advisor)

- ii. ALS Provider:
 1. Oxygen
 2. EtCO₂ detection, monitoring and waveform for intubated patients
 3. 12-Lead acquisition, transmission and interpretation
 4. Mucosal Atomizer Device (MAD)
 5. IO and device
 6. BAAM
 7. Digital intubation
 8. IV pressure infuser
 9. Suction (manual is acceptable)
 10. Monitor or defibrillator or AED & intubation equipment

m. Departments are required to have a tracking system that tracks all drug bag exchanges.

7001.4 General Non-Compliance Procedures

- a. Each agency and their Medical Director(s) will be notified if the annual written test and skills check-off has not been completed within the prescribed time period.
- b. The Ohio State Board of Pharmacy will be notified that a department or individual members of a department have not completed the annual written test and skills check-off within the prescribed time period.
- c. Hospital EMS coordinators and pharmacy departments will receive a list of departments or individuals within a department that are not in compliance with the operating guidelines.
- d. At the end of the testing season, if a department does not have 100 of their personnel completing both skill and written tests (or explanations for individuals not in compliance) noted in the Standing Orders database, then appropriate action, up to and including the removal of department from the Drug Bag program, may be taken by the chair of the drug bag committee.
- e. If copy of drug license(s) is not received by due date, GMVEMS Council will notify the agencies medical director. GMVEMS Council reserves the right to initiate the non-compliance action process for any Fire/EMS/Private Ambulance service that does not provide documentation for drug license(s) renewal.

7001.5 Levels of Participation

- a. Paramedic Level
 - i. Each drug bag consists of a navy, standard issue drug bag.

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- ii. Each standard issue bag is labeled with a metal tag numbered from 850 and up.
- iii. A Paramedic can access any of the compartments within the bag to obtain medications.

- b. AEMT Level
 - i. A side compartment will be labeled “Intermediate”
 - ii. The AEMT can access compartments to obtain medications per their protocol.
 - iii. They cannot access the Center inside Compartment or the Center Controlled Medication Compartment.

- c. EMT Level
 - i. The RED BLS compartment on an ALS/BLS bag or BLS fanny-pack style bag will carry the following medications ONL :
 - 1. Nitrostat
 - 2. EpiPen
 - 3. EpiPen Jr.
 - 4. Baby Aspirin.
 - ii. Each bag is labeled with a numeric code.
 - iii. The EMT can only access the BLS compartment and/or the Naloxone compartment to treat their patient per protocol.

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Subject: Drug Box Exchange Program:
Wasted Drug Procedure

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7002.1 Guideline

- a. Some hospitals also require the use of the GMVEMSC approved Controlled Drug Usage Form in addition to documentation on the run sheet.
- b. This GMVEMSC approved form must be filled out for any controlled drug use, even if there is no wastage.
- c. This information shall be on both the original EMS department form and the hospital copy for reference if needed.
- d. A copy of the run report must be left with the drug bag for the pharmacist.

7002.2 Procedure

- a. Fentanyl, Ketamine, Morphine, Versed and Valium are controlled drugs. If a medication is only partially administered, the paramedic or AEMT must account for the all of the unused portion.
- b. To insure the medications are properly accounted for, all paramedics and AEMTs will document:
 - i. The drug name
 - ii. The amount used
 - iii. The amount wasted (if all the medication was administered, then list “none”)
 - iv. The signature of a second witness if there is wastage.
 - 1. The second witness can be a member of the EMS crew.
 - 2. Many hospital employees are no longer permitted to witness or sign for drug wastage.

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Subject: Drug Box Exchange Program:
Exchange Process

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7003.1 Exchange Process Guidelines

- a. Each department is assigned to a home hospital.
- b. The assigned hospital is the central resource for initial fulfillment of medications for the drug bags and wholesale exchanges, replacement, or additions as required by revisions to the protocols.
- c. Drug bags can be exchanged at any participating hospital or within the same department.
- d. ALS/BLS bags may be exchanged one-for-one with another ALS/BLS bag.
- e. BLS bags may be exchanged one-for-one with another BLS bag.
- f. For discrepancies (missing meds, expired meds, wrong meds or dose, altered or tampered meds, drug bag number discrepancy, etc.) follow [7004 Drug Bag Program: Drug Bag Discrepancies](#)
- g. The primary care provider is responsible for the inventory of the drug bag prior to sealing it.
- h. If two departments have accessed a drug bag, they should jointly seal the drug bag.
- i. Each hospital designates a specific location for the exchange of drug bags.
- j. EMS personnel are **required** to complete the Sign In and Out log when exchanging a drug bag.
- k. Once sealed, any provider can exchange the drug bag.
- l. Unless the patient was removed to a non-participating drug bag exchange hospital or the patient was a non-removal, the drug bag must be exchanged at the time of patient delivery to the hospital.
- m. In the exceptions listed above, the drug bag will be exchanged at a participating hospital within 8 hours.
- n. Every crew transporting a patient will provide a completed run sheet to the hospital within 3 hours.

7003.2 Drug Bag Blue Seals

- a. Blue seals:
 - i. Blue seals are used by the pharmacy that inventories and restocks the ALS/BLS drug bags.
 - ii. The blue seals will have a hospital sticker attached to the seal that identifies the hospital and pharmacist that inventoried the bag and the expiration date of the next drug to expire.
 - iii. The inner compartment of the ALS bag and Intermediate will be sealed with a blue seal and will have the expiration date noted.
 - iv. The blue seal will be looped through the proximal portion of the zipper tab (not the outermost portion of the zipper tab).
 - v. EMS should verify the blue seal is intact and has an expiration date before accepting the bag.
 - vi. When a provider opens a drug bag compartment, they should keep the blue seal in their possession until they have verified the contents are accounted for.
 - vii. Once they have verified the contents, they should place the blue seal in the compartment, unless there is a discrepancy and then seal the compartment with RED tag.
 - viii. EMS MUST PLACE THE BLUE SEAL IN THE COMPARTMENT
- b. Red Seals:
 - i. Red seals identify ALS/BLS bags as being used.
 - ii. EMS providers are required to inventory each opened pouch, discard any used sharps and clean any contaminants from bag used and then take red seal from the inside compartment (supplied by pharmacy when restocking the ALS/BLS bag) and seal the used compartment.
 - iii. The red seal will be looped through the proximal portion of the zipper tab (not the outermost portion of the zipper tab).

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Subject: Drug Box Exchange Program:
Drug Bag Discrepancies

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7004.1 General Guidelines

- a. **EMS providers are required to inventory each opened pouch prior to applying the red seal.**
- b. All discrepancies (missing meds, expired meds, wrong med or dose, altered or tampered meds, drug bag number discrepancy, etc.) that are identified shall be reported to GMVEMSC using the Drug Bag Discrepancy Report (Addendum E).
- c. If at any time, an EMS provider encounters a discrepancy they will:
 - i. Notify their EMS Officer of the discrepancy.
 - ii. If the discrepancy was discovered after opening the bag, retain the blue seal and the hospital sticker that was attached to the drug bag in question.
 - iii. If the EMS provider is at the hospital, he/she will log the bag in using the normal procedure at that hospital while retaining the blue seal.
 - iv. He/she will advise the pharmacist or EMS Coordinator of the discrepancy and that they will be initiating the Discrepancy form as described below (pharmacist may request a copy of the Discrepancy form).
 - v. The EMS Officer may contact the EMS Coordinator if assistance is needed.

7004.2 Discrepancies Involving Controlled Drugs or Potential Tampering:

- a. When an issue arises concerning any of the following, a collaborative effort between the EMS organization or provider and the Hospital EMS Coordinator or Pharmacist shall be made in an attempt to resolve the issue:
 - i. A controlled drug (Fentanyl, Ketamine, Valium, Versed, or Morphine)
 - ii. A stolen, missing or lost bag
 - iii. Any medication that appears to have been altered or tampered with.
- b. If the issue cannot be resolved, the following steps shall be taken:
 - i. If the discrepancy was discovered by the EMS organization/provider, the person designated by the organization/provider shall comply with the requirements of OAC 4729-9-15 and GMVEMSC requirements as indicated below.
 - ii. If the discrepancy was discovered by the hospital, the person designated by the hospital shall comply with the requirements of OAC 4729-9-15 and GMVEMSC requirements as indicated below.
- c. Required reporting for unresolved issues involving Controlled Drug or potential/suspected tampering or lost or stolen drug bags pursuant to Federal and State Laws and GMVEMSC Protocol include:
 - i. If you have knowledge of or suspect a discrepancy is due to a theft, contact your State of Ohio Board of Pharmacy agent immediately. Advise them you want to report a theft or drug discrepancy. They will connect you with the appropriate person. (OAC 4729-9-15)
 - ii. File a report with the appropriate law enforcement authorities (ORC 2921.22).
 - iii. Notify the Drug Enforcement Agency within 24 hours of discovery using DEA Form 106
 - iv. DEA Form 106: <https://www.deadiversion.usdoj.gov/webforms/app106Login.jsp>.
 - v. A 30-day extension may be requested in writing from the DEA. (CFR 1301.76(b)).
 - vi. Submit a completed GMVEMSC Drug Bag Discrepancy Report located at Addendum E, with appropriate supporting documentation, to the GMVEMSC.
- d. Dangerous drug means any of the following:



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Drug Bag Discrepancies

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- i. Any drug to which either of the following applies:
 - 1. Under the Federal Food, Drug, and Cosmetic Act, 52 Stat. 1040 (1938), 21 U.S.C.A. 301, as amended, the drug is required to bear a label containing the legend Caution: Federal law prohibits dispensing without prescription or Caution: Federal law restricts this drug to use by or on the order of a licensed veterinarian or any similar restrictive statement, or the drug may be dispensed only upon a prescription
 - 2. Under Chapter 3715 or 3719 of the Revised Code, the drug may be dispensed only upon a prescription.
- ii. Any drug that contains a schedule V controlled substance and that is exempt from Chapter 3719 of the Revised Code or to which that chapter does not apply
- iii. Any drug intended for administration by injection into the human body other than through a natural orifice of the human body
- iv. Any drug that is a biological product, as defined in section [3715.01](#) of the Revised Code.

7004.3 Discrepancies Not Involving Controlled Drugs or Potential Tampering:

- a. Examples may include:
 - i. Non-controlled drugs that were not in the bag
 - ii. Wrong number of medications or doses
 - iii. Wrong drug concentration
 - iv. Expired medications found
 - v. No expiration date on tag
 - vi. Medications improperly labeled
 - vii. Empty vials or packages left in bag. DO NOT PUT AN USED VIALS BACK IN DRUG BAG
 - viii. Unsealed medications
 - ix. Wrong medication administered
 - x. Unsealed pouch discovered
 - xi. Bag logged out with red seal (used bag)
- b. If discovered by EMS, the EMS Officer will initiate the Discrepancy form. They shall provide a copy of the form and the Blue Seal to the Hospital EMS Coordinator and shall fax a copy of the report to the GMVEMSC.
- c. If the Hospital discovers the discrepancy, the EMS Coordinator will initiate the Discrepancy Form and submit to GMVEMSC. If the EMS Coordinator is able to determine which EMS agency/hospital is responsible for the discrepancy, the agency or hospital will be notified and will receive a copy of the Discrepancy Form and the Blue Seal if applicable.

7004.4 Follow Up Procedures

- a. The GMVEMSC will:
 - i. Maintain a record of all discrepancies that occur.
 - ii. Follow up with the agencies involved as needed.
 - iii. Advise the Drug Bag Chairperson of any and all discrepancies and action taken.
- b. The Drug Bag Committee Chairperson will:

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Subject: Drug Box Exchange Program:
Drug Bag Discrepancies

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- i. Report at the bi-annual Drug Bag Committee meetings for discussion and resolutions to all discrepancies encountered.
- ii. Assist the Council and or affected departments with any issues or questions that may result.

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Subject: Drug Box Exchange Program:
Lost or Stolen Drug Bag Policy

Effective:
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7005.1 Purpose

- a. To provide a uniform mechanism for the reporting of lost or stolen drug bags.

7005.2 Policy

- a. Anyone with a State of Ohio Board of Pharmacy (SOBP) license must notify the SOBP immediately upon discovery of a theft or possibility of a theft, 614-466-4143.
- b. The EMS agency shall develop and implement an internal search mechanism for lost drug bags.
- c. The internal search mechanism should include:
 - i. Determine if drug bag was left at the scene.
 - ii. Determine if drug bag was not exchanged on last run.
 - iii. Determine if drug bag is in the wrong vehicle.
- d. The GMVEMSC will seek the assistance of the Drug Bag Co-Chair to check with all hospitals to determine if the bag might be in inventory or be alerted if it shows up at one of the hospitals.
- e. EMS Officer will initiate the Drug Bag Discrepancy Form and follow instructions for reporting lost or stolen drug bags. Completed paperwork and reports will be submitted to GMVEMSC.
- f. The GMVEMSC will contact the hospital EMS Coordinator with whom the EMS Department is assigned to work out a drug bag replacement.
- g. The EMS Coordinator will contact GMVEMSC for a drug bag replacement after all paperwork is submitted and GMVEMSC will assess a fee for replacement bag to be paid for by the EMS Department receiving the replacement bag.

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Subject: Drug Box Exchange Program:
Hospital Participation Policy

Effective:
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7006.1 Purpose

- a. To assure uniformity of hospital pharmacy participation in the Drug Bag Exchange Program.

7006.2 The Hospital Shall:

- a. Purchase (at cost), fill, and maintain a supply of drug bags sufficient to meeting the needs of an average day, plus a few extra to meet peak demands for drug bag replacement.
- b. Accept responsibility for filling new drug bags for departments or vehicles as assigned by GMVEMS Council, at hospital expense.
- c. Assign one licensed pharmacist and an EMS coordinator to attend and participate in the Standing Orders and Drug Bag Exchange Program Committees.
- d. Agree to pay annual dues and any fees assessed by GMVEMS Council that are approved by the Drug Bag Exchange Program Committee and the GMVEMS Council that pertain to the Drug Bag Exchange Program.

7006.3 The Greater Miami Valley EMS Council shall:

- a. Maintain a current State Drug Licenses for all participants in the Drug Bag Exchange Program.
- b. Furnish hospital pharmacy with a current listing of all departmental personnel authorized to access the GMVEMSC drug bags and copy of the protocol.
- c. Assign departments to hospitals in both a geographic and otherwise equitable fashion.

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Subject: Drug Box Exchange Program:
New Agency Member Policy

Effective:
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7007.1 Purpose

- a. To establish the procedures required to provide new agency members with an ALS or BLS drug bag from the GMVESMC Drug Bag Exchange Program.

7007.2 Procedure:

- a. Those agencies who have applied for membership and require a GMVEMSC Drug Bag to license their units may request a GMVEMSC Drug Bag be available 24 hours prior to the Ohio Medical Transportation Board (OMTB) inspection date.
- b. In order to receive a drug bag, the EMS agency shall:
 - i. Have applied for a GMVEMSC membership.
 - 1. Have been given a provisional membership by the GMVEMSC Executive Committee if the inspection is before regularly scheduled Council meeting.
 - ii. Provide a copy of their State Pharmacy License.
 - iii. Check off all agency personnel on Standing Orders and data entered in the GMVEMSC data base.
 - iv. Have the Medical Director submit a notarized letter to the State Pharmacy Board with License application stating they approve their department to use the GMVEMSC protocols.
 - 1. Medical Directors have the right to limit their personnel from using certain medications or procedures within the scope of the GMVEMSC protocols.
 - 2. Medical Directors may elect to change or add medications or procedures to the protocol.
 - 3. The Medical Director must include those protocols in addendum to the GMVEMSC, be responsible for the training and documentation of training in of their protocol as well as purchasing and maintaining those drugs that are not included in the standard inventory of the GMVEMSC ALS or BLS drug bag.
- c. The agency has 72 hours to show proof of a temporary permit from the date of inspection to the GMVEMSC Council office.
- d. If they cannot demonstrate an OMTB permit in that time the drug bag must be returned to either the hospital to which the agency is assigned or the hospital that provided the drug bag.

7007.3 Agreement Letter

- a. In order to participate in the GMVEMSC Council Drug Bag Exchange program, the agency will provide the agreement letter that follows to the Greater Miami Valley EMS Council.
- b. A similar example of the agencies' choosing may also be used.



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New Agency Member Policy

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Greater Miami Valley EMS Council
Drug Bag Exchange Program
Agency Agreement Letter

Please type or print legibly

DEPARTMENT/SERVICE:

CONTACT PERSON:

TELEPHONE:

FAX:

This department/service agrees to abide by the GMVEMS Council Drug Bag Exchange Program and Standing Orders.

SIGNATURE:

Fire Chief, EMS Administrator, or Private Ambulance Administrator

DATE:

Return to:
GMVEMSC
124 E. Third St.
Dayton OH 45402

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Subject: Drug Box Exchange Program:
Protocol Testing Compliance Letter

Effective:
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Protocol Testing Compliance

I, _____ (Chief's Name Printed), do hereby certify that all

members of _____ (Agency/ Department Name)

have completed the _____ (year) GMVEMSC Protocol Testing as of _____ (Date

of Completion) with the exception of the following personnel:

(List anyone who has not completed testing)

Chief's Signature

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Subject: Drug Box Exchange Program:
GMVEMSC Drug Bag Discrepancy Report

Effective:
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7009.1 General Guideline

- a. If at any time an EMS provider encounters a discrepancy in the GMVEMS Council Drug Bag they are using, they will notify their agencies' EMS Officer (or their supervisor if an EMS Officer does not exist).
- b. If the EMS provider is at a hospital that participates in the GMVEMS Council Drug Bag Exchange Program, they will log the bag in using the normal procedure at that hospital.
- c. If the discrepancy was discovered after opening the bag, retain the blue seal and the hospital sticker that was attached to the drug bag in question. The tags (or photo copies of the tags) should be attached to the **GMVEMSC Drug Bag Discrepancy Report**.
- d. They will advise the pharmacist or EMS Coordinator of the discrepancy and that they will be initiating the **GMVEMSC Drug Bag Discrepancy Report** provided on the opposite page.
- e. Examples of the **GMVEMSC Drug Bag Discrepancy Report** should be available at all hospitals. They will often be found in the EMS rooms.
- f. The **GMVEMSC Drug Bag Discrepancy Report** will be completed in triplicate with a copy going to the GMVEMS Council, the receiving pharmacy and the EMS agency reporting.
- g. The pharmacist may request a copy of the **GMVEMSC Drug Bag Discrepancy Report**.

END OF SECTION

GMVEMSC Drug Bag Discrepancy Report

If at any time an EMS provider encounters a discrepancy they will notify their EMS Officer of the discrepancy. If the discrepancy was discovered after opening the bag, retain the blue seal and the hospital sticker that was attached to the drug bag in question. If the EMS provider is at the hospital, they will log the bag in using the normal procedure at that hospital. They will advise the pharmacist or EMS Coordinator of the discrepancy and that they will be initiating the Discrepancy form as described below (pharmacist may request a copy of the Discrepancy form).

Date of report: _____ Bag Number: _____ Date Discrepancy discovered: _____

Discovered by: _____ Hospital/EMS Dept making discovery: _____

Have blue Hospital seal ES/NO If yes - Attach seal to report

Tracking:

Date bag was logged out: _____ from (hospital) _____ To (EMS agency)

Date Bag turned in: _____ to (hospital)

Description of the discrepancy: (Attach addendum if additional space needed)

Describe efforts to resolve the discrepancy: (Attach addendum if additional space needed)

Was the discrepancy satisfactorily resolved _____ If not, what steps are to be taken: _____

Who will be responsible for any required reporting: _____

Reporting requirements:

Was a police report filed _____ Date: _____ By whom _____
 Was a DEA report filed _____ Date: _____ By whom _____
 Was the Stat Pharmacy Board notified _____ Date: _____ By whom _____

Required documents submitted to GMVEMSC By: _____ **Date:** _____

For Drug Bag committee use:

Wrong medication stocked		Bag logged out with red seal	
Expired medication found		Empty vials/packages found	
Wrong dose packaged		Open pouch found	
Missing medications		Unsealed bottles found	
Wrong number packaged		Medication found in wrong compartment	
No expiration date on tag		Wrong medication administered	
Atrovent/Albuterol not labeled		Lost or stolen bag	
Damaged medications		Other:	
Other:			



Subject: Drug Box Exchange Program: Report of Theft or Loss of Dangerous Drugs, Controlled Substances and Drug Documents	Effective: June 1, 2021	Last Modified: Dec. 8, 2020
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7010.1 OAC 4729-9-15

(A) Each prescriber, terminal distributor of dangerous drugs, or wholesale distributor of dangerous drugs shall notify the following upon discovery of the theft or significant loss of any dangerous drug or controlled substance, including drugs in transit that were either shipped from or to the prescriber, terminal distributor of dangerous drugs, or wholesale distributor of dangerous drugs:

- (1) The state board of pharmacy, by telephone immediately upon discovery of the theft or significant loss
- (2) If a controlled substance, the drug enforcement administration (DEA) pursuant to section 1301.76(b), Code of Federal Regulations
- (3) Law enforcement authorities pursuant to section 2921.22 of the Revised Code.

(B) Controlled substance thefts must also be reported by using the Federal DEA Report form whether or not the controlled substances are subsequently recovered and/or the responsible parties are identified and action taken against them. A copy of the federal form regarding such theft or loss shall be filed with the State Board of Pharmacy within thirty days following the discovery of such theft or loss.

- (1) An exemption may be obtained upon sufficient cause if the federal form cannot be filed within thirty days.
- (2) A request for a waiver of the thirty-day limit must be requested in writing.

(C) Each prescriber, terminal distributor of dangerous drugs, or wholesale distributor of dangerous drugs immediately upon discovery of any theft or loss of:

- (1) Uncompleted prescription blank(s) used for writing a prescription, written prescription order(s) not yet dispensed, and original prescription order(s) that have been dispensed, shall notify the state board of pharmacy and law enforcement authorities.
- (2) Official written order form(s) as defined in division (Q) of section 3719.01 of the Revised Code shall notify the state board of pharmacy and law enforcement authorities, and the drug enforcement administration (DEA) pursuant to section 1305.12(b), Code of Federal Regulations.

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Subject: Ambulance Restocking Policy

Effective: June 1, 2021

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7011.1 History

- a. The member hospitals of Greater Dayton Hospital Association (GDAHA) have supported Emergency Medical Services agencies in the region for decades.
- b. In 1998, GDAHA received permission (Advisory Opinion No. 98.7) from the Department of Health & Human Services to continue to exchange drugs (GMVEMSC Drug Bag Exchange Program) and supplies with EMS agencies and avoid violating the anti-kickback (safe harbor) statute of the Social Security Act.
- c. The hospitals named in the advisory are in the eight (8) county West Central Region: Champaign, Clark, Darke, Greene, Miami, Montgomery, Preble and Shelby.
- d. In December 2001, the Centers for Medicare and Medicaid Services issued an Ambulance Final Rule on Ambulance Restocking Safe Harbor.
 - i. Elements of the Safe Harbor include:
 1. Billing and claim submission
 2. Documentation
 3. Not tied to referrals
 4. Compliance with other laws

7011.2 EMS Supply Exchange Program:

- a. EMS agencies and personnel should understand the benefits of the EMS Supply exchange program, as offered by GDAHA members participating in this program.
- b. Hospitals are not required to participate in this restocking program.
- c. EMS agencies and personnel must adhere to the agreement, particularly the areas highlighted below:
 - i. For all transports to member hospitals, the EMS agencies will provide the receiving hospital with copies of the written records **describing each of the medical supplies and/or medications utilized by or for the patient during the transport**. In most cases, this should be done immediately after patient transfer.
 - ii. Participating hospitals will restock EMS agency ambulances, at no charge to the EMS agency, with the medical supplies and/or medications which were **utilized by or for the patient during the transport to the receiving hospital**.
- d. **Hospitals will not restock items used on patients delivered to another hospital.**
 - i. Restocking an ambulance at a participating hospital for items used on a patient delivered to a hospital not participating in the agreement will jeopardize this program.
 - ii. It is the responsibility of the EMS agencies to restock items used on patients delivered to a hospital that is not a participant in the Agreement.
- e. **Participating hospitals will restock drug bags.**
- f. Hospitals will not provide medical supplies to a new ambulance, or an old ambulance being returned to service.
 - i. These ambulances must be stocked for the first time by the EMS agency.

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Subject: Diversion of Emergency Patients

Effective: June 1, 2021

Last Modified: June 22, 2021

7012.1 Greater Dayton Area Hospital Association, Greater Miami Valley Emergency Medical Services Council, Greater Montgomery County Fire Chiefs' Association Policy Statement For Temporary Rerouting Of Emergency Patients

- a. When situations exist that prevent the timely treatment of additional emergency cases or certain types of emergency patients, the designated hospital or satellite emergency department (ED) Official will report that they are on "Diversion of Emergency Patients," formerly referred to as rerouting.
- b. For patients impacted by the type of diversion specified, EMS should utilize hospitals in normal status. Transport to a hospital in diversion status may jeopardize patient care more than the delay in treatment caused by longer transport times
- c. To avoid misunderstanding, all parties are cautioned to use the words "divert or diversion" not "closed."

7012.2 Diversion Procedures

- a. The hospital or satellite ED will:
 - i. Update the "GDAHA SurgeNet Web Page."
 1. Anyone with a SurgeNet account can set up email and/or email text alerts for when any hospital changes status.
 2. Notify appropriate dispatch centers. (Hospitals and satellite EDs located in the southern Miami Valley region may also need to contact northern Cincinnati area hospitals or dispatch centers).
 3. Dispatch centers unable to continuously monitor the GDAHA SurgeNet Web Page may provide a phone number to GDAHA which will receive a text to voice notification.
 - ii. Communicate the following information:
 1. Diversion of emergency patients is requested by (name of hospital or satellite ED) because of (specify what situation exists from the options provided below)

7012.3 Diversion Options

- a. LOCKDOWN
 - i. The hospital or satellite ED has activated its disaster plan because of an internal emergency or other situation rendering the hospital or satellite ED unable to accept any emergency patient.
 - ii. EMS will not transport any patient to a facility in lockdown.
- b. DIVERSION OF CERTAIN TYPES OF PATIENTS
 - i. On occasion, hospitals or satellite EDs will not be able to handle a certain type of patient.
 - ii. EMS will not transport this type of patient to the diverting hospital or satellite ED.
 - iii. Examples are but not limited to:
 1. Stroke or head trauma
 2. Hazardous materials exposures
 3. Mental health
 4. ICU
 5. Cardiac
 6. OB
 7. All but major trauma (trauma centers only)



Subject: Diversion of Emergency Patients

Effective: June 1, 2021

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7012.4 Patient Requesting Transport to Hospital on Diversion

- a. When a patient and/or the patient’s physician requests emergency medical services to transport to a hospital which is on diversion, emergency medical services have the responsibility to advise the patient and/or the physician that “due to diversion resulting from (nature of situation), patient care may be jeopardized”.

7012.5 Review and Cancellation of Diversion Status

- a. After two (2) hours the hospital or satellite ED will be notified by page and/or email to review diversion status.
- b. It is the responsibility of the diverting hospital or satellite ED to cancel the diversion status with dispatch centers and update the GDAHA SurgeNet Web page using the same notification protocols used to initiate the diversion procedure.

7012.6 Participating Hospitals (Additional hospitals added upon approval)

Atrium Medical Center (Middletown)

1 Medical Center Dr, Middletown, OH 45005

Austin Boulevard Emergency Center

300 Austin West Blvd., Miamisburg, OH 45342

Dayton Children's Hospital

1 Children’s Plaza, Dayton, OH 45404

Dayton Children’s Hospital – South Campus

South Campus 3333 W. Tech Blvd, Miamisburg, OH 45342

Dayton-Springfield Emergency Center

1840 Springfield Road, Fairborn, OH 45324

Franklin Emergency Center - Kettering Health Network

100 Kettering Way, Franklin, OH 45005

Grand Lake Health System

200 St. Clair Street, St Marys OH 45885

Huber Emergency Center - Kettering Health Network

8701 Troy Pike, Huber Heights, OH 45424

Jamestown Emergency Center

4940 Cottonville Rd, Jamestown, OH 45335

Joint Township District Memorial Hospital

200 St. Clair Ave, St. Marys, OH 45885

Kettering Health Dayton

405 W Grand Ave, Dayton, OH 45405

Kettering Health Greene Memorial

1141 N Monroe Dr, enia, OH 45385

Kettering Health Hamilton

630 Eaton Ave, Hamilton, OH 45013

Kettering Health Main Campus

3535 Southern Blvd, Kettering, OH 45429

Kettering Health Miamisburg

4000 Miamisburg Centerville Rd, Miamisburg, OH 45342

Kettering Health Troy

600 W. Main St., Troy, OH 45373

Kettering Health Washington Township

1997 Miamisburg Centerville Rd, Dayton, OH 45459

Mercy Health – Springfield

100 Medical Center Drive, Springfield, OH 45504

Mercy Health Urbana Hospital

904 Scioto St, Urbana, OH 43078

Miami Valley Hospital

1 Wyoming St, Dayton, OH 45409

Miami Valley Hospital North

9000 N Main St, Dayton, OH 45415

Miami Valley Hospital South

2400 Miami Valley Dr, Centerville, OH 45459

Middletown Emergency Center - Kettering Health Network

6147 W. State Route 122 Middletown, OH, 45005



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Piqua Emergency Center - Kettering Health Network
1 Kettering Way, Piqua OH 45356-4109

Preble Emergency Center - Kettering Health Network
450-B Washington-Jackson Rd, Eaton, OH 45320

Indu and Raj Soin Medical Center
3535 Pentagon Blvd, Beavercreek, OH 45431

Upper Valley Medical Center
3130 N Co Rd 25A, Troy, OH 45373

Dayton VA Medical Center
4100 West 3rd Street, Dayton, OH 45428

Wayne Healthcare
835 Sweitzer St, Greenville, OH 45331

Wilson Memorial Hospital
915 West Michigan Street, Sidney, OH 45365

WPAFB 88th Medical Center
4881 Sugar Maple Dr, Wright-Patterson AFB, OH 45433

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Subject: Hospital Capabilities Chart

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HOSPITAL	Trauma Center	Burn Center	Interventional Cardiac Cath	Stroke Telemedicine	Stroke Primary	Stroke Comprehensive	L & D
Atrium Medical Center (Middletown)	A 3		Cardiac				
Austin Blvd. Emergency Center							
Bethesda Arrow Springs							
Bethesda Butler Hospital							
Christ Hospital Liberty							
Dayton Children’s Hospital	P 1						
Dayton Children’s - South Campus							
Dayton-Springfield Emergency Center							
Franklin Emergency Center - KHN							
Huber Emergency Center - KHN							
Jamestown Emergency Center							
Joint Township District Memorial Hosp.							
Kettering Health Dayton	A 3		Cardiac				
Kettering Health Greene Memorial							
Kettering Health Hamilton	A 3		Cardiac				
Kettering Health Main Campus	A 2		Cardiac				
Kettering Health Miamisburg							
Kettering Health Troy							
Kettering Health Washington Twp.							
McCullough-Hyde Hospital							
Mercy Health - Springfield			Cardiac				
Mercy Health – Urbana Hospital							
Miami Valley Hospital	A 1		Cardiac				
Miami Valley Hospital North							
Miami Valley Hospital South	A 3		Cardiac				
Middletown Emergency Center - KHN							
Piqua Emergency Center - KHN							
Preble Emergency Center - KHN							
Reid Health	A 3		Cardiac				
Indu and Raj Soin Medical Center	A 3		Cardiac				
Upper Valley Medical Center	A3		Cardiac				
Dayton VA Medical Center							
Wayne Health Care							
West Chester Hospital	A 3		Cardiac				
Wilson Memorial Hospital			Cardiac				
WPAFB 88 th Medical Center							

Notes: Comprehensive stroke centers have the capability of endovascular intervention 24/7. Primary stroke centers have CT and tPA capabilities and focus on evaluating patients for intravenous tPA. Telemedicine with tPA ready offers immediate access to a Neurologist.

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Subject: Hospital Contact Information

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Hospitals in **bold type** ask to be called for every patient.

HOSPITAL	PHONE	FAX
Atrium Medical Center, Middletown	513-424-3924	513-420-5133
Austin Boulevard Emergency Center	937-865-9663	937-223-9175
Bethesda Arrow Springs	513-282-7222	513-867-2581
Bethesda Butler Hospital	513-893-8222	513-893-8321
Christ Hospital Liberty	513-648-7874	513-648-7962
Cincinnati Children's Stat Line	513-636-8008	
Dayton Children's Hospital	937-641-4444	937-641-5301
Dayton Children's Hospital South	937-641-5642	937-641-4880
Dayton-Springfield Emergency Center	937-523-8792	937-523-8788
Franklin Emergency Center KHN	937-458-4728	937-458-4737
Huber Heights Emergency Center - KHN	937-558-3301	937-558-3349
Jamestown Emergency Center	937-374-5274	937-374-5275
Joint Township District Memorial Hospital	419-394-7333	419-394-1902
Kettering Health Dayton	937-723-3419	937-723-4609
Kettering Health Greene Memorial	937-372-2297	937-352-3501
Kettering Health Hamilton	513-867-2144	513-867-2581
Kettering Health Main Campus	937-395-8080	937-395-8347
Kettering Health Miamisburg	937-384-8766	937-384-8729
Kettering Health Troy	937-980-7015	937-980-7019
Kettering Health Washington Township	937-435-1832	937-401-6447
Maternity	937-401-6850	937-401-6861
McCullough-Hyde Hospital	513-524-5353	513-523-0144
Mercy Health - Springfield	937-523-1902	937-523-1950
Mercy Health Urbana Hospital	937-484-6160	937-484-6183
Miami Valley Hospital	937-208-2440	937-208-8030
Maternity	937-208-2408	937-208-2651
Miami Valley North Hospital	937-540-1067	937-734-5977
Miami Valley South Hospital	937-438-2662	937-438-2262
Maternity	937-438-5817	
Middletown Emergency Center - KHN	513-261-3415	
Piqua Emergency Center KHN	937-916-2627	937-916-2624
Preble County Emergency Center - KHN	937-456-8328	937-456-8377
Regional Hospital Notification System	937-333-8727	
Reid Memorial Hospital	765-983-3161	765-983-3038
Indu and Raj Sooin Medical Center	937-702-4525	937-702-4509
Upper Valley Medical Center	937-440-9444	937-440-4346
Maternity	937-440-4181	937-440-4340
Dayton VA Medical Center	937-262-2172	937-267-5364
Wayne Health Care	937-547-5777	937-569-6291
West Chester Hospital	513-298-7777	513-298-8978
Maternity	513-298-7777	
Wilson Memorial Hospital	937-498-5300	
WPAFB Medical Center	937-257-3295	937-656-1673

Hospitals in **bold type** ask to be called for every patient.

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Subject: Infectious Disease Exposure Reporting Policy

Effective: June 1, 2021

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7015.1 General Guideline

- a. The purpose of this policy is to provide public safety personnel (including fire, EMS, and law enforcement) and hospitals with a set of standard guidelines and expectations for defining, responding to, and following up on an infection control exposure incident involving an emergency response provider.
- b. This guideline is a cooperative effort between the Greater Miami Valley EMS Council (GMVEMSC) and the Greater Dayton Area Hospital Association (GDAHA).

7015.2 Bloodborne Exposure

- a. Definition Of A Bloodborne Exposure
 - i. An exposure incident that may place a public safety worker at risk for Hepatitis B Virus (HBV), Hepatitis C Virus (HCV), or Human Immunodeficiency Virus (HIV) infections or other blood borne pathogens that includes:
 1. A percutaneous injury (e.g., a needle stick or cut), or
 2. Contact of mucous membrane or non-intact skin (e.g., exposed skin that is chapped, abraded, or afflicted with dermatitis) with blood, tissue, or other body fluids that are potentially infectious.
 - ii. What is NOT an exposure
 1. A percutaneous injury with a clean or sterile needle or instrument.
 2. Intact skin splashed with potentially infectious blood, body fluid, or tissue.
- b. Post Exposure Procedure
 - i. An exposed public safety worker should take the following immediate “first aid” action steps:
 1. Immediately irrigate the involved area.
 2. Flush eyes with copious amounts of IV fluids, if indicated.
 3. Wash skin vigorously with soap and water.
 4. If soap and water is not available, rinse area with another available solution such as IV fluids or a water-based liquid.
 5. Waterless hand cleaners are not recommended for post-exposure gross decontamination, but can be used when other options are not available.
 - ii. The Employee shall report the exposure incident to the receiving hospital and to their immediate supervisor.
 - iii. Exposed employees are required to register as a patient at the same receiving hospital as the source.
 - iv. Once at the receiving hospital, the exposed employee should locate and complete the “Request for Information by Emergency Care Workers (RIECW)” form (see Appendix A).
 - v. When completed, the form should be submitted to the nurse handling the exposed employee’s care in the Emergency Department (ED).
 - vi. The EMS Coordinator for the receiving hospital can serve as a liaison between the organization and the hospital.
 - vii. The department’s infection control officer (ICO) or designated supervisor should, upon receiving notification that there has been an exposure incident, notify the receiving hospital’s EMS



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Coordinator.

- viii. *For the purpose of this policy the “department’s Infection Control Officer (ICO), designated supervisor, or designee” refers to the person responsible for reporting and coordinating an exposed employee’s incident within that Public Safety entity.*
- ix. Follow-up care/exam(s) will be provided to each employee involved when indicated. All follow-up care/exam(s) will be coordinated through your employer.
- c. Testing The Source Patient
- i. A blood sample is required to determine whether a patient has HIV, HBV or HCV. Blood/Body Fluid (B/BF) testing of a source patient includes the following (MMWR, June 29, 2001):
1. HIV antibody
 2. HBV surface antigen (HBsAg)
 3. HCV antibody
- ii. If the source patient is transported to a hospital:
1. The ED obtains patient consent and the blood specimen for testing.
 2. In the event that the patient refuses to or cannot give consent (e.g., due to an altered level of conscious) a hospital’s “infection control committee... or other body of a health care facility performing a similar function” has the authority to obtain the HIV screening when there has been a significant exposure (Ohio Revised Code 3701.242).
- iii. If the source patient refuses transport to a hospital:
1. If the patient refuses to give consent for blood sampling and refuses transport, the public safety worker must follow up with their ICO or designee.
 2. At this point it is a legal matter to obtain the source patient’s blood for testing (Ohio Revised Code 3701.247).
 3. Following a significant exposure in which the source patient refuses to provide a blood sample and refuses transport, the employee should seek immediate medical evaluation and counseling for their selves (MMWR, Sept. 30, 2013).
 4. In cases where the patient refuses transport, or in exposure incidents where the source patient is unknown, an exposed employee should follow the steps outlined in **7018.2e - Patients Not Transported to a Hospital**.
 5. EDs or hospitals will not run source patient blood samples if the source patient is not a patient at their hospital.
- d. Source Patient (Transported To Hospital) Results
- i. Hospital-run HIV test results should be available within an hour (may be longer for “stand alone” or smaller EDs) HBV and HCV results may not be available for several days.
 - ii. The exposed employee is expected to remain a patient in the ED until they have received the results of the rapid HIV test and any additional counseling from the attending physician.
 - iii. The employee is expected to communicate his/her follow-up needs to your department’s ICO or designated supervisor.
 - iv. Written notification of positive test results shall be provided directly to the affected employee by the hospitals designated infection control point of contact within three (3) days after oral



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notification (Ohio Revised Code 3701.248).

- v. Confidentiality of the source patient and public safety worker information shall be maintained
 - vi. Only information pertaining to source patient results will be released to the organization's ICO or designee and/or an employee who is still present in the ED as described above.
 - vii. The department ICO or designee and the public safety worker shall not disclose any medical information publicly about the source patient.
- e. Patients Not Transported To A Hospital By EMS
- i. Employees should notify their immediate supervisor, and their immediate supervisor should notify the organization's ICO or designee. Federal regulations dictate that, "following report of an exposure, the employer shall make immediately available to the exposed employee a confidential medical evaluation and follow-up" (OSHA 29 CFR, 1910.1030(f) (3)).
 - ii. Exposed employee should be directed to any ED for treatment.
 - iii. Employee shall locate, complete, and sign the Request for Information by Emergency Care Workers (RIECW) Form (Appendix A), which should be available, completed, and submitted to the nurse handling care in the ED.
 - iv. If the public safety worker is aware that the patient went to an ED by other means, the employee's supervisor may call the ED charge nurse of the patient's destination and notify them of the exposure, with a request to obtain baseline testing of the source patient.
 - v. The written Request for Notification of Test Results shall be faxed to the ED charge nurse as soon as possible by the employee or the department's ICO.
- f. Prophylaxis For Blood/Body Fluid Exposed Public Safety Worker
- i. Post-exposure prophylaxis (PEP) treatment may be offered to the public safety worker by the ED or workplace health provider in accordance with current clinical guidelines and local PEP protocols. Additionally, the employee may wish to consult their personal physician.
 - 1. The decision to take PEP includes a risk-based assessment based on known or unknown source patient and type of exposure.
 - 2. Employees receiving PEP treatment should be followed up within 72 hours of starting treatment.
 - 3. The PEP treatment decision should consider laboratory results when available.
 - ii. HIV prophylaxis:
 - 1. Decisions about chemoprophylaxis can be modified if additional information becomes available.
 - 2. Public safety workers must register as ED patients to receive HIV prophylaxis from the hospital.
 - 3. HIV PEP should be started as soon as possible.
 - 4. Consideration should be given by the ED for expert consultation and guidance on HIV PEP (e.g., infectious disease physician, MMWR, 2011) or the National Clinicians' Post Exposure Prophylaxis Hotline 888-448-4911).
 - 5. Counseling should be made available through the agency's employee assistance program (EAP) or by contractual agreements.



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iii. Hepatitis Prophylaxis

1. Hepatitis Prophylaxis is dependent on the public safety worker's vaccine status.
2. A small percentage of immunized individual's protection from the vaccine declines over time, which may require Hepatitis B Immunoglobulin (HBIG) and additional doses of the Hepatitis B vaccine to protect against both the current exposure and future exposures.
3. The results of the HBV Surface Antibody test will demonstrate the employee's immunity to HBV, but are not typically given in the ED as the results of the HBV Surface Antibody test are usually not available immediately.
4. Employees must follow up with his/her organization's workplace health provider for related prophylaxis as soon as possible.
5. There is no prophylaxis for HCV at this time. In cases of positive source HCV results, the employee should follow up with their workplace health provider for evaluation and care.

g. Public Safety Worker Baseline Testing

- i. Baseline testing of the exposed public safety worker is the employee's choice.
- ii. Agencies should maintain signed statements of employees who decline baseline testing/evaluation at the time of an exposure.
- iii. Baseline testing is the term given to the set of initial laboratory tests that should be drawn on an exposed employee.
- iv. This data may be used to compare future assessments in determining if an infectious disease was contracted.
- v. Baseline testing is not emergent however, evaluation for PEP as discussed above should be considered urgent and care sought immediately.
- vi. In cases where PEP was determined not an appropriate emergency treatment, the public safety worker should seek follow up care as instructed.
- vii. This follow up should be by the organization's workplace health provider. This follow up should optimally occur the next day and no later than seven days post exposure (MMWR, 2001).
- viii. In cases where the source patient testing is negative but the public safety worker still wants further testing, the employee is encouraged to follow up with their private physician or your department's workplace health provider.
- ix. Public safety worker baseline testing includes at minimum:
 1. HIV antibody
 2. Hepatitis B surface antibody
 3. Hepatitis C virus antibody
- x. A positive Hepatitis and/or HIV test of the source patient should trigger viral load testing of the source patient.

7015.3 Respiratory Exposure

a. Definition Of A Respiratory Exposure

- i. Respiratory exposure is defined as contamination with an infectious agent through the respiratory tract.
- ii. This occurs via one of two routes (*CDC, Rationale for Isolation Precautions in Hospitals, 1996*):



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- iii. Via airborne infectious agents with small-particle residue 5 m or smaller of evaporated droplets containing microorganisms that remain suspended in the air for long periods of time (example is tuberculosis, rubella, and varicella virus).
 - iv. Via droplet infectious agents which are propelled a short distance (less than three feet) through the air by coughing or sneezing: these droplets are acted upon rapidly by gravity (examples are meningitis, pertussis and influenza).
 - v. Respiratory exposures may not be immediately known by the public safety worker, especially if the patient is not overtly symptomatic.
- b. Immediate actions of the airborne-exposed public safety worker
- i. Don PPE as soon as possible at the scene or during transport if the patient is known to have a respiratory infection or is coughing or spraying secretions.
 - ii. If secretions are splashed or coughed into the eyes or other mucous membranes, flush with copious amounts of IV fluids as soon as possible.
 - iii. The public safety worker who suspects or is notified of respiratory exposure:
 - 1. Notify the department ICO that an exposure occurred
 - 2. Notify the ED charge nurse of the exposure upon delivery of the patient
 - 3. Complete the *Request for Notification of Test*.
 - 4. In these cases being checked in as an ED patient may or may not be necessary.
 - iv. Upon receipt of the source patient's diagnosis, follow-up care and prophylaxis may be necessary for those exposed.
 - 1. At this point exposed employees may have to return to the receiving hospital and be checked in as a patient to receive care.
 - 2. In other situations follow-up care and prophylaxis may come from your department's workplace health provider.
- c. Prophylaxis For The Airborne-Exposed Public Safety Worker
- i. If an exposed employee needs prophylaxis, prophylaxis should be coordinated thru the receiving (or notifying) hospital or when immediately available at the department's workplace health provider's clinic.
- d. Testing The Source Patient
- i. Source testing for respiratory exposures is done by the hospital based on patient symptoms.
- e. Source Patient Results
- i. The hospital ICO or designee will notify the department ICO or designee of the infectious agent as soon as possible after symptoms of clinical presentation, or within 48 hours of a positive infectious agent determination.
 - ii. our organization's ICO, possibly after consulting with your department physician, will assess the potential exposure of the employee based on the interaction history with the source patient and the agent involved.
 - iii. Confidentiality of source patient and the employee's information shall be maintained.



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- iv. Only information pertaining to source patient results will be released to the department's ICO.

7015.4 Blood or Body Fluid & Airborne Exposures By Coroner's Cases

- a. Exposure during resuscitation
- i. In cases where there is a public safety worker exposure during resuscitation efforts, it is recommended that crews transport the patient to the hospital where source testing can be performed, rather than follow field termination procedures.
 - ii. However, in some incidents, exposure of a public safety worker may occur from a deceased victim who must remain at a scene for a period of time pending a coroner's investigation.
- b. Immediate actions of the exposed provider:
- i. Decontaminate self as described in previous sections.
 - ii. Notify the department ICO or designee that the exposure occurred.
 - iii. At the direction of the department ICO or designee, seek treatment at an ED or at your organization's workplace health provider.
 - iv. Consider prophylaxis based on the index of suspicion.
- c. Actions of the ICO or designee:
- i. The Coroner or Coroner's Investigator shall be notified as soon as possible by the department's ICO or designee that an exposure has occurred.
 - ii. A *Request for Information by Emergency Care Workers* form (Appendix A) shall be forward to the Coroner's Office as soon as possible after notification.
- d. Testing the source patient:
- i. The Coroner shall make every effort to test a source patient by the next business day of being notified of the exposure.
 - ii. In some cases, the Coroner may elect to send a specimen to an outside lab for testing. The public safety worker shall not wait for testing results from the Coroner to seek medical evaluation.
- e. Source patients test results:
- i. The Coroner or Deputy Coroner shall notify the department ICO or designee of source patient test results as soon as possible.
 - ii. Oral notification of source HIV status (positive or negative) shall be provided to the department ICO or designee within two days of test results, and written notification of positive test results shall be provided within three days after oral notification (ORC 3701.248).



Subject: Infectious Disease Exposure Reporting Policy

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Appendix A

REQUEST NO. 10349

REQUEST FOR INFORMATION BY EMERGENCY CARE WORKERS

PLEASE PRINT - Use Blue or Black Ink - PRESS HARD

This form is for use by emergency care workers to request information on the presence of a contagious or infectious disease (if known) of a person, alive or dead, who has been treated, handled, or transported for medical care by an emergency care worker.

Before you can be provided with this information, you must believe that you have suffered significant exposure through contact with the person about whom you are requesting the information. A significant exposure means:

- (1) A percutaneous (break in skin or needle stick) or mucous membrane exposure (eyes, nose, mouth) to the blood, semen, vaginal secretions, or spinal, synovial (joint, bone, tendon), pleural (lung), peritoneal (abdomen), pericardial (heart), or amniotic fluid of another person; or
(2) Exposure to a contagious or infectious disease.

You may expect to receive a reply to this request within 2 days after contagious or infectious disease testing results are known. This may be longer than 2 days after you submit your request. A written notification will follow. Your supervisor will also be informed.

Deposit top (white) copy in designated area or with charge nurse. Submit yellow copy to your agency or employer. Retain pink copy.

The requestor should follow his/her agency's or employer's exposure control plan for post-exposure follow up.

PLEASE PRINT CLEARLY

- 1. Your Name:
2. Your Home Address: City/State/Zip:
3. Your telephone number: Home: Work: Pager:
4. Have you completed more than two (2) injections in Hepatitis B series. Yes No
5. Employer or volunteer agency for whom you were administering health care when exposure occurred: Employer or Agency: Address: City/State/Zip: Phone:
6. Name of your supervisor at above listed place of employment or volunteer agency:
7. Regarding the exposure, what was Name of Source Patient: Date: Time: Place: Manner of exposure: Dirty Needle Stick Broken Skin Exposure Splash - Eye, Nose, Mouth Unprotected Mouth to Mouth
Other: Describe the Incident (be specific)

This is to attest that the above statements are true and correct to the best of my knowledge and belief.

Your Signature: Date:

ACKNOWLEDGEMENT

Name of Health Care Facility/Coroner:
Name of Person Receiving Request:
Signature of Person Receiving Request:
Received: Date Time

White: Hospital/Coroner

Yellow: Agency/Employer

Pink: Requestor's Copy



Subject: Infectious Disease Exposure Reporting Policy

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Appendix B

RESPONSE TO EMERGENCY CARE WORKER REQUEST FOR MEDICAL INFORMATION

REQUEST NO. _____

THIS INFORMATION HAS BEEN DISCLOSED TO YOU FROM CONFIDENTIAL RECORDS PROTECTED FROM DISCLOSURE BY STATE LAW. YOU SHALL MAKE NO FURTHER DISCLOSURE OF THIS INFORMATION WITHOUT THE SPECIFIC, WRITTEN, AND INFORMED RELEASE OF THE INDIVIDUAL TO WHOM IT PERTAINS, OR AS OTHERWISE PERMITTED BY STATE LAW. A GENERAL AUTHORIZATION FOR THE RELEASE OF MEDICAL OR OTHER INFORMATION IS NOT SUFFICIENT FOR THE PURPOSE OF THE RELEASE OF HIV TEST RESULTS OR DIAGNOSES, DISCLOSED ON THIS FORM.

1. Date of oral report: _____ Person giving report: _____
Report given to worker [] Supervisor [] Supervisor's name _____
Written report will be given to worker and supervisor within 3 working days following oral notification of final results.

2. Date of written report: _____ Person sending report: _____
Report sent to worker [] supervisor [] Supervisor's name _____

3. Your request for information has been received.
a. [] The request has been rejected because: _____

Presence of a contagious or infectious disease at this time is unknown due to:

- b. [] No tests were performed. c. [] The source person in question has refused HIV testing.
d. [] Source patient discharged home. e. [] No blood available
f. [] Source patient discharged to health care facility/coroner's office/funeral home.

Address of facility/coroner's office/funeral home (if known): _____

g. The following tests were performed on source patient with negative results: _____

h. Testing on source person in question was positive for: _____

Comments: _____

- 4. Written and oral report included:
[] Name of disease [] (Medical) precautions necessary to prevent transmission
[] Signs & symptoms of disease [] Recommended prophylaxis (if any)
[] Date of Exposure [] Suggested treatment
[] Incubation period of disease [] Appropriate Counseling
[] Mode of transmission

5. Sources of materials provided regarding disease: _____

6. It is expected that the emergency care worker will consult a physician in cases of true disease exposure. It is understood by provider of report and recipients that decisions related to prophylaxis, treatment, and counseling will be at the discretion of that physician.

THIS RESPONSE PROVIDES ALL INFORMATION AVAILABLE AS OF THE DATE OF THIS WRITTEN RESPONSE. ANY ADDITIONAL REQUEST WILL NEED TO BE SUBMITTED FOR ANY FUTURE INFORMATION REGARDING THIS PATIENT.

White: Requestor's Copy Yellow: Agency/Employer Pink: Hospital Infection Control Committee/Coroner

4-2014

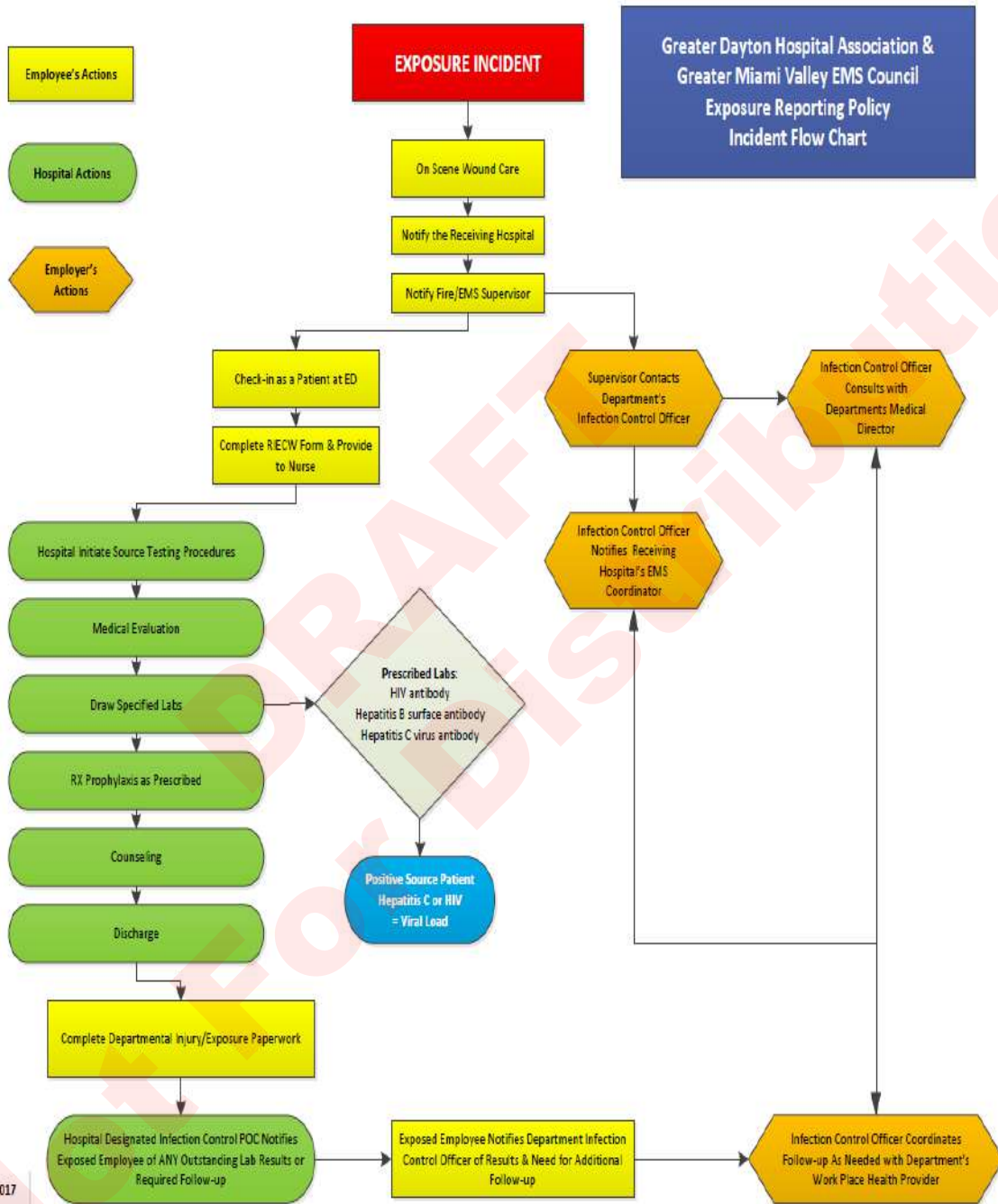


Subject: Infectious Disease Exposure Reporting Policy

Effective: June 1, 2021

Last Modified: Jan. 31, 2021

Exposure Incident Flowchart



Revised 4/2017

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8000 Series

EMS Drug Formulary

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Subject: Adenosine (Adenocard)

Effective: June 1, 2021

Last Modified: Oct. 10, 2021

EMR	EMT	AEMT	Paramedic
Packaging	<ul style="list-style-type: none"> 6 mg (1 in drug bag) and 12 mg (2 in drug bag) prefilled syringes 		
Indications	<ul style="list-style-type: none"> Stable Paroxysmal Supraventricular Tachycardia (PSVT) 		
Adult Dosing	<ul style="list-style-type: none"> ▲ 6 mg rapid IV as quickly as possible ▲ If not successful, may repeat 12 mg rapid IV. ▲ If not successful, may repeat 12 mg rapid IV. ▲ All doses of Adenosine are followed by 20 ml bolus of IV fluid. ▲ Go directly to 12 mg if patient with history of PSVT advises it takes 12 mg. May repeat once. 		
Pediatric Dosing	<ul style="list-style-type: none"> P 6 mg/kg rapid IV followed by 10 ml rapid saline flush. Max single dose 6 mg. P If unsuccessful, 0.2 mg/kg rapid IV followed by 10 ml rapid saline flush. P Max single dose 12 mg. May repeat x one. 		
Therapeutic Action	<ul style="list-style-type: none"> Decreases electrical conduction through the AV node without causing negative inotropic effects Acts directly on SA node to decrease chronotropic activity 		
Contraindications	<ul style="list-style-type: none"> Second or third degree AV block or sick sinus syndrome Hypersensitivity to Adenosine 		
Precautions And Side Effects	<ul style="list-style-type: none"> Lightheadedness, Paresthesia Headache Diaphoresis Palpitations Chest pain Hypotension Shortness of breath, Transient periods of sinus bradycardia, sinus pause, or asystole Ventricular ectopy Nausea Metallic taste. May produce bronchoconstriction in patients with asthma and in patients with bronchopulmonary disease 		
Medical Control	<ul style="list-style-type: none"> • Adult patient: No • Pediatric Patient: No 		
Protocols	<ul style="list-style-type: none"> • Cardiac Protocol 2011 - Tachycardia 		
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Subject: Albuterol (Proventil)

Effective: June 1, 2021

Last Modified: Oct. 29, 2021

EMR	EMT	AEMT	Paramedic
Packaging	<ul style="list-style-type: none"> 2.5 mg in 3 ml plastic ampule (4 in drug bag) 		
Indications	<ul style="list-style-type: none"> For the EMT, AEMT and Paramedic: <ul style="list-style-type: none"> Exacerbation of Asthma, Emphysema, or COPD Bronchospasm in Asthma, COPD Allergic reaction with wheezing For the Paramedic only: <ul style="list-style-type: none"> Hyperkalemia in the presence of Crush Syndrome Trauma 		
Adult Dosing	<p>▲ 2.5 mg (3 ml), nebulized with O₂ at 8-10 LPM.</p> <p>▲ Combine Ipratropium with first dose of Albuterol.</p> <p>▲ May repeat Albuterol up to 2 times for a total of 3 doses</p> <p>▲ Give all 4 doses for hyperkalemia</p> <p>▲ In Crush syndrome: administer 10 mg nebulized</p>		
Pediatric Dosing	<p>P 2.5 mg (3 ml), nebulized with O₂ at 8-10 LPM.</p> <p>P Combine Ipratropium with first dose of Albuterol.</p> <p>P May repeat Albuterol up to 2 times for a total of 3 doses</p> <p>P In Crush syndrome: administer 10 mg nebulized</p>		
Therapeutic Action	<ul style="list-style-type: none"> Bronchodilator 		
Contraindications	<ul style="list-style-type: none"> Prior hypersensitive reaction to Albuterol Cardiac dysrhythmias associated with tachycardia. 		
Precautions And Side Effects	<ul style="list-style-type: none"> Once initiated, the patient should be removed by EMS. Side Effects <ul style="list-style-type: none"> Restlessness Apprehension Dizziness Palpitations Tachycardia Dysrhythmias May precipitate angina pectoris 		
Medical Control	<ul style="list-style-type: none"> Adults: For the EMT: es For the AEMT or Paramedic: No Pediatrics: For the EMT: es For the AEMT or Paramedic: No 		
Protocols	<ul style="list-style-type: none"> General Protocol 1008 Advanced Airway Management Trauma Protocol 3007 Crush Syndrome Trauma (Paramedic only) Medical Protocol 4002 Allergic Reaction/Anaphylaxis Medical Protocol 4003 Asthma/Emphysema/COPD 		
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Subject: Amiodarone (Cordarone)

Effective: June 1, 2021

Last Modified: Oct. 10, 2021

EMR	EMT	AEMT	Paramedic
Packaging	<ul style="list-style-type: none"> 150 mg in 3 ml vial, 50 mg/ml 3 vials in drug bag 		
Indications	<ul style="list-style-type: none"> Ventricular Fibrillation or Pulseless Ventricular Tachycardia Stable Wide-Complex Tachycardia 		
Adult Dosing	<ul style="list-style-type: none"> <u>Ventricular Fibrillation or Pulseless Ventricular Tachycardia</u> <ul style="list-style-type: none"> A 300 mg IV or IO. A May repeat with half the initial dose (150 mg IV or IO) no sooner than 10 minutes after first dose. <u>If patient converts with ROSC from a ventricular arrhythmia and no anti-arrhythmic has been given:</u> <ul style="list-style-type: none"> A 150 mg in 250 ml NS, IV wide open over 10 minutes using 60 gtt/ml tubing & 18 g angiocath <u>Stable Wide-Complex Tachycardia:</u> <ul style="list-style-type: none"> A 150 mg in 250 ml NS, IV wide open over 10 minutes using 60 gtt/ml tubing & 18 g angiocath 		
Pediatric Dosing	<ul style="list-style-type: none"> <u>Ventricular Fibrillation or Pulseless Ventricular Tachycardia</u> <ul style="list-style-type: none"> P 5 mg/kg IV or IO (max first dose 300 mg). P May repeat with half the initial dose (2.5 mg/kg IV or IO) no sooner than 10 minutes after first dose. <ul style="list-style-type: none"> Max repeat dose is 150 mg Not indicated for stable wide complex tachycardia 		
Therapeutic Action	<ul style="list-style-type: none"> Antidysrhythmic agent with multiple mechanisms of action 		
Contraindications	<ul style="list-style-type: none"> Pulmonary congestion Cardiogenic shock Hypotension (SBP less than 100) Sensitivity to Amiodarone 		
Precautions And Side Effects	<ul style="list-style-type: none"> Continuous EKG monitoring is required. Side Effects <ul style="list-style-type: none"> Hypotension Headache Dizziness Bradycardia AV conduction abnormalities Flushed skin Abnormal salivation 		
Medical Control	<ul style="list-style-type: none"> Adult patient: No Pediatric Patient: No 		
Protocols	<ul style="list-style-type: none"> Cardiac Protocol 2005 Cardiac Arrest: Ventricular Fib or Pulseless V-Tach Cardiac Protocol 2011 Tachycardia 		
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Subject: Aspirin (Abbreviated as ASA)

Effective: June 1, 2021

Last Modified: Oct. 10, 2021

EMR	EMT	AEMT	Paramedic
Packaging	<ul style="list-style-type: none"> 81mg tablets in a blister pack (4 tablets total) 		
Indications	<ul style="list-style-type: none"> Given as soon as possible to the patient with AMI. 		
Adult Dosing	<ul style="list-style-type: none"> 324 mg chewed (Four 81 mg tablets) 		
Pediatric Dosing	<ul style="list-style-type: none"> Not applicable to pediatric patients 		
Therapeutic Action	<ul style="list-style-type: none"> Anti-platelet 		
Contraindications	<ul style="list-style-type: none"> Hypersensitivity to salicylates Active ulcer disease Bleeding disorders Third trimester pregnancy 		
Precautions And Side Effects	<ul style="list-style-type: none"> Suspected cardiac chest pain must be at least 25 years old. Patient <u>must</u> chew the tablets Side Effects <ul style="list-style-type: none"> Stomach irritation Heartburn or indigestion Nausea or vomiting Allergic reactions 		
Medical Control	<ul style="list-style-type: none"> Adult patient: For all levels: No, unless patient is younger than 25 years old with AMI symptoms. For EMTs: es, unless assisting the patient with their own medications. Pediatric Patient: Not applicable 		
Protocol	<ul style="list-style-type: none"> Cardiac Protocol 2008 Suspected Cardiac Chest Pain Medical Protocol 4011 Obstetrical Emergencies 		
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Subject: Atropine

Effective: June 1, 2021

Last Modified: Oct. 10, 2021

EMR	EMT	AEMT	Paramedic
Packaging	<ul style="list-style-type: none"> • 1mg in 10 ml prefilled syringe (3 in drug bag) • In Haz Mat/WMD Security Bag: <ul style="list-style-type: none"> ○ Duodote: 2 mg auto-injector (<i>along with 2-Pam 600 mg autoinjector</i>) • In WMD Drug Caches and Chempacks: <ul style="list-style-type: none"> ○ 2 mg, 1mg and 0.5 mg AtroPen auto-injectors ○ Multidose vial 8 mg in 20 ml, 0.4 mg/ml 		
Indications	<ul style="list-style-type: none"> • Symptomatic bradycardia • Organophosphate or Nerve Agent poisoning (regardless of cardiac rate) 		
Adult Dosing	<p>A <u>Bradycardia</u>: 1 mg IV up to 3 mg</p> <p>A <u>Organophosphate or Nerve Gas poisoning</u>:</p> <p>A ♦ For EMR, EMT, AEMT or Paramedic: 2 mg Duodote auto-injector. Paramedic only: 2 mg IV, IO or IM</p> <p>A No max dose, given every 5 min or until lungs are clear to auscultation.</p>		
Pediatric Dosing	<p>P <u>Bradycardia</u>: 0.02 mg/kg IV or IO every 5 min.</p> <p>P Minimum single dose of 0.1 mg, max single dose 0.5 mg</p> <p>P Maximum <i>total</i> dose 1 mg</p> <p>P <u>Organophosphate or Nerve Gas poisoning</u>:</p> <p>P For EMR, EMT, AEMT or Paramedic:</p> <p>P ♦ Less than 20 kgs: 0.5 mg AtroPen auto-injector</p> <p>P ♦ 20 - 40 kgs: 1.0 mg AtroPen auto-injector</p> <p>P ♦ Greater than 40 kgs: 2.0 mg AtroPen auto-injector</p> <p>P Paramedic only: ♦ May give atropine doses listed IV or IM</p> <p>P No max dose, given every 5 minutes or until lungs are clear to auscultation.</p>		
Therapeutic Action	<ul style="list-style-type: none"> • Anticholinergic 		
Contraindications	<ul style="list-style-type: none"> • None for severe organophosphate exposure. • Tachycardia • Hypersensitivity to atropine • Obstructive disease of GI tract • Obstructive neuropathy • Unstable cardiovascular status in acute hemorrhage with myocardial ischemia • Narrow angle glaucoma • Thyrotoxicosis 		
Precautions And Side Effects	<ul style="list-style-type: none"> • EMR, EMT and AEMT can <u>only</u> administer the Duodote auto-injector to Organophosphate or Nerve Agent patients • Pupillary dilation rendering the pupils nonreactive. Pupil response may not be useful in monitoring CNS status. • Side Effects <ul style="list-style-type: none"> ○ Dysrhythmias, tachycardia, palpitations ○ Paradoxical bradycardia when pushed too slowly or when used at doses less than 0.5 mg ○ Headache or dizziness ○ Anticholinergic effects (dryness, photophobia, blurred vision, urinary retention, constipation) ○ Nausea and vomiting ○ Flushed, hot, dry skin ○ Allergic reactions. 		
Medical Control	<ul style="list-style-type: none"> • Adult patient: Bradycardia —No, Organophosphate Nerve Agent Poisoning— es • Pediatric Patient: Bradycardia—No, Organophosphate Nerve Agent Poisoning— es 		
Protocol	<ul style="list-style-type: none"> • Cardiac Protocol 2009 Cardiac Alert Program • Cardiac Protocol 2010 Bradycardia • Special Operations Protocol 6002 Antidote Resources • Special Operations Protocol 6005 Organophosphate or Nerve agent Exposure 		
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Subject: Calcium Chloride 10

Effective: June 1, 2021

Last Modified: Oct. 10, 2021

EMR	EMT	AEMT	Paramedic
Packaging	<ul style="list-style-type: none"> 1 gram in 10 ml vial, 100 mg/ml (1 in drug bag) 		
Indications	<ul style="list-style-type: none"> Renal dialysis patient in cardiac arrest or with ♦ bradycardia Calcium Channel Blocker OD ♦ Hydrofluoric Acid exposure with tetany <u>or</u> cardiac arrest. <ul style="list-style-type: none"> Tetany may present as: overactive neurological reflexes, spasms of the hands and feet, cramps, and laryngospasm. May be given prophylactically, after exposure to high concentration (40) Hydrofluoric Acid ♦ Adults with Crush Syndrome presenting with abnormal ECG or hemodynamic instability 		
Adult Dosing	<ul style="list-style-type: none"> A 1 gm (10 ml) IV for: <ul style="list-style-type: none"> Cardiac arrest in renal dialysis patients ♦ Calcium Channel Blocker OD ♦ Hydrofluoric Acid exposure with tetany or cardiac arrest A ♦ For prophylaxis in high concentration Hydrofluoric Acid exposure: 400 mg (4 ml) IV A ♦ Renal dialysis patient with bradycardia: 1 gm (10 ml) IV A ♦ Crush syndrome: 1 gm (10 ml) IV 		
Pediatric Dosing	<ul style="list-style-type: none"> P 20 mg/kg IV (max dose 500 mg) for: <ul style="list-style-type: none"> Cardiac arrest in renal dialysis patients ♦ Calcium Channel Blocker OD P ♦ Call in advance to treat crush syndrome or hydrofluoric acid exposures in pediatric patients 		
Therapeutic Action	<ul style="list-style-type: none"> Antagonizes cardiac toxicity in hyperkalemia associated with dialysis patients. Reverses symptoms of Calcium Channel Blocker 		
Contraindications	<ul style="list-style-type: none"> None in the emergency setting 		
Precautions And Side Effects	<ul style="list-style-type: none"> Do not administer with Sodium Bicarbonate because if mixed, a precipitate develops. Flush tubing between drugs. Side Effects: <ul style="list-style-type: none"> Bradycardia (may cause asystole) Hypotension Metallic taste Severe local necrosis and sloughing following IV infiltration May produce vasospasm in coronary and cerebral arteries Hypertension and bradycardia may occur with rapid administration. 		
Medical Control	<ul style="list-style-type: none"> Adults: <ul style="list-style-type: none"> Cardiac Arrest—No Renal dialysis patient in bradycardia--- es Calcium Channel Blocker OD— es Hydrofluoric Acid Exposure— es Crush syndrome— es Pediatrics <ul style="list-style-type: none"> Arrest—No Calcium Channel Blocker OD— es Hydrofluoric Acid Exposure— es Crush syndrome-- es 		
Protocol	<ul style="list-style-type: none"> Cardiac Protocol 2004 Cardiac Arrest - Renal Failure/Dialysis Cardiac Protocol 2010 Bradycardia Trauma Protocol 3007 Crush Syndrome Trauma Medical Protocol 4012 Overdose or Poisoning Special Operations Protocol 6004 Hydrofluoric Acid Exposure 		
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Subject: Calcium Gluconate

Effective: June 1, 2021

Last Modified: Oct. 10, 2021

EMR	EMT	AEMT	Paramedic
Packaging	<ul style="list-style-type: none"> 1 gram in 10 ml vial, 100 mg/ml. Only in the drug bag in the event of Calcium Chloride 10 shortage 		
Indications	<ul style="list-style-type: none"> Renal dialysis patient in cardiac arrest or with ♦ bradycardia Calcium Channel Blocker OD ♦ Hydrofluoric Acid exposure with tetany <u>or</u> cardiac arrest. <ul style="list-style-type: none"> Tetany may present as: overactive neurological reflexes, spasms of the hands and feet, cramps, and laryngospasm. May be given prophylactically, after exposure to high concentration (40) Hydrofluoric Acid ♦ Adults with Crush Syndrome presenting with abnormal ECG or hemodynamic instability 		
Adult Dosing	<p>A 1 gm (10 ml) IV for:</p> <ul style="list-style-type: none"> Cardiac arrest in renal dialysis patients ♦ Calcium Channel Blocker OD ♦ Hydrofluoric Acid exposure with tetany or cardiac arrest <p>A ♦ For prophylaxis in high concentration Hydrofluoric Acid exposure: 400 mg (4 ml) IV</p> <p>A ♦ Renal dialysis patient with bradycardia: 1 gm (10 ml) IV</p> <p>A ♦ Crush syndrome: 1 gm (10 ml) IV</p>		
Pediatric Dosing	<p>P 20 mg/kg IV (max dose 500 mg) for:</p> <ul style="list-style-type: none"> Cardiac arrest in renal dialysis patients ♦ Calcium Channel Blocker OD <p>P ♦ Call in advance to treat crush syndrome or hydrofluoric acid exposures in pediatric patients</p>		
Therapeutic Action	<ul style="list-style-type: none"> Antagonizes cardiac toxicity in hyperkalemia associated with dialysis patients. Reverses symptoms of Calcium Channel Blocker 		
Contraindications	<ul style="list-style-type: none"> None in the emergency setting 		
Precautions And Side Effects	<ul style="list-style-type: none"> Do not administer with Sodium Bicarbonate because if mixed, a precipitate develops. Flush tubing between drugs. Side Effects: <ul style="list-style-type: none"> Bradycardia (may cause asystole) Hypotension Metallic taste Severe local necrosis and sloughing following IV infiltration May produce vasospasm in coronary and cerebral arteries Hypertension and bradycardia may occur with rapid administration. 		
Medical Control	<ul style="list-style-type: none"> Adults: <ul style="list-style-type: none"> Cardiac Arrest—No Renal dialysis patient in bradycardia— es Calcium Channel Blocker OD— es Hydrofluoric Acid Exposure— es Crush syndrome— es Pediatrics <ul style="list-style-type: none"> Arrest—No Calcium Channel Blocker OD— es Hydrofluoric Acid Exposure— es Crush syndrome-- es 		
Protocol	<ul style="list-style-type: none"> Cardiac Protocol 2004 Cardiovascular Emergencies: Renal Failure/Dialysis Cardiac Protocol 2010 Bradycardia Trauma Protocol 3007 Crush Syndrome Trauma Medical Protocol 4012 Overdose or Poisoning Special Operations Protocol 6004 Hydrofluoric Acid Exposure 		
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Subject: Ciprofloxacin (Cipro)

Effective: June 1, 2021

Last Modified: Oct. 10, 2021

EMR	EMT	AEMT	Paramedic
Packaging	<ul style="list-style-type: none"> • Tablets 		
Indications	<ul style="list-style-type: none"> • As prophylaxis against Anthrax, Cholera or Plague 		
Adult Dosing	<p>A ♦ 500 mg tablet by mouth, twice a day</p>		
Pediatric Dosing	<p>P ♦ Dosage will be specified at time of incident.</p>		
Therapeutic Action	<ul style="list-style-type: none"> • Antibiotic 		
Contraindications	<ul style="list-style-type: none"> • Allergy to quinolones • Tendon pain or inflammation • Pediatrics • Pregnancy 		
Precautions And Side Effects	<ul style="list-style-type: none"> • Side Effects <ul style="list-style-type: none"> ○ Atrial flutter ○ Hypotension ○ Premature Ventricular Contractions ○ QT prolongation ○ Torsade De Pointes, ○ Tendon pain/inflammation 		
Medical Control	<ul style="list-style-type: none"> • Adult: es • Pediatric: es 		
Protocol	<ul style="list-style-type: none"> • Pediatric Considerations 5002 Newborn Care and Resuscitation • Special Operations Protocol 6006 Other Hazardous Materials 		
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Subject: Dextrose 10 (D10)

Effective: June 1, 2021

Last Modified: Oct. 10, 2021

EMR	EMT	AEMT	Paramedic
Packaging	<ul style="list-style-type: none"> 500 ml of D10W, contains 50 g Dextrose 1 bag of solution in drug bag 		
Indications	<ul style="list-style-type: none"> Diabetic with mental status changes Evidence of hypoglycemia in cardiac arrest Generalized hypothermia with or without arrest Altered level of consciousness of unknown cause Seizures with BGL of less than 60 mg/dl No blood sugar monitor is available or suspicion of hypoglycemia despite glucometer readings. 		
Adult Dosing	<p>A 250 ml IV at wide open rate</p> <p>A May repeat in 10 minutes if patient fails to respond or BGL remains less than 60 mg/dl.</p> <p>A Maximum dose is 500 ml.</p>		
Pediatric Dosing	<p>P Pediatric patients:</p> <p> P 5 ml/kg</p> <p> P Maximum dose is 250 ml</p> <p>P Newborn patients:</p> <p> P 2 ml/kg if BGL is less than 40 mg/dl</p>		
Therapeutic Action	<ul style="list-style-type: none"> Principal form of carbohydrate utilized by the body 		
Contraindications	<ul style="list-style-type: none"> Known or suspected CVA in the absence of hypoglycemia 		
Precautions And Side Effects	<ul style="list-style-type: none"> May precipitate severe neurologic symptoms in thiamine deficient patients Side Effects: <ul style="list-style-type: none"> Warmth Pain Hyperglycemia Burning from medication infusion Thrombophlebitis 		
Medical Control	<ul style="list-style-type: none"> Adults: No Pediatrics: No 		
Protocol	<ul style="list-style-type: none"> Medical Protocol 4008 Diabetic Emergencies - Hypoglycemia Pediatric Considerations 5002 Newborn Care and Resuscitation 		
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Subject: Diazepam (Valium) (JITSO) & CANA Pen

Effective: June 1, 2021

Last Modified: Oct. 10, 2021

EMR	EMT	AEMT	Paramedic
Packaging	<ul style="list-style-type: none"> Vial for AEMT and Paramedic only <ul style="list-style-type: none"> 10 mg in 2 ml vial (5 mg/1ml) One vial present in the drug bag in the event of Midazolam shortage WMD Drug Cache & CHEMPACK resource for all certification levels <ul style="list-style-type: none"> Convulsive Antidote, Nerve Agent (CANA) 10 mg auto-injector 		
Indications	<ul style="list-style-type: none"> Vial for AEMT and Paramedic only <ul style="list-style-type: none"> Seizures <ul style="list-style-type: none"> After recent cocaine/crack use: <ul style="list-style-type: none"> SBP less than 100 Hemodynamically significant tachycardia (HR greater than 100) CANA Auto-injector for all certifications <ul style="list-style-type: none"> Seizures associated with Organophosphate or Nerve Agent event 		
Adult Dosing	<ul style="list-style-type: none"> Vial for AEMT and Paramedic only <ul style="list-style-type: none"> Seizures: 5 mg slow IV may repeat dose once. Cocaine or crack use: 5 mg slow IV, may repeat dose once. CANA Auto-injector for all certifications <ul style="list-style-type: none"> 10 mg IM by auto-injector 		
Pediatric Dosing	<ul style="list-style-type: none"> Vial for AEMT and Paramedic <ul style="list-style-type: none"> Seizures: <ul style="list-style-type: none"> 0.2 mg/kg slow IV over 2 min. (maximum dose 5 mg IV) or 0.5 mg/kg rectally, (maximum dose 10 mg rectally) May repeat 0.2 mg/kg slow IV over 2 min (maximum 5 mg) CANA Auto-injector for all certifications <ul style="list-style-type: none"> 10 mg IM by auto-injector 		
Therapeutic Action	<ul style="list-style-type: none"> Treats alcohol withdrawal and grand mal seizure activity Used to treat anxiety and stress. 		
Contraindications	<ul style="list-style-type: none"> None in the emergency setting 		
Precautions And Side Effects	<ul style="list-style-type: none"> Side Effects: <ul style="list-style-type: none"> Hypotension Reflex tachycardia (rare) Respiratory depression Ataxia Psychomotor impairment Confusion Nausea May cause local venous irritation 		
Medical Control	<ul style="list-style-type: none"> Vial for AEMT and Paramedic only <ul style="list-style-type: none"> Adults: No Pediatrics: No CANA Auto-injector for all certifications <ul style="list-style-type: none"> Adults: es Pediatrics: es 		
Protocol	<ul style="list-style-type: none"> Trauma Protocol 3008 Cyanide Poisoning Special Operations Protocol 6002 Antidote Resources Special Operations Protocol 6005 Organophosphate or Nerve Agent Exposure 		
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Subject: Diphenhydramine (Benadryl)

Effective: June 1, 2021

Last Modified: Oct. 10, 2021

EMR	EMT	AEMT	Paramedic
Packaging	<ul style="list-style-type: none"> 50 mg in 1ml vial 		
Indications	<ul style="list-style-type: none"> Allergic reaction or Anaphylaxis In anaphylaxis, for the patient who goes into cardiac arrest if not previously given Extrapyramidal reaction 		
Adult Dosing	<p>A 50 mg IM or slow IV</p>		
Pediatric Dosing	<p>P 1 mg/kg (max dose 50 mg) IM or slow IV</p>		
Therapeutic Action	<ul style="list-style-type: none"> Prevents the physiologic actions of histamine by blocking histamine receptors 		
Contraindications	<ul style="list-style-type: none"> None in the emergency setting 		
Precautions And Side Effects	<ul style="list-style-type: none"> Use cautiously in patients with CNS depression or lower respiratory diseases such as asthma. <u>Side Effects:</u> <ul style="list-style-type: none"> Dose related drowsiness Sedation Disturbed coordination Hypotension Palpitations, tachycardia or bradycardia Thickening of bronchial secretions Dry mouth and throat 		
Medical Control	<ul style="list-style-type: none"> Adults: No, for the Paramedic. es, for the AEMT when treating Extrapyramidal Reactions Pediatrics: No, for the Paramedic. es, for the AEMT when treating Extrapyramidal Reactions 		
Protocol	<ul style="list-style-type: none"> Medical Protocol 4002 Allergic Reactions/Anaphylaxis Medical Protocol 4010 Extrapyramidal (Dystonic) Reactions 		
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Subject: Dopamine (JITSO)

Effective: June 1, 2021

Last Modified: Oct. 10, 2021

EMR	EMT	AEMT	Paramedic
Packaging	<ul style="list-style-type: none"> • Premixed 250 ml bag (400 mg/250 ml) • Concentration: 1600 mcg/ml • Only present in the drug bag in the event of Norepinephrine shortage 		
Indications	<ul style="list-style-type: none"> • Shock with or without Pulmonary Edema 		
Adult Dosing	<p>A IV drip rate, 5 to 20 mcg/kg/min of 400 mg/250 ml increase by increments of 5 mcg/kg/min.</p>		
Pediatric Dosing	<p>P IV drip rate, 5 to 20 mcg/kg/min of 400 mg/250 ml start at 5 mcg/kg/min. P Titrate to maintain adequate perfusion</p>		
Therapeutic Action	<ul style="list-style-type: none"> • Acts on alpha, beta and dopaminergic receptors in dose dependent fashion • Increases cardiac output in higher doses 		
Contraindications	<ul style="list-style-type: none"> • None in the emergency setting 		
Precautions And Side Effects	<ul style="list-style-type: none"> • Correct hypovolemia prior to using Dopamine. • Infuse through large stable vein to avoid possibility of extravasation injury. • <u>Side Effects:</u> <ul style="list-style-type: none"> ○ Dose related tachydysrhythmias ○ Hypertension ○ Increased myocardial oxygen demand (ischemia) 		
Medical Control	<ul style="list-style-type: none"> • Adults: No • Pediatrics: No 		
Protocol	<ul style="list-style-type: none"> • As a replacement for Norepinephrine: <ul style="list-style-type: none"> ○ Cardiac Protocol 2009 Cardiac Alert Program ○ Medical Protocol 4015 Sepsis ○ Medical Protocol 4016 Shock 		
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Subject: Doxycycline

Effective: June 1, 2021

Last Modified: Oct. 10, 2021

EMR	EMT	AEMT	Paramedic
Packaging	<ul style="list-style-type: none"> Tablets 		
Indications	<ul style="list-style-type: none"> As prophylaxis against Anthrax, Cholera or Plague 		
Adult Dosing	<p>A ♦ 100 mg tablet by mouth, twice a day</p>		
Pediatric Dosing	<p>P ♦ Dosage will be specified at time of incident.</p>		
Therapeutic Action	<ul style="list-style-type: none"> Antibiotic 		
Contraindications	<ul style="list-style-type: none"> Pregnancy Allergies to Tetracycline antibiotics 		
Precautions And Side Effects	<ul style="list-style-type: none"> <u>Side Effects</u> <ul style="list-style-type: none"> May make birth control pills less effective Use with caution in patients with liver disease, kidney disease and asthma Can cause headache, blurred vision and flu-like symptoms 		
Medical Control	<ul style="list-style-type: none"> Adult: es Pediatric: es 		
Protocol	<ul style="list-style-type: none"> Special Operations Protocol 6006 Other Hazardous Materials 		
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Subject: Duodote

Effective: June 1, 2021

Last Modified: Oct. 10, 2021

EMR	EMT	AEMT	Paramedic
Packaging	<ul style="list-style-type: none"> Auto-injector Atropine 2 mg and Pralidoxime Chloride (2-Pam) 600 mg In WMD Drug Caches and CHEMPACKS 		
Indications	<ul style="list-style-type: none"> Organophosphate or Nerve Agent poisoning 		
Adult Dosing	A ♦ Single auto-injector containing Atropine 2 mg and 2-Pam 600 mg		
Pediatric Dosing	P ♦ Single auto-injector containing Atropine 2 mg and 2-Pam 600 mg		
Therapeutic Action	<ul style="list-style-type: none"> Anticholinergic as a result of WMD MCI also reactivates cholinesterase. 		
Contraindications	<ul style="list-style-type: none"> None in the emergency setting 		
Precautions And Side Effects	<ul style="list-style-type: none"> Use with caution in myasthenia gravis, renal impairment, pregnancy, lactation or children. Atropine causes pupillary dilation rendering the pupils nonreactive. Pupil response may not be useful in monitoring CNS status. <u>Side Effects:</u> <ul style="list-style-type: none"> Tachycardia Paradoxical bradycardia when pushed too slowly or when used at doses less than 0.5 mg Palpitations or dysrhythmias Headache Dizziness Anticholinergic effects (dry mouth, nose, skin, photophobia. blurred vision, urinary retention, constipation) Nausea & vomiting Flushed, hot, dry skin Allergic reactions 		
Medical Control	<ul style="list-style-type: none"> Adults: es Pediatrics: es 		
Protocol	<ul style="list-style-type: none"> Special Operations Protocol 6005 Organophosphate or Nerve Agent Exposure 		
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Subject: Epinephrine

Effective: June 1, 2021

Last Modified: Sept. 1, 2021

EMR	EMT	AEMT	Paramedic
Packaging	<ul style="list-style-type: none"> EpiPen auto-injector: 0.3 mg (one in drug bag) EpiPen Jr. auto-injector: 0.15 mg (one in drug bag) 1:10,000 1 mg/10ml prefilled syringes (six in drug bag) 1:1,000 1mg/ml 30 ml vial (one in drug bag) 		
Indications	<ul style="list-style-type: none"> For the EMR, EMT, AEMT and Paramedic: <ul style="list-style-type: none"> Anaphylaxis or allergic reaction For the AEMT and Paramedic: <ul style="list-style-type: none"> Asthma in severe distress The EMR and the EMT cannot treat Asthma with Epinephrine For the Paramedic <ul style="list-style-type: none"> Ventricular Fibrillation, Pulseless Ventricular Tachycardia, Asystole, and PEA 		
Adult Dosing	<ul style="list-style-type: none"> A Asthma or Anaphylaxis (EMR, EMT, AEMT and Paramedic) <ul style="list-style-type: none"> A If 30 kg or greater, give both Adult EpiPen 0.3 mg and EpiPen Jr 0.15 mg A May repeat after 5 minutes A Asthma or anaphylaxis (Paramedic) <ul style="list-style-type: none"> A Epinephrine (1:1,000) 0.5 mg IM A May repeat in 5 minutes A If hypotensive after fluid bolus: 0.1 mg, 1:10,000, slow IV, every 3 minutes, up to 0.5 mg. A Ventricular Fibrillation, Pulseless Ventricular Tachycardia, Asystole, and PEA (Paramedic) <ul style="list-style-type: none"> A 1 mg (1:10,000) IV, repeat every 3-5 minutes 		
Pediatric Dosing	<ul style="list-style-type: none"> P Asthma or Anaphylaxis (EMR, EMT, AEMT and Paramedic) <ul style="list-style-type: none"> P If greater than 15 kg, EpiPen Jr 0.15 mg P If 15 kg or greater and less than 30 kg, Adult EpiPen 0.3 mg P May repeat after 5 minutes P Asthma or Anaphylaxis (Paramedic) <ul style="list-style-type: none"> P If greater than 15 kg, Epi (1:1,000) 0.01 mg/kg IM (max 0.15 mg). P If 15 kg or greater and less than 30 kg, Epi (1:1,000) 0.01 mg/kg IM (max 0.3 mg) P May repeat Epi (1:1,000) 0.01 mg/kg IM (max dose should equal initial dose) after 5 minutes P Ventricular Fibrillation, Pulseless Ventricular Tachycardia, Asystole, and PEA (Paramedic) <ul style="list-style-type: none"> P 0.01 mg/kg (1:10,000) IV repeat every 3-5 minutes 		
Therapeutic Action	<ul style="list-style-type: none"> Directly stimulates alpha and beta adrenergic receptors in dose-related fashion Causes bronchodilation, vasoconstriction, and increased cardiac output. 		
Contraindications	<ul style="list-style-type: none"> None in the emergency setting 		
Precautions And Side Effects	<ul style="list-style-type: none"> Headache Nausea Restlessness Weakness Dysrhythmias, including ventricular tachycardia and ventricular fibrillation Hypertension Tachycardia May increase myocardial oxygen demand or precipitation of angina pectoris Syncope has occurred following epinephrine administration to asthmatic children. 		



Subject: Epinephrine

Effective: June 1, 2021

Last Modified: Sept. 1, 2021

Medical Control	<ul style="list-style-type: none"> • Adults: Initial dose administration at all levels and follow-up dosing for AEMT and Paramedics No In allergies/anaphylaxis, repeat doses by EMR/EMTs - es • Pediatrics: No
Protocol	<ul style="list-style-type: none"> • Cardiac Protocol 2003 Cardiac Arrest: Asystole or PEA • Cardiac Protocol 2005 Cardiac Arrest: V-Fib or Pulseless V-Tach • Cardiac Protocol 2009 Cardiac Alert Program • Cardiac Protocol 2010 Bradycardia • Medical Protocol 4002 Allergic Reactions/Anaphylaxis • Medical Protocol 4003 Asthma/Emphysema/COPD • Pediatric Considerations 5002 Newborn Care and Resuscitation • Special Operations Protocol 6004 Hydrofluoric Acid Exposure
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Subject: Etomidate

Effective: June 1, 2021

Last Modified: Oct. 10, 2021

EMR	EMT	AEMT	Paramedic
Packaging	<ul style="list-style-type: none"> 40 mg in 20 ml vial (2 mg/ml) 		
Indications	<ul style="list-style-type: none"> To provide sedation prior to Sedate to Intubate procedure 		
Adult Dosing	<ul style="list-style-type: none"> A 0.3 mg/kg IV A May repeat within 2 minutes if patient resistant to intubation. A Average dose is 15 mg - 25 mg 		
Pediatric Dosing	<ul style="list-style-type: none"> P Not applicable 		
Therapeutic Action	<ul style="list-style-type: none"> Short-acting, potent sedative Hypnotic 		
Contraindications	<ul style="list-style-type: none"> Hypersensitivity Not to be administered to pediatric patients 		
Precautions And Side Effects	<ul style="list-style-type: none"> Must be authorized for use by the agencies' Medical Director <u>Side Effects:</u> <ul style="list-style-type: none"> Bradycardia Respiratory depression or tachypnea Sinus tachycardia Hypotension Nausea and vomiting 		
Medical Control	<ul style="list-style-type: none"> Adults: No Pediatrics: Not applicable 		
Protocol	<ul style="list-style-type: none"> General Protocol 1010 {Sedate to Intubate and Rapid Sequence Intubation} 		
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Subject: Fentanyl (Sublimaze)

Effective: June 1, 2021

Last Modified: Oct. 10, 2021

EMR	EMT	AEMT	Paramedic
Packaging	<ul style="list-style-type: none"> • 100 mcg/2 mL (50 mcg/ml) vial • One in drug bag 		
Indications	<ul style="list-style-type: none"> • Suspected Cardiac Chest Pain • Pain associated with traumatic events • Extremity Fractures • Dislocations • Sprains • Frostbite • Abdominal Pain • Hydrofluoric Acid (Hf) exposure 		
Adult Dosing	<p>A 50-100 mcg slow IV, provided SBP is greater than 100.</p> <p>A If no response, or inadequate response to IV Fentanyl and a second drug bag is available:</p> <p style="padding-left: 20px;">A May repeat 50-100 mcg slow IV, after 15 minutes provided SBP greater than 100.</p>		
Pediatric Dosing	<p>P Fentanyl is <u>not</u> to be administered to anyone less than 2 years of age.</p> <p>P ♦ Contact MCP prior to treatment of abdominal pain</p> <p>P First choice treatment for pain:</p> <p style="padding-left: 20px;">P 1 mcg/kg IN, max dose 100 mcg.</p> <p style="padding-left: 20px;">P Repeat 1 mcg/kg IN after 15 minutes, if an additional drug bag is available.</p> <p>P Second choice treatment for pain:</p> <p style="padding-left: 20px;">P 1 mcg/kg, slow IV, max dose 100 mcg, provided age appropriate normal SBP (80 2x age in years).</p> <p style="padding-left: 20px;">P Repeat 1 mcg/kg, slow IV after 15 minutes, max dose 100 mcg</p> <p style="padding-left: 20px;">P Maintain age appropriate blood pressure</p> <p>P If unable to obtain IV: IM for pediatric patients is a last resort</p> <p style="padding-left: 20px;">P 1 mcg/kg IM, max dose 100 mcg</p> <p style="padding-left: 20px;">P Repeat 1 mcg/kg IM, max dose 100 mcg, no sooner than 15 minutes after first dose.</p>		
Therapeutic Action	<ul style="list-style-type: none"> • Provides analgesia • Reduces cardiac preload by increasing venous capacitance and decreasing afterload 		
Contraindications	<ul style="list-style-type: none"> • Hypersensitivity 		
Precautions And Side Effects	<ul style="list-style-type: none"> • Apnea • CNS depression • Chest wall rigidity (wooden chest syndrome) may occur preventing adequate chest wall excursion and ventilation. Typically occurs with high doses (6-7 mcg/kg) or with rapid administration. Reversible with naloxone. • Bradycardia which may be transient. <ul style="list-style-type: none"> ○ Ensure adequate ventilation and oxygenation first. ○ Atropine only if bradycardia is symptomatic and hemodynamically significant. ○ For the Paramedic, follow bradycardia protocol. 		
Medical Control	<ul style="list-style-type: none"> • Adults: No • Pediatrics: es, for abdominal pain 		
Protocol	<ul style="list-style-type: none"> • General Protocol 1014 Pain Management • Cardiac Protocol 2006 AICD Activations • Cardiac Protocol 2008 Suspected Cardiac Chest Pain • Cardiac Protocol 2009 Cardiac Alert Program 		
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Subject: Glucagon

Effective: June 1, 2021

Last Modified: Aug. 28, 2021

EMR	EMT	AEMT	Paramedic
Packaging	<ul style="list-style-type: none"> • 1 mg dose (Combine liquid and powder vials, then administer) • One in drug bag 		
Indications	<ul style="list-style-type: none"> • Altered level of consciousness of unknown cause • Hypoglycemia if no IV access • No blood sugar monitor is available or a strong suspicion of hypoglycemia despite BGL reading and no IV access. • Seizures with blood glucose levels less than 60 mg/dl • Generalized hypothermia without arrest • Calcium Channel Blocker or Beta Blocker overdose • Allergic reaction/Anaphylaxis unresponsive to Epinephrine 		
Adult Dosing	<p>A Hypoglycemia with no IV access: 1 mg IM</p> <p>A Allergic Reaction/Anaphylaxis unresponsive to Epinephrine: 1 mg IV or IM</p> <p>A ♦ Calcium Channel Blocker overdose: 1 mg IV or IM</p> <p>A ♦ Beta Blocker overdose: 1 mg IV or IM</p>		
Pediatric Dosing	<p>P Less than 8 years old 0.5 mg</p> <p>P 8 years old or older 1.0 mg</p>		
Therapeutic Action	<ul style="list-style-type: none"> • Increases breakdown of glycogen to glucose and stimulates glucose synthesis, raising blood sugar 		
Contraindications	<ul style="list-style-type: none"> • None in the emergency setting 		
Precautions And Side Effects	<ul style="list-style-type: none"> • Should not be considered a first line choice • <u>Side Effects:</u> <ul style="list-style-type: none"> ○ Tachycardia ○ Hypotension ○ Nausea and vomiting ○ Urticaria 		
Medical Control	<ul style="list-style-type: none"> • Adults: <ul style="list-style-type: none"> ○ Hypoglycemia, Allergic Reaction/Anaphylaxis—No ○ Calcium Channel Blocker or Beta Blocker OD— es • Pediatrics: <ul style="list-style-type: none"> ○ Hypoglycemia, Allergic Reaction/Anaphylaxis—No ○ Calcium Channel Blocker or Beta Blocker OD— es 		
Protocol	<ul style="list-style-type: none"> • General Protocol 1005 General Patient Management • General Protocol 1012 Intraosseous Infusion • General Protocol 1013 Alternate Vascular Access • Medical Protocol 4002 Allergic Reactions/Anaphylaxis • Medical Protocol 4008 Diabetic Emergencies - Hypoglycemia • Medical Protocol 4012 Overdose/Poisonings 		
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Subject: Hydroxocobalamin (Cyanokit)

Effective: June 1, 2021

Last Modified: Oct. 10, 2021

EMR	EMT	AEMT	Paramedic
Packaging	<ul style="list-style-type: none"> 1 vial, containing 5 g lyophilized Hydroxocobalamin dark red crystalline powder for injection. After reconstitution with 200 ml fluid, the vial contains Hydroxocobalamin for injection, 25 mg/mL. Available in caches located in each county in Homeland Security Region 3. 		
Indications	<ul style="list-style-type: none"> Known or strongly suspected cyanide intoxication Smoke inhalation with suspected cyanide component. Victim exposed to fire or smoke who presents with altered mental status, seizures, shock, or difficulty breathing. 		
Adult Dosing	<p>A ♦ 5 gram vial via slow IV infusion over 15 minutes</p> <p>A ♦ May repeat 5 grams IV via slow IV infusion over 15 minutes to 2 hours depending on clinical response</p> <p>A Follow package directions.</p> <p>A Reconstitute: Place the vial in an upright position.</p> <p>A Add 200 mL of NS or LR to the vial using the transfer spike. Fill to the line.</p> <p>A Mix: The vial should be repeatedly inverted or rocked, not shaken, for at least 1 min. before infusion.</p> <p>A Infuse Vial: Use vented intravenous tubing, hang and infuse over 15 minutes.</p>		
Pediatric Dosing	<p>P ♦ 70 mg/kg slow IV over 15 minutes max dose of 5 grams</p> <p>P ♦ May repeat a dose of 35 mg/kg IV max dose 2.5 g, depending on severity of poisoning and clinical response.</p>		
Therapeutic Action	<ul style="list-style-type: none"> Binds to cyanide molecules and is eliminated as waste 		
Contraindications	<ul style="list-style-type: none"> None in the emergency setting 		
Precautions And Side Effects	<ul style="list-style-type: none"> Must not be used in conjunction with other Cyanide antidotes May cause hypertension 		
Medical Control	<ul style="list-style-type: none"> Adults: <ul style="list-style-type: none"> In cardiac arrest—No In patients not in arrest— es Pediatrics: <ul style="list-style-type: none"> In cardiac arrest—No In patients not in arrest— es 		
Protocol	<ul style="list-style-type: none"> Trauma Protocol 3008 Cyanide Poisoning & Antidotes 		
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Subject: Ipratropium (Atrovent)

Effective: June 1, 2021

Last Modified: Oct. 10, 2021

EMR	EMT	AEMT	Paramedic
Packaging	<ul style="list-style-type: none"> 0.5 mg in 2.5 ml plastic ampule 1 in drug bag 		
Indications	<ul style="list-style-type: none"> Bronchospasm in Asthma, COPD, Emphysema Allergic reaction/Anaphylaxis with wheezing 		
Adult Dosing	<p>A 0.5 mg (2.5 ml), nebulized with O₂ at 8-10 LPM</p> <p>A Combined with first dose of Albuterol</p>		
Pediatric Dosing	<p>P 0.5 mg (2.5 ml), nebulized with O₂ at 8-10 LPM</p> <p>P Combined with first dose of Albuterol</p>		
Therapeutic Action	<ul style="list-style-type: none"> Causes bronchodilation by anticholinergic effect 		
Contraindications	<ul style="list-style-type: none"> None in the emergency setting 		
Precautions And Side Effects	<ul style="list-style-type: none"> Once initiated, the patient should be removed by EMS. Use with caution in patients with narrow-angle glaucoma and lactating mothers. 		
Medical Control	<ul style="list-style-type: none"> Adults: For the EMT: es For the AEMT or Paramedic: No Pediatrics: For the EMT: es For the AEMT or Paramedic: No 		
Protocols	<ul style="list-style-type: none"> Medical Protocol 1008 Advanced Airway Management Medical Protocol 4003 Asthma/Emphysema/COPD Medical Protocol 4002 Allergic Reactions/Anaphylaxis 		
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Subject: Ketamine (Ketalar)

Effective: June 1, 2021

Last Modified: Dec. 8, 2021

EMR	EMT	AEMT	Paramedic
Packaging	<ul style="list-style-type: none"> • 500 mg/10 mL vial (50 mg/ml) • One in drug bag 		
Indications	<ul style="list-style-type: none"> • For the AEMT and Paramedic <ul style="list-style-type: none"> ○ Chemical restraint for combative patient, including excited delirium ○ Pain control • For the Paramedic <ul style="list-style-type: none"> ○ Sedation prior to Rapid Sequence Intubation 		
Adult Dosing	<p>▲ For pain:</p> <p>▲ 25 mg IV, may repeat 25 mg IV after 15 minutes.</p> <p>▲ If unable to obtain IV:</p> <p>▲ 25 mg IN or 50 mg IM, may repeat 25 mg IN or 50 mg IM after 15 minutes.</p> <p>▲ For combative patients:</p> <p>▲ 250 mg IM anterolateral thigh.</p> <p><u>or</u></p> <p>▲ 100 mg slow IV</p> <p>▲ If no change in 5 minutes, repeat:</p> <p>▲ 250 mg IM anterolateral thigh.</p> <p><u>or</u></p> <p>▲ 100 mg slow IV</p> <p>▲ For the Paramedic performing {Sedate to Intubate} or {Rapid Sequence Intubation}:</p> <p>▲ 100 mg slow IV, may repeat 100 mg IV after 5 minutes</p>		
Pediatric Dosing	<p>P Not to be administered for pain to any patient less than 16 y/o</p> <p>P Chemical restraint for combative patient, including excited delirium:</p> <p>P Limited to use in patients age 8 or greater.</p> <p>P 1 mg/kg slow IV (max dose 100 mg).</p> <p><u>or</u></p> <p>P 5 mg/kg IM (maximum dose is two doses of no more than 250 mg or 500 mg total)</p> <p>P ♦ Call MCP for repeat doses</p>		
Therapeutic Action	<ul style="list-style-type: none"> • Ketamine is a Schedule III Phencyclidine (PCP) derivative that is rapid acting and produces a “dissociative” anesthesia in which the patient’s consciousness is detached from their nervous system. • Due to its “dissociative” properties, Ketamine is a potent analgesic. • May be given as an adjunct to narcotic pain medication, particularly in patients at risk for hypotension or respiratory depression. 		
Contraindications	<ul style="list-style-type: none"> • Suspected cardiac chest pain • Hypertensive crisis • When significant elevations in BP might prove harmful: <ul style="list-style-type: none"> ○ Acute Myocardial Infarction ○ Angina Pectoris ○ Aortic dissection 		



Subject: Ketamine (Ketalar)

Effective: June 1, 2021

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Precautions And Side Effects	<ul style="list-style-type: none"> • Emergence reaction may occur, when patient is awakening (hallucinations, delirium, confusion, etc.) • Catecholamine release (hypertension, tachycardia) • Hypersalivation (the ketamine drool) • Nausea, vomiting, particularly prevalent in pediatrics. • Minimal cardiac depression occasionally reported with high doses administered rapidly IV. • May transiently increase heart rate and blood pressure by central sympathetic stimulation. • May require administration of midazolam prior to wearing off. • Management should include use of a nasopharyngeal airway, proper positioning and persistent suctioning to maintain a clear airway.
Medical Control	<ul style="list-style-type: none"> • Adults: No • Pediatrics: <ul style="list-style-type: none"> ○ No ○ For repeat sedation doses - yes
Protocol	<ul style="list-style-type: none"> • General Protocol 1008 – Advanced Airway Management • General Protocol 1010 – {Sedate to Intubate and Rapid Sequence Intubation} • General Protocol 1014 – Pain Management • Trauma Protocol 3007 – Crush Syndrome Trauma • Medical Protocol 4007 – Combative Patients/Emergency Sedation
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Subject: Lactated Ringers

Effective: June 1, 2021

Last Modified: Dec. 8, 2020

EMR	EMT	AEMT	Paramedic
Packaging	<ul style="list-style-type: none"> Usually a 1000 ml flexible, non-latex plastic bag Generally with a pH of 6.5. Not in drug bags or caches 		
Indications	<ul style="list-style-type: none"> Solution for fluid and electrolyte replenishment Hypovolemia Flushing of wounds Shock Pulmonary edema with systolic BP over 100 mmHg Sepsis 		
Adult Dosing	<p>▲ Non traumatic shock without pulmonary edema:</p> <p>▲ 500 ml IV</p> <p>▲ ♦ May repeat 500 ml IV if needed</p> <p>▲ Non traumatic shock with pulmonary edema: 250 ml IV</p> <p>▲ Sepsis:</p> <p>▲ 1 L IV</p> <p>▲ ♦ Additional IV fluid if indicated</p> <p>▲ Penetrating trauma to chest or abdomen: enough fluid to obtain a radial pulse</p> <p>▲ Crush syndrome:</p> <p>▲ Initial treatment: 1 L IV then 500 ml/hour IV</p> <p>▲ If hypotensive then additional 1 L IV</p> <p>▲ Heat exposure:</p> <p>▲ 500 ml IV, may repeat x1</p> <p>▲ ♦ Additional IV fluid, if indicated</p>		
Pediatric Dosing	<p>P 20 ml/kg IV bolus</p> <p>P ♦ In shock, call for orders to administer additional fluid</p>		
Therapeutic Action	<ul style="list-style-type: none"> Used for hydration and management of hypotension 		
Contraindications	<ul style="list-style-type: none"> None in the emergency setting 		
Precautions And Side Effects	<ul style="list-style-type: none"> None 		
Medical Control	<ul style="list-style-type: none"> Adults: es, for additional fluid administrations Pediatrics: es, for additional fluid administrations 		
Protocol	<ul style="list-style-type: none"> General Protocol 1005 General Patient Management 		
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Subject: Lidocaine 2

Effective: June 1, 2021

Last Modified: Oct. 10, 2021

EMR	EMT	AEMT	Paramedic
Packaging	<ul style="list-style-type: none"> 100 mg in 5 ml syringe (20 mg/ml) Two in drug bag 		
Indications	<ul style="list-style-type: none"> For AEMT and Paramedic: <ul style="list-style-type: none"> For pain caused by pressure of intraosseous fluid administration For Paramedic: <ul style="list-style-type: none"> Intubation on conscious patient JITSO Cardiac arrest: V-Fib/Pulseless V-Tach and Tachycardia, in the absence of Amiodarone 		
Adult Dosing	<p>A Pain associated with IO infusion (AEMT, Paramedic):</p> <p style="padding-left: 20px;">A 1.5 mg/kg IO (maximum dose 100 mg)</p> <p>A Intubation on conscious patient (Paramedic):</p> <p style="padding-left: 20px;">A 100 mg (5 ml) nebulized</p> <p style="padding-left: 40px;"><u>or</u></p> <p style="padding-left: 20px;">A 100 mg (5 ml) IN with 50 mg (2.5 ml) in each nostril</p> <p>A JITSO for Cardiac Arrest: V-Fib or Pulseless V-Tach (Paramedic):</p> <p style="padding-left: 20px;">A 150 mg (7.5 ml) IV or IO</p> <p style="padding-left: 20px;">A Repeat dose of 75 mg (3.75 ml) IV or IO</p> <p>A JITSO for Tachycardia (Paramedic)</p> <p style="padding-left: 20px;">A 150 mg (7.5 ml) IV or IO</p>		
Pediatric Dosing	<p>P Pain associated with IO infusion (AEMT, Paramedic):</p> <p style="padding-left: 20px;">P 1.5 mg/kg IO (maximum dose 100 mg)</p> <p>P Intubation on conscious patient (Paramedic):</p> <p style="padding-left: 20px;">P 1.5 mg/kg nebulized (maximum dose 100 mg)</p> <p style="padding-left: 40px;"><u>or</u></p> <p style="padding-left: 20px;">P 100 mg (5 ml) IN with 50 mg (2.5 ml) in each nostril</p> <p>P JITSO for Cardiac Arrest: V-Fib or Pulseless V-Tach (Paramedic):</p> <p style="padding-left: 20px;">P 1 mg/kg IV or IO (maximum dose 100 mg)</p> <p style="padding-left: 20px;">P Repeat dose of 1 mg/kg IV or IO (maximum dose 75 mg)</p>		
Therapeutic Action	<ul style="list-style-type: none"> Decreases automaticity 		
Contraindications	<ul style="list-style-type: none"> Hypersensitivity Second degree or third degree heart block, in absence of an artificial pacemaker 		
Precautions And Side Effects	<ul style="list-style-type: none"> Use extreme caution in patients with hepatic disease, heart failure, marked hypoxia, severe respiratory depression, hypovolemia or shock, incomplete heart block or bradycardia and atrial fib. Side Effects: <ul style="list-style-type: none"> Altered level of consciousness, confusion or lightheadedness Cardiovascular collapse and/or hypotension Bradycardia Blurred vision irritability Muscle twitching and seizures with high doses 		
Medical Control	<ul style="list-style-type: none"> Adults: No Pediatrics: No 		
Protocol	<ul style="list-style-type: none"> General Protocol 1008 Advanced Airway Management General Protocol 1012 Intraosseous Infusion Cardiac Protocol 2003 Cardiac Arrest: Asystole or PEA Cardiac Protocol 2005 Cardiac Arrest: V-Fib or Pulseless V-Tach Cardiac Protocol 2011 Tachycardia Medical Protocol 4002 Allergic Reactions/Anaphylaxis Medical Protocol 4003 Asthma/Emphysema/COPD 		
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Subject: Lidocaine 2 Gel

Effective: June 1, 2021

Last Modified: Dec. 8, 2020

EMR	EMT	AEMT	Paramedic
Packaging	<ul style="list-style-type: none"> • 2 gel in a tube • Not carried in drug bag 		
Indications	<ul style="list-style-type: none"> • Lubrication of airway adjunct on conscious patient 		
Adult Dosing	<p>A Apply to airway adjunct.</p>		
Pediatric Dosing	<p>P Apply to airway adjunct.</p>		
Therapeutic Action	<ul style="list-style-type: none"> • Suppresses stimulation of the upper airway activity such as, swallowing, gagging or coughing that can cause cardiovascular stimulation and elevation in intracranial pressure 		
Contraindications	<ul style="list-style-type: none"> • None 		
Precautions And Side Effects	<ul style="list-style-type: none"> • None 		
Medical Control	<ul style="list-style-type: none"> • Adults: No • Pediatrics: No 		
Guidelines	<ul style="list-style-type: none"> • General Protocol 1008 Advanced Airway Management 		
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Subject: Magnesium-Containing Antacid

Effective: June 1, 2021

Last Modified: Oct. 10, 2021

EMR	EMT	AEMT	Paramedic
Packaging	<ul style="list-style-type: none"> Varies by manufacturer or vendor Not carried in drug bag Examples include Maalox and Mylanta 		
Indications	<ul style="list-style-type: none"> Ingestion of Hydrofluoric Acid Hydrofluoric Acid on skin 		
Adult Dosing	<p>A For Ingestion:</p> <p style="padding-left: 20px;">A Following dilution with water or milk, have patient drink 3-4 oz. Maalox or Mylanta.</p> <p>A For exposure:</p> <p style="padding-left: 20px;">A Following irrigation, apply topically to burned area unless industry has already applied topical agents.</p>		
Pediatric Dosing	<p>P Apply to airway adjunct.</p>		
Therapeutic Action	<ul style="list-style-type: none"> Neutralize acid and increases the pH 		
Contraindications	<ul style="list-style-type: none"> None in the emergency setting. 		
Precautions And Side Effects	<ul style="list-style-type: none"> Use with caution in: <ul style="list-style-type: none"> Neonates Geriatric patients Patients with renal impairment <u>Side Effects:</u> <ul style="list-style-type: none"> Hypercalcemia Hypermagnesemia Hypotension Nausea & vomiting 		
Medical Control	<ul style="list-style-type: none"> Adults: No Pediatrics: No 		
Protocol	<ul style="list-style-type: none"> Special Operations Protocol 6004 Hydrofluoric Acid Exposure 		
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Subject: Methylprednisolone (Solu-medrol)

Effective: June 1, 2021

Last Modified: Oct. 10, 2021

EMR	EMT	AEMT	Paramedic
Packaging	<ul style="list-style-type: none"> • 125 mg in 2 ml • One in drug bag 		
Indications	<ul style="list-style-type: none"> • Severe allergic reactions • Anaphylaxis • Asthma • COPD • Emphysema • Intended to augment standard therapy for anaphylaxis, allergic reaction, and to address airway edema and inflammation in asthma. 		
Adult Dosing	<p>A Solu-Medrol 125 mg IV</p> <p>A Given to patients in the Allergic reaction or Anaphylaxis protocol only after all other applicable first-line medications have been delivered.</p>		
Pediatric Dosing	<p>P Solu-Medrol 2 mg/kg IV, max dose 125 mg</p> <p>P Given to patients in the Allergic reaction or Anaphylaxis protocol only after all other applicable first-line medications have been delivered.</p>		
Therapeutic Action	<ul style="list-style-type: none"> • Potent anti-inflammatory steroid • Accelerates detoxification of cyanide 		
Contraindications	<ul style="list-style-type: none"> • None in emergency setting 		
Precautions And Side Effects	<ul style="list-style-type: none"> • Intended for cases that are of a more urgent nature. • No significant change in patient condition in the field should be expected after administration. • Do not to initiate an IV only to administer this medication. • Side Effects: <ul style="list-style-type: none"> ○ Cardiac arrhythmias ○ Syncope 		
Medical Control	<ul style="list-style-type: none"> • Adults: No • Pediatrics: No 		
Guidelines	<ul style="list-style-type: none"> • Medical Protocol 4002 Allergic Reactions/Anaphylaxis • Medical Protocol 4003 Asthma/Emphysema/COPD 		
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Subject: Midazolam (Versed)

Effective: June 1, 2021

Last Modified: Oct. 10, 2021

EMR	EMT	AEMT	Paramedic
Packaging	<ul style="list-style-type: none"> 10 mg in 2 ml vial, (5 mg/ml) Two in drug bag 		
Indications	<ul style="list-style-type: none"> For the AEMT and Paramedic <ul style="list-style-type: none"> Seizures As chemical restraint for combative patient Chest pain associated with stimulant overdose (adults only) Paramedic <ul style="list-style-type: none"> Conscious patient requiring cardioversion Conscious patient requiring pacing After intubation, if patient is resisting and SBP is normal for age. 		
Adult Dosing	<p>A If seizures, or chemical restraint for combative patients, or chest pain in stimulant overdose (AEMT, Paramedic):</p> <p>A 10 mg IN (5 mg in each nostril) <u>or</u> 2 mg slow IV <u>or</u> 4 mg IM</p> <p>A Repeat 5 mg IN (after 5 min.) <u>or</u> 2 mg slow IV (after 5 min.) <u>or</u> 4 mg IM (after 10 min.)</p> <p>A If conscious patients requiring cardioversion/pacing or patient resisting ETT (Paramedic)</p> <p>A 2 mg slow IV</p>		
Pediatric Dosing	<p>P If seizures, or chemical restraint for combative patients (AEMT, Paramedic):</p> <p>P 0.2 mg/kg IN (maximum dose 10 mg) <u>or</u></p> <p>P 0.1 mg/kg slow IV (maximum dose 2 mg) <u>or</u></p> <p>P 0.2 mg/kg IM (maximum dose 4 mg)</p> <p>P In seizures, repeat at same doses (maximum IN 5mg, maximum IV 2 mg, maximum IM 4 mg)</p> <p>P ♦ In chemical restraint, call MCP for repeat doses</p> <p>P If conscious patients requiring cardioversion/pacing or patient resisting ETT (Paramedic)</p> <p>P 0.1 mg/kg slow IV (maximum dose 2 mg)</p>		
Therapeutic Action	<ul style="list-style-type: none"> Provides sedation 		
Contraindications	<ul style="list-style-type: none"> Respiratory distress 		
Precautions And Side Effects	<ul style="list-style-type: none"> Use with caution with lactating mothers. Geriatric & debilitated patients require lower doses & are more prone to side effects. Side Effects: <ul style="list-style-type: none"> Can cause respiratory depression Monitor respirations and ventilate if necessary. The Paramedic should intubate as indicated, the AEMT should intubate if apneic. Provide continuous monitoring of respiratory & cardiac function. 		
Medical Control	<ul style="list-style-type: none"> Adults: No Pediatrics: <ul style="list-style-type: none"> No es, for repeat doses in Chemical Restraint Protocol 		
Protocol	<ul style="list-style-type: none"> General Protocol 1008 Advanced Airway Management General Protocol 1010 {Sedate to Intubate and Rapid Sequence Intubation} Cardiac Protocol 2006 AICD Activations Cardiac Protocol 2009 Cardiac Alert Program Cardiac Protocol 2010 Bradycardia Cardiac Protocol 2011 Tachycardia Medical Protocol 4007 Combative Patients/Emergency Sedation Medical Protocol 4012 Overdose/Poisoning Medical Protocol 4014 Seizures Special Operations Protocol 6005 Organophosphate or Nerve Agent Exposure 		
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Subject: Morphine (JITSO)

Effective: June 1, 2021

Last Modified: Oct. 10, 2021

EMR	EMT	AEMT	Paramedic
Packaging	<ul style="list-style-type: none"> • 5 mg in 1ml vial • Two in drug bag in the absence of fentanyl 		
Indications	<ul style="list-style-type: none"> • Pain relief in suspected cardiac chest pain, trauma emergencies, extremity fractures, dislocations, sprains, frostbite, abdominal pain, Hydrofluoric Acid (HF) exposure 		
Adult Dosing	<ul style="list-style-type: none"> ▲ Up to 5 mg slow IV based on patient's weight, provided SBP greater than 100. ▲ May repeat up to 5 mg slow IV ▲ If unable to establish IV, Morphine 5 mg IM 		
Pediatric Dosing	<ul style="list-style-type: none"> P Pain relief in pediatric patients greater 2 years old P 0.1 mg/kg slow IV (maximum dose 5 mg) provided appropriate SBP. P ♦ May repeat 0.1 mg/kg, (maximum dose 5 mg) P If unable to establish IV, 0.1 mg/kg IM (maximum dose 5 mg) 		
Therapeutic Action	<ul style="list-style-type: none"> • Provides analgesia, reduces cardiac preload by increasing venous capacitance and decreasing afterload 		
Contraindications	<ul style="list-style-type: none"> • Hypersensitivity to narcotics • Hypotension • Head injury, increased intracranial pressure • Severe respiratory depression • Patients who have taken MAO inhibitors within 14 days 		
Precautions And Side Effects	<ul style="list-style-type: none"> • Use with caution in the elderly, those with asthma, and in those susceptible to CNS depression. • Side Effects: <ul style="list-style-type: none"> ○ Hypotension ○ Tachycardia, or bradycardia <ul style="list-style-type: none"> ▪ May worsen bradycardia or heart block in inferior MI (vagotonic effect) ○ Palpitations ○ Syncope ○ Euphoria ○ Facial flushing ○ Respiratory depression ○ Bronchospasm ○ Dry mouth ○ Allergic reaction 		
Medical Control	<ul style="list-style-type: none"> • Adults: No • Pediatrics: <ul style="list-style-type: none"> ○ No ○ es, for repeat doses 		
Guidelines	<ul style="list-style-type: none"> • General Protocol 1014 Pain Management • Cardiac Protocol 2006 AICD Activations • Cardiac Protocol 2008 Suspected Cardiac Chest Pain • Cardiac Protocol 2009 Cardiac Alert Program 		
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Subject: Naloxone (Narcan)

Effective: June 1, 2021

Last Modified: Dec. 8, 2021

EMR	EMT	AEMT	Paramedic
Packaging	<ul style="list-style-type: none"> • 2 mg in 2 ml vial (1 mg/ml) • Six in drug bag 		
Indications	<ul style="list-style-type: none"> • High index of suspicion of narcotic overdose • Respiratory depression • Suspicion of drug abuse in cardiac arrest 		
Adult Dosing	<p>A (EMR or EMT) Up to 4 mg IN (half dose per nostril)</p> <p>A (AEMT or Paramedic)</p> <p> A Up to 4 mg IN (half dose per nostril) or 2 mg IV</p> <p> A If no IV, up to 4 mg IM</p> <p>A Titrate dosing to adequate respirations, repeat as needed</p>		
Pediatric Dosing	<p>P (EMR or EMT)</p> <p> P If 20 kg or less, then 0.1 mg/kg IN (maximum dose 2 mg) (half dose per nostril)</p> <p> P If greater than 20 kg, then 2 mg IN, may repeat as needed</p> <p>P (AEMT or Paramedic)</p> <p> P For neonates, consider 0.1 mg/kg IV, every 3 minutes until respirations improve)</p> <p> P If 20 kg or less, then 0.1 mg/kg IN (half dose per nostril), IV or IM (maximum dose 2 mg)</p> <p> P If greater than 20 kg, then 2 mg IN (half dose per nostril)</p> <p> P If using IN route and respirations don't improve after 2 mins., establish and administer via IV</p> <p>P Titrate dosing to adequate respirations, repeat as needed.</p>		
Therapeutic Action	<ul style="list-style-type: none"> • A competitive narcotic antagonist 		
Contraindications	<ul style="list-style-type: none"> • Hypersensitivity 		
Precautions And Side Effects	<ul style="list-style-type: none"> • Any intranasal administration should be given at a half dose in each nostril • Onset of action is two minutes, if no response two minutes after dosing, then give additional doses • For the paramedic: if the patient has a pulse, Naloxone should be given before intubation. • After administration, patient transport by EMS is encouraged, even if patient becomes responsive. • Use with caution in narcotic-dependent patients who may experience withdrawal syndrome (including neonates of narcotic-dependent mothers). • Caution should be exercised when administering to narcotic addicts (may precipitate withdrawal symptoms) • Side Effects: <ul style="list-style-type: none"> ○ Tachycardia ○ Hypertension ○ Dysrhythmias ○ Diaphoresis ○ Blurred vision ○ Nausea and vomiting ○ May not reverse hypotension 		
Medical Control	<ul style="list-style-type: none"> • Adult: No • Pediatric: No 		
Guidelines	<ul style="list-style-type: none"> • General Protocol 1005 General Patient Management • General Protocol 1012 Intraosseous Infusion • Cardiac Protocol 2003 Cardiac Arrest: Asystole or PEA • Cardiac Protocol 2009 Cardiac Alert Program • Medical Protocol 4012 Overdose/Poisoning • Pediatric Considerations 5002 Newborn Care and Resuscitation 		
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Subject: Nitroglycerin (Nitrostat)

Effective: June 1, 2021

Last Modified: Oct. 10, 2021

EMR	EMT	AEMT	Paramedic
Packaging	<ul style="list-style-type: none"> • Dark brown glass bottle, 0.4 mg SL tablets • One bottle in drug bag 		
Indications	<ul style="list-style-type: none"> • For the EMT, AEMT and Paramedic: <ul style="list-style-type: none"> ○ Cardiac related chest pain ○ For the EMT, the patient must be prescribed Nitroglycerin • For the AEMT and Paramedic: <ul style="list-style-type: none"> ○ Pulmonary edema with systolic BP over 100 mmHg ○ Stimulant overdose with chest pain 		
Adult Dosing	<p>A 0.4 mg SL every 5 min for continued chest pain up to a total of 3 tablets</p>		
Pediatric Dosing	<p>P Not applicable</p>		
Therapeutic Action	<ul style="list-style-type: none"> • Vasodilator which decreased preload and to a lesser extent, afterload 		
Contraindications	<ul style="list-style-type: none"> • Hypersensitivity • Hypotension • Use of sexual enhancement drugs (Viagra, Cialis, Levitra) in last 24 hours • Taking Revatio (a pulmonary hypertension medication) • Head injury 		
Precautions And Side Effects	<ul style="list-style-type: none"> • Use only on patients who are at least 25 years old or have been prescribed Nitroglycerin • Side Effects: <ul style="list-style-type: none"> ○ Transient headache ○ Reflex tachycardia ○ Hypotension ○ Diaphoresis ○ Postural syncope ○ Nausea & vomiting 		
Medical Control	<ul style="list-style-type: none"> • Adult: <ul style="list-style-type: none"> ○ For the EMT: <ul style="list-style-type: none"> ▪ To assist the patient with their initial dose of Nitroglycerin: No ▪ To access the drug bag to administer Nitroglycerin: es ○ For the AEMT and Paramedic: No • Pediatric: Not applicable 		
Protocol	<ul style="list-style-type: none"> • Cardiac Protocol 2008 Suspected Cardiac Chest Pain • Medical Protocol 4012 Overdose/Poisoning • Medical Protocol 4013 Respiratory Distress/Pulmonary Edema 		
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Subject: Norepinephrine (Levophed)

Effective: June 1, 2021

Last Modified: Oct. 10, 2021

EMR	EMT	AEMT	Paramedic															
Packaging	<ul style="list-style-type: none"> 4 mg in 4ml (1mg/ml) vial for dilution in 250 ml of IV fluids One in drug bag 																	
Indications	<ul style="list-style-type: none"> For blood pressure control in acute hypotensive states in the non-trauma patient. As an adjunct in the treatment of cardiac arrest and profound hypotension. 																	
Adult Dosing	<p>A Add 4 mg to 250 ml of IV fluids.</p> <p>A Infuse starting at 30 drops per minute (max. 45 drops) with 60 drop tubing and titrate to effect.</p> <p>A Increase by 5 drops every 5 minutes.</p> <table border="1" data-bbox="1166 743 1481 911"> <thead> <tr> <th>gtts/min</th> <th></th> <th>mcg/min</th> </tr> </thead> <tbody> <tr> <td>30</td> <td></td> <td>8</td> </tr> <tr> <td>35</td> <td></td> <td>9.35</td> </tr> <tr> <td>40</td> <td></td> <td>10.7</td> </tr> <tr> <td>45</td> <td></td> <td>12</td> </tr> </tbody> </table>			gtts/min		mcg/min	30		8	35		9.35	40		10.7	45		12
gtts/min		mcg/min																
30		8																
35		9.35																
40		10.7																
45		12																
Pediatric Dosing	<p>P ♦ Contact MCP for dosing and administration guidance.</p>																	
Therapeutic Action	<ul style="list-style-type: none"> Peripheral vasoconstrictor. Positive inotrope (increases cardiac contractility) and chronotrope (increases heart rate). 																	
Contraindications	<ul style="list-style-type: none"> Should not be given to patients who are hypotensive from acute hemorrhage. Do not use the solution if its color is pinkish or darker than slightly yellow or if it contains particles. 																	
Precautions And Side Effects	<ul style="list-style-type: none"> Protect the vial from light This drug <u>must</u> be diluted before administration. Administer in free-flowing IV and watch for infiltration. Avoid hypertension. If extravasation occurs, stop the infusion immediately as necrosis may occur. Leave the catheter in place so that a reversal agent can be given through the infiltrated catheter. 																	
Medical Control	<ul style="list-style-type: none"> Adult: es, during the management of septic patients. For all others, No. Pediatric: es 																	
Protocol	<ul style="list-style-type: none"> Cardiac Protocol 2009 Cardiac Alert Program Medical Protocol 4015 Sepsis Medical Protocol 4016 Shock 																	
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Subject: Normal Saline (Sodium Chloride Solution)

Effective: June 1, 2021

Last Modified: Dec. 8, 2020

EMR	AEMT	Paramedic
Packaging	<ul style="list-style-type: none"> Usually a 1000 ml flexible, non-latex plastic bag Generally with a pH of 6.5. Not in drug bags or caches 	
Indications	<ul style="list-style-type: none"> Solution for fluid and electrolyte replenishment Hypovolemia Flushing of wounds Shock Pulmonary edema with systolic BP over 100 mmHg Sepsis 	
Adult Dosing	<p>A Non traumatic shock without pulmonary edema:</p> <p> A 500 ml IV</p> <p> A ♦ May repeat 500 ml IV if needed</p> <p>A Non traumatic shock with pulmonary edema: 250 ml IV</p> <p>A Sepsis:</p> <p> A 1 L IV</p> <p> A ♦ Additional IV fluid if indicated</p> <p>A Penetrating trauma to chest or abdomen: enough fluid to obtain a radial pulse</p> <p>A Crush syndrome:</p> <p> A Initial treatment: 1 L IV then 500 ml/hour IV</p> <p> A If hypotensive then additional 1 L IV</p> <p>A Heat exposure:</p> <p> A 500 ml IV, may repeat x1</p> <p> A ♦ Additional IV fluid, if indicated</p>	
Pediatric Dosing	<p>P 20 ml/kg IV bolus</p> <p>P ♦ In shock, call for orders to administer additional fluid</p>	
Therapeutic Action	<ul style="list-style-type: none"> Used for hydration and management of hypotension 	
Contraindications	<ul style="list-style-type: none"> None in the emergency setting 	
Precautions And Side Effects	<ul style="list-style-type: none"> None 	
Medical Control	<ul style="list-style-type: none"> • Adults: es, for additional fluid administrations • Pediatrics: es, for additional fluid administrations 	
Protocol	<ul style="list-style-type: none"> • General Protocol 1005 General Patient Management 	
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Subject: Normosol-R

Effective: June 1, 2021

Last Modified: Dec. 8, 2020

EMR	EMT	AEMT	Paramedic
Packaging	<ul style="list-style-type: none"> • Usually a 1000 ml flexible, non-latex plastic bag • Generally with a pH of 6.5. • Not in drug bags or caches 		
Indications	<ul style="list-style-type: none"> • Solution for fluid and electrolyte replenishment • Hypovolemia • Flushing of wounds • Shock • Pulmonary edema with systolic BP over 100 mmHg • Sepsis 		
Adult Dosing	<p>A Non traumatic shock without pulmonary edema:</p> <p> A 500 ml IV</p> <p> A ♦ May repeat 500 ml IV if needed</p> <p>A Non traumatic shock with pulmonary edema: 250 ml IV</p> <p>A Sepsis:</p> <p> A 1 L IV</p> <p> A ♦ Additional IV fluid if indicated</p> <p>A Penetrating trauma to chest or abdomen: enough fluid to obtain a radial pulse</p> <p>A Crush syndrome:</p> <p> A Initial treatment: 1 L IV then 500 ml/hour IV</p> <p> A If hypotensive then additional 1 L IV</p> <p>A Heat exposure:</p> <p> A 500 ml IV, may repeat x1</p> <p> A ♦ Additional IV fluid, if indicated</p>		
Pediatric Dosing	<p>P 20 ml/kg IV bolus</p> <p>P ♦ In shock, call for orders to administer additional fluid</p>		
Therapeutic Action	<ul style="list-style-type: none"> • Used for hydration and management of hypotension 		
Contraindications	<ul style="list-style-type: none"> • None in the emergency setting 		
Precautions And Side Effects	<ul style="list-style-type: none"> • None 		
Medical Control	<ul style="list-style-type: none"> • Adults: es, for additional fluid administrations • Pediatrics: es, for additional fluid administrations 		
Protocol	<ul style="list-style-type: none"> • General Protocol 1005 General Patient Management 		
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Subject: Ondansetron (ofran)

Effective: June 1, 2021

Last Modified: Oct. 10, 2021

EMR	EMT	AEMT	Paramedic
Packaging	<ul style="list-style-type: none"> • 4 mg in 2 ml vial, (2 mg/ml) • 1 vial in drug bag • 4 mg tablet • 1 tablet in drug bag 		
Indications	<ul style="list-style-type: none"> • For nausea or active vomiting 		
Adult Dosing	<p>▲ For the AEMT and Paramedic: ▲ 4 mg tablet PO (only option for the AEMT, second line option for the paramedic)</p> <p>▲ For the Paramedic: ▲ 4 mg slow IV, preferred route for active vomiting as patient may need hydration. ▲ If no IV, may use 4 mg tablet PO ▲ Consider administering 4 mg/2 ml of the IV form by discharging into the patient's mouth.</p>		
Pediatric Dosing	<p>P For the AEMT and the Paramedic: P 4 mg tablet PO if patient 12 y/o or older and weight is 40 kg or more. P Transport time should be considered prior to administration.</p> <p>P For the Paramedic P 0.1 mg/kg IV (max 4 mg)</p>		
Therapeutic Action	<ul style="list-style-type: none"> • Stimulation of 5-HT 3 receptors causes transmission of sensory signals to the vomiting center via vagal afferent fibers to induce vomiting. • By binding to 5-HT 3 receptors, Ondansetron blocks vomiting mediated by serotonin release. 		
Contraindications	<ul style="list-style-type: none"> • Known hypersensitivity to Ondansetron 		
Precautions And Side Effects	<ul style="list-style-type: none"> • During pregnancy it should only be used where clearly needed. • <u>Side effects:</u> <ul style="list-style-type: none"> ○ Constipation or diarrhea ○ Fever ○ Headache. ○ Sudden blindness of 2-3 minutes duration. (the speed of delivery may contribute to the blindness) 		
Medical Control	<ul style="list-style-type: none"> • Adults: No • Pediatrics: No 		
Protocol	<ul style="list-style-type: none"> • Medical Protocol 4001 Abdominal Pain • Medical Protocol 4012 Overdose/Poisoning 		
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Subject: Oral Glucose

Effective: June 1, 2021

Last Modified: Oct. 10, 2021

EMR	EMT	AEMT	Paramedic
Packaging	<ul style="list-style-type: none"> • Tube concentration varies, check label • Not carried in drug bag 		
Indications	<ul style="list-style-type: none"> • Hypoglycemia • Generalized hypothermia without arrest • Altered level of consciousness of unknown cause • Seizures with BGL of less than 60 mg/dl, no BGL monitor or suspicion of hypoglycemia despite BGL reading • For the AEMT and Paramedic, no IV access or available Glucagon 		
Adult Dosing	<p>A 1 tube A May be repeated in 10 minutes if BGL remains less than 60 mg/dl</p>		
Pediatric Dosing	<p>P 1 tube P May be repeated in 10 minutes if BGL remains less than 60 mg/dl</p>		
Therapeutic Action	<ul style="list-style-type: none"> • Raise blood glucose concentration 		
Contraindications	<ul style="list-style-type: none"> • Inability to control the airway 		
Precautions And Side Effects	<ul style="list-style-type: none"> • Use caution when giving to unresponsive patients. • Hyperglycemia 		
Medical Control	<ul style="list-style-type: none"> • Adults: No • Pediatrics: No 		
Protocol	<ul style="list-style-type: none"> • Medical Protocol 4008 Diabetic Emergencies - Hypoglycemia 		
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Subject: Plasmalyte-A

Effective: June 1, 2021

Last Modified: Dec. 8, 2020

EMR	EMT	AEMT	Paramedic
Packaging	<ul style="list-style-type: none"> • Usually a 1000 ml flexible, non-latex plastic bag • Generally solution with a pH of 7.4 • Not in drug bags or caches 		
Indications	<ul style="list-style-type: none"> • Solution for fluid and electrolyte replenishment • Hypovolemia • Flushing of wounds • Shock • Pulmonary edema with systolic BP over 100 mmHg • Sepsis 		
Adult Dosing	<ul style="list-style-type: none"> ▲ Non traumatic shock without pulmonary edema: <ul style="list-style-type: none"> ▲ 500 ml IV ▲ ♦ May repeat 500 ml IV if needed ▲ Non traumatic shock with pulmonary edema: 250 ml IV ▲ Sepsis: <ul style="list-style-type: none"> ▲ 1 L IV ▲ ♦ Additional IV fluid if indicated ▲ Penetrating trauma to chest or abdomen: enough fluid to obtain a radial pulse ▲ Crush syndrome: <ul style="list-style-type: none"> ▲ Initial treatment: 1 L IV then 500 ml/hour IV ▲ If hypotensive then additional 1 L IV ▲ Heat exposure: <ul style="list-style-type: none"> ▲ 500 ml IV, may repeat x1 ▲ ♦ Additional IV fluid, if indicated 		
Pediatric Dosing	<ul style="list-style-type: none"> P 20 ml/kg IV bolus P ♦ In shock, call for orders to administer additional fluid 		
Therapeutic Action	<ul style="list-style-type: none"> • Used for hydration and management of hypotension 		
Contraindications	<ul style="list-style-type: none"> • None in the emergency setting 		
Precautions And Side Effects	<ul style="list-style-type: none"> • Hyperkalemia 		
Medical Control	<ul style="list-style-type: none"> • Adults: es, for additional fluid administrations • Pediatrics: es, for additional fluid administrations 		
Protocol	<ul style="list-style-type: none"> • General Protocol 1005 General Patient Management 		
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Subject: Pralidoxime (2-PAM)

Effective: June 1, 2021

Last Modified: Oct. 10, 2021

EMR	EMT	AEMT	Paramedic
Packaging	<ul style="list-style-type: none"> 600 mg auto-injector 		
Indications	<ul style="list-style-type: none"> To be used following Atropine in organophosphate, or nerve agent poisoning. Both for treatment of civilian patients at the scene, as well as for protection of public safety personnel who walk into scene & become unexpectedly contaminated. 		
Adult Dosing	<p>A ♦ 600 mg IM auto-injector</p>		
Pediatric Dosing	<p>P ♦ Children greater than 20 kg: 600 mg IM auto-injector</p>		
Therapeutic Action	<ul style="list-style-type: none"> Reactivates cholinesterase after poisoning with anticholinesterase agents, (Organophosphate or Nerve Gas) Reverses muscle paralysis after organophosphate poisoning 		
Contraindications	<ul style="list-style-type: none"> Hypersensitivity 		
Precautions And Side Effects	<ul style="list-style-type: none"> Use with caution in myasthenia gravis, renal impairment, pregnancy, children. Can spread to child through breast feeding 		
Medical Control	<ul style="list-style-type: none"> Adults: es Pediatrics: Yes 		
Protocol	<ul style="list-style-type: none"> Special Operations Protocol 6002 Antidote Resources Special Operations Protocol 6005 Organophosphate or Nerve Agent Exposure 		
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Subject: Sodium Bicarbonate

Effective: June 1, 2021

Last Modified: Aug. 1, 2021

EMR	EMT	AEMT	Paramedic
Packaging	<ul style="list-style-type: none"> • 50 mEq in 50 ml syringe (1 mEq/ml) • Two in drug bag 		
Indications	<ul style="list-style-type: none"> • Not for routine arrests. Studies indicate no proven efficacy. • Renal dialysis patient in asystole or PEA cardiac arrest • Excited delirium patients that go into cardiac arrest • Known tricyclic overdose • Crush Syndrome 		
Adult Dosing	<p>A Cardiac Arrest:</p> <ul style="list-style-type: none"> A In renal dialysis patient: 100 mEq IV A ♦ Consider for the excited delirium patient who goes into arrest: 100 mEq IV <p>A Tricyclic antidepressant OD:</p> <ul style="list-style-type: none"> A ♦ 100 mEq IV A ♦ May repeat dose of 50 mEq IV for persistent or prolonged QRS <p>A Crush syndrome:</p> <ul style="list-style-type: none"> A 100 mEq IV 		
Pediatric Dosing	<p>P Cardiac Arrest:</p> <ul style="list-style-type: none"> P In renal dialysis patient: 1 mEq/kg IV <p>P Tricyclic antidepressant OD:</p> <ul style="list-style-type: none"> P ♦ 1 mEq/kg IV P ♦ May repeat dose of 0.5 mEq/kg IV for persistent or prolonged QRS <p>P Crush syndrome:</p> <ul style="list-style-type: none"> P 1 mEq/kg IV 		
Therapeutic Action	<ul style="list-style-type: none"> • Buffers metabolic acidosis 		
Contraindications	<ul style="list-style-type: none"> • None in the emergency setting 		
Precautions And Side Effects	<ul style="list-style-type: none"> • Metabolic alkalosis • Hypoxia • Rise in intracellular PCO₂ and increased tissue acidosis • Electrolyte imbalance (hypernatremia) • Seizures • Tissue sloughing at injection site 		
Medical Control	<ul style="list-style-type: none"> • Adults: <ul style="list-style-type: none"> ○ Renal dialysis Arrest – No ○ Tricyclic OD – es ○ Excited Delirium Arrest - es • Pediatrics: <ul style="list-style-type: none"> ○ Arrest – No ○ Tricyclic OD – es ○ Crush Syndrome - No 		
Protocol	<ul style="list-style-type: none"> • Cardiac Protocol 2004 Cardiac Arrest - Renal Failure/Dialysis • Cardiac Protocol 2010 Bradycardia • Trauma Protocol 3007 Crush Syndrome Trauma • Medical Protocol 4007 Combative Patients/Emergency Sedation • Medical Protocol 4012 Overdose/Poisoning 		
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Subject: Sodium Nitrite (JITSO)

Effective: June 1, 2021

Last Modified: Oct. 10, 2021

EMR	EMT	AEMT	Paramedic
Packaging	<ul style="list-style-type: none"> • 300 mg in 10 ml vial (30 mg/ml) • Available in caches located in each county in Homeland Security Region 3. 		
Indications	<ul style="list-style-type: none"> • Patients with known or suspected cyanide poisoning 		
Adult Dosing	<p>A ♦ 300 mg (10 ml) 3 solution slow IV</p>		
Pediatric Dosing	<p>P Not applicable</p>		
Therapeutic Action	<ul style="list-style-type: none"> • Oxidizes hemoglobin which then combines with cyanide to form an inactive compound 		
Contraindications	<ul style="list-style-type: none"> • Nitrite/nitrate allergy 		
Precautions And Side Effects	<ul style="list-style-type: none"> • Methemoglobinemia if given in excessive amounts 		
Medical Control	<ul style="list-style-type: none"> • Adults: es • Pediatrics: Not applicable 		
Guidelines	<ul style="list-style-type: none"> • Trauma Protocol 3008 - Cyanide Poisoning & Antidotes 		
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Subject: Sodium Thiosulfate

Effective: June 1, 2021

Last Modified: Oct. 10, 2021

EMR	EMT	AEMT	Paramedic
Packaging	<ul style="list-style-type: none"> 12.5 gm in 50 ml vial (250 mg/ml) Available in caches located in each county in Homeland Security Region 3. 		
Indications	<ul style="list-style-type: none"> Conscious patient with known or suspected cyanide poisoning Smoke inhalation with suspected cyanide component Cardiac arrest from known or suspected cyanide poisoning or smoke inhalation 		
Adult Dosing	A ♦ 12.5 gm (50 ml) 25 solution slow IV		
Pediatric Dosing	P ♦ Greater than 25 kg: 12.5 gm (50 ml) 25 solution slow IV P ♦ Less than 25 kg: 412.5 mg/kg (1.65 ml/kg) of 25 solution (max dose 12.5 g (50 ml))		
Therapeutic Action	<ul style="list-style-type: none"> Accelerates detoxification of cyanide 		
Contraindications	<ul style="list-style-type: none"> None 		
Precautions And Side Effects	<ul style="list-style-type: none"> Possible hypotension 		
Medical Control	<ul style="list-style-type: none"> Adults: es, unless arrest situation Pediatrics: es, unless arrest situation 		
Protocol	<ul style="list-style-type: none"> Trauma Protocol 3008 Cyanide Poisoning & Antidotes 		
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Subject: Tetracaine

Effective: June 1, 2021

Last Modified: Oct. 10, 2021

EMR	EMT	AEMT	Paramedic
Packaging	<ul style="list-style-type: none"> • 0.5 /ml eye drop bottle (10 ml) • One in drug bag 		
Indications	<ul style="list-style-type: none"> • Prior to eye irrigation in cases of chemical injury to the eye and in other situations with significant eye pain without possibility of penetrating trauma to eye. 		
Adult Dosing	<p>A 2 drops in each affected eye</p>		
Pediatric Dosing	<p>P 2 drops in each affected eye</p>		
Therapeutic Action	<ul style="list-style-type: none"> • Provides rapid, brief, superficial anesthesia by inhibiting conduction of nerve impulses from sensory nerves 		
Contraindications	<ul style="list-style-type: none"> • Hypersensitivity to Tetracaine • Open injury to eye 		
Precautions And Side Effects	<ul style="list-style-type: none"> • May cause burning or stinging sensation or irritation • Can cause epithelial damage and systemic toxicity • Incompatible with mercury or silver salts often found in ophthalmic products 		
Medical Control	<ul style="list-style-type: none"> • Adults: No • Pediatrics: No 		
Protocol	<ul style="list-style-type: none"> • Trauma Protocol 3011 Eye Injuries 		
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Subject: Vasopressin (JITSO)

Effective: June 1, 2021

Last Modified: Oct. 10, 2021

EMR	EMT	AEMT	Paramedic
Packaging	<ul style="list-style-type: none"> • 20 units in 1 ml vial, 20 units/ml • Usually 2 vials (20 ml) present • Not routinely present in the drug bag 		
Indications	<ul style="list-style-type: none"> • Adult patients in cardiac arrest 		
Adult Dosing	<p>A 40 units IV</p> <ul style="list-style-type: none"> • Once IV is established, Vasopressin is permitted after either first or second dose of Epinephrine. 		
Pediatric Dosing	<p>P Not applicable</p>		
Therapeutic Action	<ul style="list-style-type: none"> • Potent peripheral vasoconstrictor. • May be used as an alternative pressor to Epinephrine in the treatment of adult shock-refractory VF and PEA 		
Contraindications	<ul style="list-style-type: none"> • None in the adult cardiac arrest 		
Precautions And Side Effects	<ul style="list-style-type: none"> • May produce cardiac ischemia and angina 		
Medical Control	<ul style="list-style-type: none"> • Adults: No • Pediatrics: Not applicable 		
Protocol	<ul style="list-style-type: none"> • Cardiac Protocol 2005 Cardiac Arrest: V-Fib or Pulseless V-Tach 		
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Appendix A

Protocol Changes

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Subject: 2022 Protocol Changes

Effective: Jan. 1, 2022

Last Modified: Dec. 8, 2021

Appendix A.1 General Guidelines

- a. All important changes made to the 2022 GMVEMSC protocol are listed in this section.
- b. Grammatical changes, formatting or clerical corrections are not mentioned.
- c. The different tabs are:
 - i. General Protocol Changes – includes any changes that effect the protocol as a whole or all of the different disciplines
 - ii. EMR – changes affecting the patient care from an EMR
 - iii. EMT – changes affecting the patient care from an EMT, including from EMR tabs
 - iv. AEMT – changes affecting the patient care from an EMT, including from EMR & EMT tabs
 - v. Paramedic - changes affecting the patient care from a Paramedic, including from all other tabs
 - vi. Drug Formulary – changes made to the 8000 series drug listings, affecting all levels
- d. It is recommended that each discipline review the changes to all the other levels as well as their own as some changes could affect their practice.

Appendix A.2 2022 GMVEMSC Protocol Changes

General Protocol Changes		
Tab	Section	Change/Edit/Addition
All	Complete protocol	Added title pages to each section
All	All	Added hyperlinks from drug names to specific formularies
Various	Various	Re-ordered the tabs in areas where it made the most sense, some sections are now alphabetical
1004	1004	Re-worked the tab for clarification and simplification
1005	1005.3 Pediatrics	Added line “the maximum dose for pediatric medication administration is the adult dose”
1011	1011.1.d	Added bullet to consider how long ago a tracheostomy had been placed
3004	Clinical Pearls	Removed guideline to change hand placement for CPR on a pregnant patient
3005	3005.1.b	Added recommendation to estimate total BSA involved in burn with “universally accepted methods”
3005	3005.1.b.i	Clarified that BSA should be isolated to partial and full thickness burns
3008	3008.1	Changed number of Sodium Thiosulfate doses from 5 to 3
3017	3017.2.a.ix	Added statement that patients should be triaged as BLACK only when the demands outstrip the needs
3018	3018.6	Section changed from “Sporting Injuries” to “Equipment Issues”
3018	3018.6.b	Added a bullet to address removal of helmets for SMR or airway management
3018	3018.7	Added statement addressing patients over 69 y/o as “High Risk” patients and use of a cervical collar
3018	3018.7	Added reference to placing a Cervical Collar to patients who are “Trauma Alerts”
4005	4005.1.a.ii	Added bullet to define gestation age in weeks
4007	Subject	Changed title from “Combative Patients/Patient Restraint” to “Combative Patients/Emergency Sedation”
4009	4009.2.b	Added stipulation that a parent or guardian may refuse transport of a diabetic patient after treatment
4010	4010.1.b	Added reminder that extrapyramidal reactions can occur after ingestion of recreational drugs
4011	4011	Cleaned up redundancies. Also removed reference to change hand placement for CPR on a pregnant patient
4011	4011.2	Modified and clarified the transport decisions and positioning for pregnant patients
4012	4012.1.c	Added request to bring substance information to the ED where safe and practical
4017	4017.3 S & S	Added signs of Large Vessel Occlusion (LVO)
4017	4017.3 Clinical Pearls	Added possible indicators of Large Vessel Occlusion (LVO)
7001	7001.2.a	Added that all agencies with GMVEMSC Drug Bags must be able to contact MCP at a participating facility
7012	7012.6	Edited hospital names to reflect most current versions
7013	7013.2	Edited hospital names to reflect most current versions
7013	Chart	Added Interventional Cardiac Cath to Miami Valley Hospital (South)
7013	Chart	Added Level 3 Adult Trauma and Primary Stroke Capable to Upper Valley Medical Center
7014	7014	Edited hospital names and phone numbers to reflect most current versions



Subject: 2022 Protocol Changes

Effective: Jan. 1, 2022

Last Modified: Dec. 8, 2021

Emergency Medical Responder

Tab	Section	Change/Edit/Addition
Various	Complete protocol	Where mentioned, moved CO-oximetry and capnography to the EMR level
1005	1005.4 EMR	Added criteria that EMR are only allowed to obtain manual blood pressures
2002	2002.2 EMR	Added the use of mechanical CPR to comply with Ohio EMS Scope of Practice
3005	3005.1 EMR	Removed warmed and humidified oxygen to comply with Ohio EMS Scope of Practice
3015	3015.1 EMR	Added {Wound Packing} for all disciplines, provided they have received the specialized training
3016	3016.1 EMR	Removed warmed and humidified oxygen to comply with Ohio EMS Scope of Practice
4005	4005.2 EMR	Changed the EMR role to assist with emergency childbirth
4012	4012.1 EMR	Added a reminder that Naloxone is to be administered at a half dose per nostril

Emergency Medical Technician

Tab	Section	Change/Edit/Addition
1005	1005.3 EMT	Added a section that defines what skills an EMT may assist an advanced provider with
1005	1005.4 EMT	Defined that an EMT may only acquire a 12 Lead EKG for the purpose of transmission
1005	1005.4 EMT	Defined that an EMT may assist a Paramedic with applying a 12 Lead EKG
1005	1005.4 EMT	Defined that an EMT may assist an advanced provider with setting up an IV administration kit
1009	1009.2 EMT	Changed EtCO ₂ detection from "recommended" to "mandatory for advanced airway confirmation"
2008	2008.2 EMT	Added language to remind the EMT that they must transmit 12-Lead EKGs
2009	2009.4 EMT	Added recommendation to apply defibrillation pads to confirmed MI patients
3004	3004.3 Consult	Removed Blood Glucose as requirement for Field Termination
3005	3005.1 EMT	Moved warmed and humidified oxygen from EMR to EMT level
3005	3005.1 EMT	Moved CO-oximetry to EMR level
3015	3015.1 EMR	Added {Wound Packing} for all disciplines, provided they have received the specialized training
3016	3016.1 EMT	Moved warmed and humidified oxygen from EMR to EMT level
4012	4012.1 EMR	Added a reminder that Naloxone is to be administered at a half dose per nostril
4014	4014.1 EMT	Added bullet to place patient in the recovery position during assessment and transport

Advanced Emergency Medical Technician

Tab	Section	Change/Edit/Addition
1005	1005.4 AEMT	Defined that an AEMT may only acquire a 12 Lead EKG for the purpose of transmission
1005	1005.4 AEMT	Defined that an AEMT may assist a Paramedic with applying a 12 Lead EKG
1008	1008.1 AEMT	Clarified that there should only be two ETT attempts per patient prior to moving to a rescue airway
1008	1008.1 AEMT	Identified the three different needle decompression site choices
1012	1012.1 & 1012.2	Clarified some of the intent and direction for selecting a site and size for IO insertion
1012	1012.1 iii	Added statement that the proximal tibia is not to be used in adult cardiac arrest
1009	1009.2 EMT	Changed EtCO ₂ detection from "recommended" to "mandatory for advanced airway confirmation"
2001	2001.2 Consult	Removed Blood Glucose as requirement for Field Termination
2002	2002.2 AEMT	Removed consideration of the Impedance Threshold Device
2008	2008.2 AEMT	Added language that an AEMT or higher doesn't need orders to administer aspirin
2008	2008.2 AEMT	Added language to remind the AEMT to transmit the 12-Lead EKG
2009	2009.4 EMT	Added recommendation to apply defibrillation pads to confirmed MI patients
3002	3002.1 AEMT	Identified the approved site for needle decompression in patients less than 8 y/o as the mid-clavicular line only
3004	3004.3 AEMT	Identified the approved site for needle decompression in patients less than 8 y/o as the mid-clavicular line only
3004	3004.3 Consult	Removed Blood Glucose as requirement for Field Termination
3015	3015.1 EMR	Added {Wound Packing} for all disciplines, provided they have received the specialized training
4002	4006.2 AEMT	Added pediatric glucagon by age criteria
4003	4003.1 AEMT	Changed decompression criteria to only the affected sides in patients who are not in cardiac arrest
4003	4003.1 AEMT	Identified the approved site for needle decompression in patients less than 8 y/o as the mid-clavicular line only
4003	4003.1 AEMT	Added COPD to "(NOT for emphysema)"
4007	4007.1 Clinical Pearls	Added reminder that NPA, positioning and suctioning will facilitate airway management after Ketamine
4008	4008.2 AEMT	Added pediatric glucagon by age criteria
4012	4012.1 EMR	Added a reminder that Naloxone is to be administered at a half dose per nostril



Subject: 2022 Protocol Changes

Effective: Jan. 1, 2022

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4012	4012.2 AEMT	Added "for unrelieved chest pain" to repeat Midazolam in Stimulant Overdose
4012	4012.2 AEMT	Added pediatric glucagon by age criteria
4014	4014.1 EMT	Added bullet to place patient in the recovery position during assessment and transport

Paramedic

Tab	Section	Change/Edit/Addition
1008	1008.1 AEMT	Clarified that there should only be two ETT attempts per patient prior to moving to a rescue airway
1008	1008.1 AEMT	Identified the three different needle decompression site choices
1009	1009.2 EMT	Changed EtCO ₂ detection from "recommended" to "mandatory for advanced airway confirmation"
1010	1010.1.f	Added an option for Medical Directors to choose different paralytics for STI within their agencies
1010	1010.1.g.ii	Defined that the paralyzing injury exclusion is specific to Succinylcholine
1012	1012.1 & 1012.2	Clarified some of the intent and direction for selecting a site and size for IO insertion
2001	2001.2 Consult	Removed Blood Glucose as requirement for Field Termination
2002	2002.2 AEMT	Removed consideration of the Impedance Threshold Device
2005	2005.2 Paramedic	Changed blood pressure to 100 systolic as indicator to use Amiodarone drip
2008	2008.2 Paramedic	Clarified that a Paramedic should <u>only</u> transmit Cardiac Alert criteria, or questionable 12 Lead EKGs
2009	2009.4 EMT	Added recommendation to apply defibrillation pads to confirmed MI patients
2009	2009.4 Paramedic	Reworked the entire Paramedic section. Notably, removed checking V4R as requirement in Inferior MI
3002	3002.1 AEMT	Identified the approved site for needle decompression in patients less than 8 y/o as the mid-clavicular line only
3004	3004.3 AEMT	Identified the approved site for needle decompression in patients less than 8 y/o as the mid-clavicular line only
3004	3004.3 Consult	Removed Blood Glucose as requirement for Field Termination
3008	3008.4 Clinical Pearls	Added option to administer cyanide antidotes via IO in extreme cases, study guide will address how
3015	3015.1 EMR	Added {Wound Packing} for all disciplines, provided they have received the specialized training
4001	4001.2 Paramedic	Removed IV as the "preferred" route for Ondansetron in adult patients who just complain of nausea
4002	4002.2 AEMT	Added pediatric glucagon by age criteria
4002	4002.2 Paramedic	Added the line "If a patient deteriorating or unresponsive, consider early intubation....."
4003	4003.1 AEMT	Changed decompression criteria to only the affected sides in patients who are not in cardiac arrest
4003	4003.1 AEMT	Identified the approved site for needle decompression in patients less than 8 y/o as the mid-clavicular line only
4003	4003.1 AEMT	Added COPD to "(NOT for emphysema)"
4004	4004.3 Paramedic	Removed "aggressively with medication" from the line concerning Paramedic treatment
4007	4007.1 Clinical Pearls	Added reminder that NPA, positioning and suctioning will facilitate airway management after Ketamine
4008	4008.2 AEMT	Added pediatric glucagon by age criteria
4012	4012.2 AEMT	Added "for unrelieved chest pain" to repeat Midazolam in Stimulant Overdose
4012	4012.2 Paramedic	Added qualifier "for persistent QRS prolongation" to repeat pediatric Sodium Bicarbonate in Tricyclic OD
4012	4012.1 EMR	Added a reminder that Naloxone is to be administered at a half dose per nostril
4012	4012.2 AEMT	Added pediatric glucagon by age criteria
4014	4014.1 EMT	Added bullet to place patient in the recovery position during assessment and transport

Drug Formulary

Tab	Section	Change/Edit/Addition
8002	Indications	Clarified that only a Paramedic may administer Albuterol to Crush Syndrome Trauma patients
8003	Contraindications	Added "less than 100 SBP"
8015	Medical Control	Clarified that the EMR and EMT must call for orders for repeat Epinephrine in Allergies/Anaphylaxis
8018	Pediatric Dosing	Added pediatric glucagon by age criteria
8021	Precautions	Added NPA, positioning and suctioning will facilitate airway management
8029	Precautions	Added a reminder that Naloxone is to be administered at a half dose per nostril

END OF SECTION