
The Marble Falls Area EMS System



Scope of Care

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1000 Introduction

1100 Protocol Purpose and Use

1101 Copyright

This document, in its entirety, is copyrighted 2022-2023 by Marble Falls Area EMS and Williamson County EMS. It may not be used by other agencies, in whole or in part, without the express written permission of these agencies. If agencies choose to use this document in their own system, they assume full liability for any errors and outcomes.

1110 Purpose

This Scope of Care defines the parameters and expectations for providers working under the auspices of this document. To the extent possible, the therapies identified in this Scope of Care are evidence-based and the result of validated clinical research and EMS system clinical data. Providers credentialed under this Scope of Care depend on appropriate medical equipment, administrative support, continuing education, public trust, and medical direction.

1111 Style Convention

The following emphasis styles and symbols are used throughout this document:

- All caps: Used for multiple conditions, e.g., “this **AND** that” or “this **OR** that”
- Bold: Emphasizes a distinction within an order (e.g., IV v. IM) or a conditional statement
- Underline: References a published paper or delineates a subsection
- Hyperlink: Links to other sections of this document

Medical abbreviations are used where appropriate and are consistent with each department’s Approved Medical Abbreviations policy.

1115 Overarching Care Goals

All patient care/contact should be governed by the following priorities (in no particular order after the first):

- Reverse Life Threats
- Slow the progression of time sensitive illness and injury
- Alleviate fear and minimize pain
- Inform and educate the patient and family
- Be respectful of the needs of all people involved
- Maintain the dignity of the patient, family, and bystanders

1120 Medical Director Authorization / Delegation

Jeffrey L. Jarvis, M.D. provides medical direction for emergency medical responders, both transporting agencies and associated first responders, who work for Marble Falls Area EMS and Williamson County EMS. These protocols represent the delegated standing orders of Dr. Jarvis, in accordance with State of Texas Department of State Health Services (DSHS) EMS Rules and Texas Medical Practice Act. Providers covered will maintain current DSHS licensure/certification. Providers will also demonstrate skill competency by way of routine review, evaluation, and validation.

Dr. Jarvis, or his appointed designee, has the explicit capability and responsibility to authorize, limit, amend, revoke, suspend, or terminate a provider's authority to practice under these standing orders.

These SOC's apply only to system credentialed providers. Authorization to practice applies to those who are formally credentialed within these two systems, on duty, and operating in the State of Texas. Under these standing orders, providers may not operate beyond their authorized credentialing level, regardless of DSHS or NREMT certification level.

Any credentialed provider, when off duty and not responding with another agency, may operate under this Scope of Care within the borders of the State of Texas. Any advanced procedures may be performed, if allowed within the system, only at the request of the on-scene EMS agency.

As the author of this Scope of Care document, I verify that, to the best of my knowledge, it meets all state and federal requirements.

This document establishes parameters of off-line, delegated medical orders to credentialed pre-hospital medical clinicians under my medical supervision. I hereby authorize provision of medical services described herein, using equipment and supplies noted in the text and appendices of this document.



Jeffrey L. Jarvis, MD, MS, EMT-P, FACEP, FAEMS
Medical Director

Effective May 13, 2022 – May 19, 2023

1130 Sequence, Inclusion, and Omission of Treatments

Specific tools, therapies, or interventions may be omitted as dictated by provider discretion or circumstances. Reasons for deviation from generally accepted standard treatments and assessments will be documented. Protocols may have different interventions authorized for different provider levels. It is understood that the interventions authorized at a lower level are also authorized for higher levels. For example, if administration of aspirin is authorized at the EMT level, it is also authorized at the paramedic level. It will not be duplicated at each level for formatting and readability purposes.

In protocols where interventions should be performed in sequence, that sequence will be specifically noted. Otherwise, the sequence of assessments or interventions will be done at the provider's discretion. For guidelines concerning tools, therapies, or interventions that are not addressed by these standing orders please refer to Online Medical Control (OLMC).

The pharmaceuticals and equipment listed under each protocol heading are those that are authorized for use by system credentialed responders. Specific agencies are not mandated to carry all these agents/devices. Please refer to each agency's equipment list as this will dictate those agents that are available for use with that agency. Some agencies may have different equipment lists based on the type of response unit/team being used. For example, some therapies may be carried only by special operations teams and not available to the entire system. To reiterate, inclusion in this document does not imply that all authorized pharmaceuticals/equipment are mandated on all agency vehicles. A provider, however, may use any therapy they are credentialed to use if it is available, e.g., a paramedic on an ambulance may give a drug carried only by a special operations team if they respond to an incident with that team.

1140 Adult and Pediatric Definitions for Clinical Treatment

For the purposes of treatments per these protocols, the following definitions apply:

- Neonate – less than one month
- Infant – one month to less than one year of age
- Child – one year to onset of puberty
- Adult – age greater than onset of puberty

The "Pedi" notation when used in this document refers to Neonate, Infant, and Child unless age or weight specific limits are specified.

Pediatric doses are based on ideal body weight. Refer to [9232 Pediatric Ideal Body Weight](#) for the details.

Unless otherwise noted, the pediatric dose should not exceed the adult dose for a given medication.

These definitions of adult and pediatric patients apply to clinical treatment only and should not be used for legal purposes of consent and refusal. See [1224 Consent to or Refusal of Evaluation and Treatment of a Minor](#).

1150 Online Medical Control (OLMC)

The nature and complexity of medicine in the pre-hospital setting guarantees that not all treatments appropriate for each patient and situation can be exhaustively addressed herein. While some treatments may be inappropriate or not possible for a given patient, others may be appropriate and not included. For any treatments not specifically addressed and believed to be in the patient's immediate best interest, contacting OLMC for direction is both appropriate and encouraged.

Appropriate OLMC is listed below for each of the following levels of care provider:

- For credentialed non-paramedic first responders:
 - The responding agency ambulance
- For credentialed First Responder Paramedics and Paramedics:
 - EMS Medical Director or Acting Designee
 - Patient's Physician
 1. Providers are in direct contact by phone, radio, or in person
 2. The physician's orders are to be followed:
 - a. Within reason
 - b. Within the paramedic's scope of practice
 3. Any conflicts which arise with the physician directed care should be directed to the medical director, by phone if necessary
 - a. The system's medical director will have the final say as to what a provider may/may not do
 4. If the physician accompanies the patient to the hospital, personnel will respect the physician's wishes in the management of that patient during the entire course of the crew's care of that patient.
 5. If the physician requests that the patient be transported immediately, this should be accomplished with all reasonable haste after obtaining patient consent.
 6. Providers should obtain the physician's name and phone number for documentation purposes.
 - An Emergency Department Physician receiving or transferring care
 - A Licensed Physician (M.D. or D.O.) on-scene who is not the patient's personal physician and who:
 1. Provides appropriate identification if he or she is unknown to the providers AND
 2. Assumes full responsibility for the patient AND
 3. Accompanies the patient to the hospital AND
 4. Signs the patient care documentation with name, address, and phone number

If the licensed physician (M.D. or D.O.) on-scene is unwilling to accommodate these requirements, then responsibility for patient care remains with the lead provider on scene. In either case, the physician's name and phone number should be documented.

1151 Medical Chain of Command

Coordination of patient care under these protocols must follow a predictable, pre-defined medical chain of command. Care-related input may be offered by the team members or solicited by the team leader. Final decisions regarding medical care will conform to the hierarchy below.

This hierarchy is provided for the sake of ensuring consistency of expectations across multiple agencies and jurisdictions. The first responder's organizational structure or operational chain of command may require an exception to this hierarchy. Such exception is acceptable but must be communicated to the Medical Director by way of official Memorandum of Understanding (MOU).

Non-Transporting First Responder Teams

- Will include an assigned medical officer/attendant or senior operational officer
- All team members will be available for patient care, as needed and directed
- May consult with responding MICU-capable transport unit for order clarification, as needed

Transporting Unit Personnel

- Will include an assigned patient care team leader
- Will be available for consultation or on-line medical control (OLMC) from providers on scene

On-scene medical providers will adhere to the hierarchy below, from highest to lowest authority, regarding clinical decisions:

1. EMS Medical Director, on-scene or on-line
2. OLMC through another physician
3. Physician on-scene and willing to assume control as above
4. Medical Director non-physician designee
5. Transport unit care team leader/lead medic
6. Pre-designated medical officer/medical attendant
7. Individual who is system-credentialed at the highest level
8. FRO senior operational officer

In the unlikely event that the above structure is not sufficient to resolve any difference of opinion related to patient care, the highest medical authority on scene will have authority for all treatment/transport decisions. Ultimate resolution may have to take place after the fact.

1160 Credentialing

Credentialing is the process by which an individual with a current and legitimate State of Texas Department of State Health Services (DSHS) EMS Provider certification or license becomes authorized to practice under this Scope of Care. The level of authorized credentialing does not necessarily equate to level of state certification/licensure and is reflected by the color of the identification badge worn by the provider. All providers are required to have this color-coded photo identification visible to patients, providers, and representatives of other agencies present during scene calls and events.

The following credentialing levels are approved by the Medical Director:

Community First Responder (CFR)

CFRs (Orange Badge) have demonstrated minimum competency in CPR, AED, and first aid. System credentialed CFRs may provide those therapies in the absence of supervision. CFRs are also authorized to administer therapies at the EMT level under the direct supervision and guidance of a provider credentialed at the EMT level or higher. Medications are not included in this authorization except where defined below.

EMT

EMTs (Blue Badge) have demonstrated at least minimal competency at the level of EMT. System credentialed EMTs are approved for therapies defined herein at the level of EMT or below. Any exceptions are explicitly stated.

Advanced EMT (AEMT)

Advanced Level EMTs (Green Badge) have demonstrated at least minimal competency at the level of AEMT as defined in the National EMS Education Standards and tested by the National Registry. System credentialed AEMTs are approved for therapies defined herein at the level of AEMT or EMT. Any exceptions are explicitly stated.

First Responder Paramedic (FRP)

First Responder Paramedics (Gold Badge) are system credentialed, non-transporting medical providers who have demonstrated at least minimal competency at the level of Paramedic (Licensed or Certified). System credentialed First Responder Paramedics are approved for therapies defined herein at the level of First Responder Paramedic, AEMT, or EMT. Any exceptions are explicitly stated.

Paramedic

Paramedics (Maroon Badge) have demonstrated at least minimal competency at the level of Paramedic (Licensed or Certified). System credentialed paramedics are approved for all therapies and interventions defined herein.

Tactical Paramedic

Tactical Paramedics (Black Badge) are system credentialed paramedics who are acting in the tactical environment and have been trained in additional specific interventions useful in this environment. Due to the sensitive nature of the missions, tactical medics are not required to wear a badge (black or otherwise) while deployed in this capacity.

1200 Medicolegal and Ethical Considerations

1210 Cancellation of Responding Units

Once fire department or EMS responders are dispatched, cancellation of units will be in accordance with each agency's operational policies. Generally, responding units may cancel if:

- Cancelled by on-scene law enforcement OR
- Cancelled by the dispatching agency OR
- All individuals at the dispatch location are denying illness, injury, or pain OR
- Cancelled by an on-scene system credentialed provider
 - There are no patients identified at the scene
 - The transporting unit determines that further assistance is not required

At the written request of fire departments, and in conjunction with each agency's operational advisories or policies, the following exception to the above guidelines will be adhered to:

- EMS may cancel responding fire units for all low priority medical assist calls, even if EMS is still responding
- If the patient's condition or other situational aspects warrant additional support, EMS can still directly request FD assistance and the appropriate fire units will respond to the scene.

1220 Consent and Refusal

In providing medical care, we recognize that the universal goal is to act in the best interest of the patient. This goal is based on the principle of autonomy, which allows patients to decide what is best for them. A patient's best interest may be served by providing leading-edge medical treatment or it may be served simply by honoring a patient's refusal of care. Although complicated issues can arise when providers and patients disagree, the best policy is to provide adequate information to the patient, allow time for ample discussion (including questions), and document the medical record meticulously.

With certain exceptions, as referenced in [1222 Implied Consent](#), all adult patients and select minor patients have the right to consent to medical evaluation and/or treatment or to refuse medical evaluation and/or treatment, if they have legal capacity and the ability to make informed decisions. Three specific forms of consent apply to EMS.

1221 Informed Consent

Informed consent is more than a legality. It is a moral responsibility on the part of the provider, based on the recognition of individual autonomy, dignity, and the capacity for self-determination. With informed consent, the patient is aware of and understands the risk(s) of any care provided, procedures performed, medications administered, and the consequences of refusing treatment and/or transport. The patient should also be aware of the options available if he or she chooses not to accept evaluation, treatment, and/or transport.

1222 Implied Consent

In potentially life-threatening emergency situations, consent for treatment is not required if the patient lacks the ability to make an informed decision. The law presumes that individuals with a real or potential life-threatening injury or illness would consent to emergency treatment. In life-threatening emergency situations, consent for emergency care is not required if the individual:

- Cannot understand the nature of his/her medical condition and cannot communicate an informed decision to accept or refuse treatment

- Is a minor who is suffering from what appears to be life-threatening injury or illness and whose parent, managing or possessory conservator, or guardian is not present

1223 Substituted Consent

This is the situation in which another person consents for the patient, as is the case with minors, incapacitated patients, incarcerated patients, and those determined by courts to be legally incompetent.

The fundamental issue in informed, substituted consent for minors is a question of how decisions should be made for those who are not fully competent to decide for themselves. Parents or guardians are entitled to provide permission because they have the legal responsibility and, in the absence of abuse or neglect, are assumed to act in the best interests of the child. However, there is also a moral and ethical duty to respect the rights of every individual, regardless of age. Providers must walk a fine line between respect for minors' autonomy, respect for parental rights, and the law.

1224 Consent to or Refusal of Evaluation and Treatment of a Minor

The following persons may consent to or refuse evaluation, treatment, or transport of a minor:

- Parent
- Grandparent
- Adult (≥ 18) brother or sister
- Adult (≥ 18) aunt or uncle
- Representative of an educational institution in which the child is enrolled and who has with them written authorization to consent/refuse from a person having the right to consent/refuse.
- Adult who has actual care, control, or possession of the child and has written authorization with them to consent/refuse from a person having the right to consent/refuse (i.e., daycare camps, soccer moms, carpools, etc.)
- Adult who has actual care, control, or possession of a child under the jurisdiction of a juvenile court
- A peace officer who has lawfully taken custody of a minor, if the peace officer has reasonable grounds to believe the minor needs immediate medical treatment
- A managing or possessory conservator or guardian

A provider may be denied access to minor children by a parent or guardian if there is no obvious immediate life threat to the patient. However, in general, parents or guardians cannot refuse life-saving therapy for a child based on religious or other grounds. A provider is legally obliged to notify Child Protective Services for any reasonable suspicion of child neglect or abuse.

In certain circumstances, a patient under 18 years of age who has the legal competency and mental capacity to consent to or refuse evaluation or treatment may do so. In such cases, the law states that a person under 18 years of age may consent to or refuse evaluation or treatment, if the person meets any one of the following criteria:

- Is on active duty with the Armed Services of the United States of America
- Is 16 years of age or older and resides separate and apart from his/her parents, managing conservator (an individual appointed by the court, usually during divorce proceedings, to have custody of a minor, to make decisions for the minor and to make a home for the minor) or guardian, with or without the consent of the parents, managing conservator or guardian regardless of the duration of the residence, and is managing their own financial affairs, regardless of the source of the income

- Is consenting to the diagnosis and treatment of an infectious, contagious, or communicable disease that is required by law or rule to be reported by the licensed physician or dentist to a local health officer or the Texas Department of State Health Services
- Is consenting to examination and treatment for drug or chemical addiction, drug or chemical dependency, or any other condition directly related to drug or chemical use
- Is unmarried and pregnant and consenting to evaluation and/or treatment related to the pregnancy. A pregnant minor must have adult consent for non-pregnancy related conditions unless she fits within one of the aforementioned exceptions.

When treating minors, it is important that there be an interactive process between them and the provider. The interaction should involve developmentally appropriate disclosure about the illness/injury, the solicitation of the minor's willingness and preferences regarding treatment, and decision options. Although the intent of this interaction is to involve the child in decisions, the way in which the participation is framed is important. As with any patient, minors should be treated with respect.

In the case where a minor does not have an apparent life-threatening injury/illness, does not meet any of the above criteria, and there is no one who has the authority to make decisions on their behalf, the patient should be transported to an ED for further care until an authorized decision maker can be reached.

1225 Determination of Decision-Making Capacity

While issues of capacity and competence are routinely determined through the legal system, capacity is also a clinical determination of a patient's ability to make their own decisions regarding their health. This is the standard that EMS professionals use to determine whether a patient can consent to or refuse treatment and/or transport to the hospital. The patient must be able to collect information, reason, and make decisions based on that information relative to individual objectives, values, and priorities. While the legal definition of mental capacity is clear, the concept can become blurred in the clinical setting. A person can be temporarily mentally incapacitated for various medical reasons and, because of this, not able to process information to form reasonable understanding or make reasonable decisions.

Because of the nature of emergency medicine, some of those who can be considered incapacitated, however permanent or temporary the state, may encounter medical professionals. It is incumbent on the medical professional to recognize the needs of these patients with regard to provision of necessary care and transfer to definitive care should a reasonable risk of patient mortality or morbidity exist as evidenced by assessment findings and differential diagnosis.

In order to demonstrate medical decision-making capacity, patients must have both the legal and medical capacity to make decisions.

1. Legal decision-making capacity is established by law if the patient is/has:
 - a. 18 years old or older or
 - b. a legal guardian if the patient is 18 years old or older or
 - c. a parent, conservator, or legal guardian of a minor, or other person who may consent for the minor by law or
 - d. a minor who:
 - i. is legally emancipated or
 - ii. is on active duty with the armed services of the United States of America or
 - iii. is 16 years of age or older and resides separate and apart from child's parents, conservator, or guardian with or without the consent of the parents, conservator, or

- guardian and regardless of the duration of the residence, and managing the child's own financial affairs, regardless of the source of the income or
- iv. makes decisions related to the diagnosis and treatment of an infectious, contagious, or communicable disease that is required by law or a rule to be reported to a local health officer or the Texas State Health Department, including those listed in the following link: <https://dshs.texas.gov/IDCU/investigation/Reporting-forms/Notifiable-Conditions-2021-BW.pdf> or
- v. is unmarried and pregnant and consents to hospital, medical, or surgical treatment, other than abortion, related to the pregnancy or
- vi. makes decisions related to the examination and treatment for drug or chemical addiction, drug or chemical dependency, or any other condition directly related to drug or chemical use or
- vii. is unmarried, is the parent of a child, and has actual custody of his or her child and makes decisions relating to the medical, dental, psychological, or surgical treatment for the child or
- viii. is serving a term of confinement in a facility operated by or under contract with the Texas Department of Criminal Justice, unless the treatment would constitute a prohibited practice under Section 164.052(a)(19), Occupations Code (regarding abortions on unemancipated minors without consent)

2. Medical decision-making capacity requires the patient to be able to demonstrate:

- a. that they do not have altered mental status AND
- b. the ability to understand information and communicate a choice AND
- c. an understanding of the medical situation in laymen's terms AND
- d. an understanding of the treatment/transport options/alternatives available to them AND
- e. an understanding of the EMS' treatment/transport recommendations AND
- f. an understanding of the potential consequences of their decision AND
- g. a coherent rationale for their decision

1226 When Consent is Not Required for Emergency Care

Consent for emergency care of an individual is not required if:

- 1. The individual is:
 - a. unable to communicate because of an injury, accident, or illness or is unconscious **AND**
 - b. suffering from what reasonably appears to be a life-threatening injury or illness **OR**
- 2. A court of record orders the treatment of an individual who is in an imminent emergency to prevent the individual's serious bodily injury or loss of life **OR**
- 3. The individual is a minor who is suffering from what reasonably appears to be a life-threatening injury or illness and whose parents, managing or possessory conservator, or guardian is not present.

1227 Refusal of Care and/or Transport

Patients who have the legal ability and capacity for medical decision making must be notified of the following, as appropriate:

- 1. Medical treatment/evaluation recommendation(s), including EMS transport AND
- 2. Further harm could result without further medical treatment or evaluation AND

3. Transport by means other than ambulance could be hazardous considering the present illness/injury AND
4. That the patient, parent, or guardian can and should call us back by 911 immediately should they change their mind about refusing care OR for any new/worsening symptoms

1230 CPR Deferral and Termination of Resuscitation (TOR)

1231 Out of Hospital DNR

Out of Hospital DNR (OOH-DNR) order will be considered legitimate and honored and CPR deferred for patients with:

- An original, photocopy, or faxed completed OOH-DNR order from any state
- An official authorized device (bracelet, necklace, etc) indicating possession of an OOH-DNR
- The verbal order of a patient's personal physician on-scene

For any patient with a legitimate OOH-DNR immediately discontinue or do not initiate

- CPR
- Defibrillation
- Advanced airway (use or placement) or artificial ventilation
- Transcutaneous pacing (TCP)

Patients with Advanced Directives

- If a paramedic on-scene has reason to believe that a patient would not wish/want resuscitation (i.e., desire natural death), immediately contact OLMC for discussion regarding an order to not initiate resuscitation.

DNR orders will NOT be honored if any of the following exceptions are involved:

- Reason to question the authenticity of the form/device
- Suspicion of suicide, homicide, or other unnatural death
- Known or suspected patient pregnancy

1232 Evidence of Incompatibility with Life

Community First Responder (CFR)

Initiation or continuation of CPR is not indicated in the pulseless, apneic patient in the presence of:

- Livor Mortis
- Decomposition
- Rigor Mortis
- Obvious mortal wounds (e.g., trauma with non-survivable organ destruction)
- Submersion/inaccessible entrapment > 15 minutes from the arrival of the first public safety entity at the patient until the patient is in a position for resuscitative efforts to be initiated
- Presence of valid OOH DNR Order

Following determination of obvious death, consider requesting Justice of the Peace if not attended by law enforcement.

1233 Termination of Resuscitation (ToR)

First Responder Paramedic (FRP)

Authorization for termination of resuscitative efforts should be sought if it is likely that there is not going to be a change in patient condition despite all appropriate efforts as described elsewhere in this document. (Refer to [3100 Cardiac Arrest](#) and [9240 Termination of Resuscitation](#)) Such authorization should be obtained via recorded telephone connection, where available. Below are guidelines for requesting termination:

Medical Arrest

- Patient is not pregnant
- All underlying causes have been considered and addressed
- No evidence of neurologic activity (eye opening, motor activity, meaningful respiratory activity)
- All appropriate treatments have been provided

In general, all adult medical arrests will be aggressively resuscitated for at least 40 minutes, except for those with an EtCO₂ < 10 mmHg after 20 minutes of resuscitation.

It is acceptable to contact Medical Control in the event of unusual circumstances or if conflict arises.

Consider using the [TOR request template](#) when calling for a termination.

1240 Protected Health Information (PHI)

Questions or concerns related to PHI or the Health Information Portability and Accountability Act (HIPAA) should be directed to the operational chain of command or the agency Custodian of Records.

1250 Law Enforcement Requested Blood Draw

EMS personnel will NOT draw blood from a patient or decedent solely for the purposes of determining alcohol or other intoxicating substance concentration, even at the direct request of a law enforcement officer.

1300 Transport Considerations

1301 Use of Lights and Sirens in Transporting Patients

The use of lights and sirens (L&S) is an intervention that can potentially save up to 4 minutes on transport times but comes at the cost of increased vehicle collisions to both EMS and civilian traffic, increased injuries, increased fatalities to EMS and civilians, and ultimately, if involved in a collision, much longer transport times. Because the use of L&S has potential benefits and risks, just like any intervention, it must be used selectively and only when indicated.

The use of L&S is a clinical intervention and will be used like any other clinical intervention authorized in these SOC's, i.e., when the benefits outweigh the risks. While the ultimate decision on the use of L&S during transport should be made by the providers with the most information about the patient's potential to benefit, i.e., the on-scene paramedic, the following guideline should be used when making this determination:

The potential benefits of L&S use outweigh the risks only when the amount of time saved with the use of L&S (3-4 minutes on average) will result in a potentially life-saving intervention performed in the ED within the time saved using L&S.

In general, there are very few such interventions outside treatment of an unsecured airway and need for immediate surgery. These situations are rare and should typically be reserved for our alert patients (trauma, STEMI, stroke, but NOT sepsis). All trauma or STEMI alerts are not the same. Some trauma alerts are based on criteria only and the patient is hemodynamically stable. L&S is typically not indicated for these patients. Likewise, STEMI alerts may be called on patients regardless of the duration of their symptoms. There is limited benefit of saving 3-4 minutes in transport time for a patient who has been having symptoms for many hours. There is almost never any benefit to arriving at the hospital 3-4 minutes earlier for sepsis alert patients.

For patients who were in cardiac arrest but now have pulses and a controlled airway, L&S is not justified. Nor is it justified solely because a patient has advanced airway management in place (ET tube or supraglottic airway).

1302 Transport of ESRD Patients Requiring Dialysis During Disaster Situations

During disaster declarations, patients with ESRD who require dialysis should preferentially be transported to outpatient dialysis centers under the following conditions:

Paramedic

1. Determine if the patient has any complaints other than those they typically feel prior to dialysis:
 - a. Mild shortness of breath
 - b. Weight gain
 - c. Back pain
 - d. Fatigue
2. Determine the patient's typical hemodynamic dialysis schedule (MWF, TTH, or intermittent)
3. Determine if the patient would prefer transport to outpatient dialysis
4. Screen for acute illness: hemodynamic instability, profound dyspnea, fever, other concerning symptoms
 - a. If these are present, recommend appropriate treatment and transport to an appropriate ED

- b. If symptoms are absent or mild and consistent with their usual pre-dialysis symptoms AND the patient wishes transport to outpatient dialysis:
 - i. Contact OLMC to determine availability of outpatient hemodialysis
5. Priority in destination determination should be given to, when appropriate as above and with patient consent, transport to outpatient hemodialysis.

1310 Hospital Selection

The following outlines the methods used to determine hospital selection in order of priority.

1311 Patient or Caregiver/Physician Choice

The patient and medic will collectively choose the closest, most appropriate destination facility with the understanding that an informed patient decision is the goal. When interacting with laypersons, if the decision is not in the patient's best interest based on facility capabilities and patient condition, the attending provider should offer alternatives for the next closest facility capable of managing the patient's condition.

Physician request for transport to a specific facility is assumed to be in the patient's best interest and will be honored. As with rules of consent and refusal, the destination facility will be selected by the patient, caregiver, and/or physician when such information can be conveyed.

If, for whatever reason, a conflict arises involving the patient or crew and the sending physician regarding care or destination of a patient, immediately bring the concern directly to the sending physician. Should this conflict occur after departure from the sending facility, immediately contact the on-duty shift supervisor. Determination of destination is the legal responsibility of the sending physician. While we cannot transport a patient against their will, we need to rapidly extricate ourselves from what should be a discussion between the patient and physician. Should the patient and physician be unable to reach an agreement, please contact the on-duty shift supervisor. Should the supervisor be unable to adequately resolve the issue, they should contact Dr. Jarvis directly.

1312 Closest Hospital Appropriate for Condition

If the patient or caregiver is unable to select a hospital, EMS will transport to the closest appropriate facility capable of managing the patient's condition. Refer to [9100 Hospital Capabilities](#) and [9231 Pediatric Transport Guidelines](#).

1313 Diversion

Any time the patient's medical condition is significantly unstable, the attending provider may choose to divert to a closer hospital ED staffed by a physician. Reason for diversion will be clearly documented in the chart.

1320 Helicopter Transport

Air medical transport is rarely indicated but may be considered for any patient.

1321 Utilization and Documentation

The following should guide the use of helicopter transport:

- Direct transport to a burn center for a patient with >20% BSA, 2nd or 3rd degree burns, but no concomitant trauma OR

- Patient condition is likely to require critical interventions only available at a specific destination AND air transport will significantly reduce the transport time to a facility capable of providing those interventions (e.g., surgeon, cath lab, etc.) OR
- Specific departmental policies
- The reason for choosing air medical transport will be clearly documented in the chart.

1322 Transfer of Care

Patient care will continue to be the responsibility of EMS personnel, despite the arrival of helicopter EMS (HEMS) personnel, until such time as EMS verbally announces transfer of care. At that point, responsibility for patient care switches to HEMS personnel.

This requirement of a verbal transfer of care does not imply that HEMS personnel cannot assist EMS personnel prior to transfer of care or vice versa.

The time of transfer of care must be documented in the PCR.

1330 Destination Hospital Notification

In an effort to work with our hospital colleagues, we are adopting the reporting criteria developed by the CATRAC.

Radio Report

1. Agency and Unit
2. Age/Sex
3. Chief Complaint OR Classification (STEMI, Stroke, Trauma, OB)
 - a. Pertinent physical exam findings
4. Current Vital Signs
5. Critical interventions performed
6. ETA
7. Alert specific information
 - a. STEMI: ECG findings
 - b. Stroke: time last known normal, blood glucose
 - c. Trauma: mechanism of injury, SMR status, use of anticoagulants
 - d. OB: gestational age/LMP, prenatal physician, status of the baby if delivered

Bedside Report (normally limited to the following at receiving facility):

1. Patient name and age
2. Chief complaint/suspected condition
3. Brief history of present illness
4. Pertinent physical exam findings
5. Most recent vital signs (avoid use of WNL)
6. Disease specific information:
 - a. STEMI: provide field ECG
 - b. Stroke: blood glucose, last known normal, deficits, use of anticoagulants, family contact information
 - c. Trauma: mechanism of injury, use of anticoagulants
 - d. OB: gravida/para, gestational age in weeks, last menstrual period, timing of contractions, presence of rupture of membranes, and status of the baby if delivered

7. Treatments/medications given and any response

Radio reports should occur for any patient being transported to an ED, including scene calls AND non-emergency transfers. Notifications are not required for patients being transferred to in-patient rooms.

1400 Patient Assessment

At a minimum, when contact is established with those for whom an agency is dispatched, an appropriate initial assessment will be performed and documented. It will be based on dynamic variables including, but not limited to, initial assessment findings, acuity, chief complaint, consent, evident threat to patient's life or limb, and scene safety. The extent of secondary, detailed, or focused assessments should conform to medical best practices, insofar as equipment is available and providers are trained to conduct such assessments. Omission of indicated assessments or therapies will be appropriately documented in strict accordance with agency policies.

1405 Definition of a Patient

For the purposes of this document a patient is defined as:

- A person who requests EMS
- OR**
- A person for whom EMS has been requested AND
- Who has any medical or psychological complaint, obvious injury/distress, or has a significant mechanism of injury

1410 Initial Assessment

For actual or potential patients with whom providers make contact, and for whom a visual assessment can be conducted, the following represents minimal required assessment:

- Physical position (prone, supine, recumbent, sitting, standing/ambulatory)
- Mental status (GCS or AVPU)
- Airway status (protected, compromised)
- Breathing condition (effort, regularity, approximate rate)
- Circulatory condition (minimum: perfusion status of skin or nail beds; preferred: temperature, moisture of skin, and presence or absence of radial or central pulses)
- Presence or absence of potentially morbid or mortal disabilities

1420 Baseline Vital Signs

Minimal baseline vital signs will include but are not limited to:

- Breathing rate
- Palpated pulse rate
- Blood pressure
- GCS

If a provider questions the reliability of values, validation by another provider or method is advised.

1430 Detailed Assessment, Diagnostics, and Vital Signs

A variety of tools are available to aid in patient assessment. These tools are used to increase the likelihood of discovering disease/injury and will help form and order your differential diagnosis. The following should be included in detailed assessments with the understanding that paramedic discretion and critical thinking is encouraged. It is impossible to account for all the variations in patient presentation. With that understood, omission of some of these diagnostic tools is understandable and acceptable. Using more than the minimum is also acceptable.

Detailed assessment should include the following:

- Temperature
 - Altered mental status
 - Exposure to elements
 - Suspected febrile seizure
 - Suspected sepsis
 - Suspected stimulant toxicity
- Blood Glucose Level
 - Altered mental status
 - Behavioral abnormalities
 - Known or suspected metabolic or genetic diseases/abnormalities
 - Seizures
 - Suspected stroke/CVA
- Pulse Oximetry
 - Altered mental status, syncope, near syncope
 - Any patient with an advanced airway or with airway adjuncts in place
 - Cardiac dysrhythmias
 - Chemical or pharmaceutical toxicity
 - Febrile patients
 - Respiratory distress
 - Suspected ACS or known STEMI
 - Suspected sepsis
 - Suspected Stroke/CVA
 - Ventilatory abnormality or complaint, including airway burns
- End Tidal CO₂
 - Altered mental status, syncope, near syncope
 - Agitated patients receiving sedation
 - Any patient with an advanced airway or with airway adjuncts in place
 - Most patients in whom oxygen is indicated
 - Suspected ACS or known STEMI
 - Suspected sepsis
 - Ventilatory abnormality or complaint, including airway burns
- ECG Monitoring
 - ACS
 - Advanced airway placement
 - Altered mental status, syncope, near syncope
 - Chest pain besides ACS
 - Exposure to elements
 - Suspected febrile seizure
 - Suspected sepsis

- Suspected stimulant toxicity
- ECG 12-Lead (printed)
 - Abnormal or irregular pulse or palpitations
 - ACS
 - Altered mental status, syncope, near syncope
 - Chemical or pharmaceutical toxicity
 - Dyspnea
 - Return of Spontaneous Circulation (ROSC)
 - Suspected stroke (CVA)
 - Unexplained upper GI complaint
- Point of Care Ultrasound (POCUS)
 - POCUS may be used at medic discretion, based upon availability and ability, as is clinically appropriate, provided it does not interfere with other patient care priorities.
 - When used in cardiac arrest, POCUS will not interrupt compressions except w specific OLMC instructions
 - Examples of situations where POCUS may be helpful include, but are not limited to, the following:
 - Cardiac arrest
 - Pericardial tamponade
 - Pneumothorax
 - Shock
 - Pregnancy (transabdominal only)
 - IV assistance

1440 Reassessment

For comparison to baseline findings reassessment of vital sign values should be conducted:

- Approximately every 5 - 10 minutes for unstable patients
- Approximately every 15 - 20 minutes for stable or asymptomatic patients
- Within 5 minutes of administration of pharmaceuticals, if possible
- For any patient with baseline values outside of normal reference range

1450 NPO Status

Any patient felt to be a possible candidate for procedures requiring sedation (e.g., abdominal pain, trauma, or dislocated extremities) shall be kept NPO throughout EMS care.

2000 Airway and Breathing Emergencies

2100 Airway Support

Waveform end tidal capnography (EtCO₂) is mandatory as soon as it is available for any form of assisted or artificial ventilation. This includes BVM, NIPPV, supraglottic airway, or endotracheal intubation.

Community First Responder (CFR)

Manual airway maneuvers

Adjuncts to oxygenation

- Nasal cannula
- Non-rebreather mask
- Bag valve mask ventilation

Confirm placement of SpO₂, EtCO₂, ECG, and BP monitors

EMT

Titrate oxygen with the lowest flow rate possible to maintain SpO₂ ≥ 94%

- Most patients without dyspnea or hypoxia do not need any oxygen
- Use of waveform capnography is required with BVM ventilation, when available
 - Titrate ventilation rate to CO₂ level
- In the absence of capnography, ventilate at the following rates:
 - < 5 days: every 1 - 1.5 seconds (40 - 60/min)
 - 5 days - 8 years: every 3 - 5 seconds (12 - 20/min)
 - ≥ 8 years: every 6 seconds (10/min)

Suctioning, oral/nasal pharyngeal

Oropharyngeal airway (OPA) and nasopharyngeal airway (NPA) insertion

Advanced EMT (AEMT)

Noninvasive Positive Pressure Ventilation (NIPPV)

- Continuous Positive Airway Pressure (CPAP) (for acute respiratory distress unrelated to pneumothorax)
 - Adult: 15 - 25 lpm (5 - 10 cmH₂O), if tolerated
 - Pedi: Same as adult

Suctioning, endotracheal

Supraglottic airway insertion

- Primary device for pediatrics
- Cervical collar should be applied after placement

Gastric Tube Insertion (in conjunction with supraglottic airway)

First Responder Paramedic (FRP)

Gastric Tube Insertion (in conjunction with endotracheal tube)

Mechanical ventilation – settings per system specific guidelines

Needle Thoracostomy (for reasonable suspicion of tension pneumothorax)

- Use a large bore needle in the anterior axillary space or midclavicular space, repeat PRN

Finger Thoracostomy

- After 2 failed needle thoracostomies for suspected pneumothorax with tension physiology
- In traumatic arrest with thoracic trauma

Cricothyrotomy (for airway not established by any other means)

- Adult: Surgical tube placement with introducer
- Pedi: Dual needle, large bore

Paramedic

Endotracheal tube placement (preferred airway device)

- Adult: Video laryngoscopy only
 - Verbalize airway management plan
 - Identify and palpate landmarks for possible surgical airway
 - Max: 1 attempt per medic, not to exceed 2 attempts total max per patient
 - Cervical collar should be applied after placement
 - Equipment needed prior to any intubation:
 - Video laryngoscope with channel and blade
 - Endotracheal tube and 10 cc syringe
 - Bougie preloaded in the ET tube
 - BVM w/mask and PEEP plus regular nasal cannula
 - If available, using BiPAP is acceptable
 - Intubated end tidal sensor
 - Viral-bacterial filter
 - Suction
 - ET tube securing device
 - C-collar
 - Rescue device (SGA, BVM, and surgical airway)
- Pedi: Intubation is only acceptable for meconium aspiration (Refer to [5380 Neonatal Resuscitation](#))

To minimize unrecognized patient deterioration during transition of care from EMS to ED staff, the following process must be followed:

1. Prior to moving the patient ask the ED staff to allow EMS to remove our monitoring equipment once the patient is on the ED bed
2. Do not remove EMS' monitor (including EtCO₂, SpO₂, ECG, and/or pacing) until the patient has been completely moved onto the ED bed. Print a strip showing EtCO₂, SpO₂, and ECG while the patient is on the ED bed before disconnecting the monitor.
3. Obtain the treating physician's signature for all patients with an advanced airway confirming correct placement.

2200 Respiratory Distress

2210 Asthma/COPD

For help in triaging asthma/COPD patients with tachypnea consider the following signs:

	EtCO ₂	SpO ₂	Tidal Volume	Lung Sounds
Mild	< 35 mmHg	> 96%	Adequate	Wheezing
Moderate	35 - 45 mmHg	90 - 96%	Diminished	Wheezing
Severe	> 45 mmHg	< 90%	Diminished	Wheezing or Diminished

Community First Responder (CFR)

Allow position of comfort

Oxygen via applicable adjunct

EMT

Albuterol, nebulized

- Adult: up to 7.5 mg, repeat PRN
- Pedi (> 5 years old): Same as adult
- Pedi (≤ 5 years old): 2.5 mg, repeat PRN

Ipratropium Bromide, nebulized (any severity)

- Adult: 0.5 mg, repeat PRN (may be combined with Albuterol)
- Pedi: Same as adult, max dose 1 mg

Advanced EMT (AEMT)

NIPPV (CPAP or BVM)

Normal Saline IV/IO bolus (moderate or severe)

- Adult: 10 - 20 mL/kg

First Responder Paramedic (FRP)

NIPPV

- Ventilator at the appropriate settings, if available
- Consider low dose [ketamine](#) PRN for light sedation

ECG Monitoring is required

Terbutaline SQ (for use in patients with bronchospasm for whom the use of nebulized albuterol is unsafe)

- Adult: 0.25 mg q 15 minutes PRN, max dose 0.75 mg
- Pedi: 0.01 mg/kg q 15 minutes PRN
 - max single dose 0.25 mg
 - max total dose 0.75 mg

Dexamethasone IV/IO/IM/PO (for mild to moderate asthma; do not use if methylprednisolone is administered)

- Adult: Not indicated
- Pedi: 0.6 mg/kg, max dose 10 mg

OR

Methylprednisolone IV/IO (for moderate to severe asthma; do not use if dexamethasone is administered)

- Adult: 125 mg over 1 min
- Pedi: 2 mg/kg over 1 min, max dose 60 mg

Magnesium Sulfate infusion IV/IO (moderate to severe)

- Adult: 2 gm in 100 mL NS over 10 min
- Pedi: 50 mg/kg in 100 mL NS over 10 min, max dose 2 gm

Epinephrine 1 mg/mL (1:1,000) IM (severe)

- Adult: 0.3 mg
- Pedi (< 30 kg): 0.15 mg
- Repeat q 5 min, if needed, while mixing infusion

Epinephrine infusion IV/IO (severe AND refractory to other treatments)

- Adult: 5 mcg/min titrated to adequate respiratory status
 - Note: 2 mg Epinephrine 1 mg/mL (1:1000) in 100 mL NS yields 20 mcg/mL. Begin infusion at 15 gtts/min using a micro set
- Pedi (≥ 10 kg): Same as adult
- Pedi (< 10 kg): Not indicated. See IV/IO bolus below.

Epinephrine 0.1 mg/mL (1:10,000) bolus IV/IO

- Adult: Not indicated. See infusion above.
- Pedi (≥ 10 kg): Not indicated. See infusion above.
- Pedi (< 10 kg): 0.01 mg/kg q 3 - 5 minutes PRN titrated to adequate respiratory status, max total dose 0.5 mg

2220 Croup/Epiglottitis

Community First Responder (CFR)

Oxygen via applicable adjunct

First Responder Paramedic (FRP)

Epinephrine 1 mg/1 mL (1:1,000), nebulized

- Adult: 2 mg added to 2 mL NS (4 mL total)
- Pedi: 5 mg added to 5 mL NS (10 mL total)

Dexamethasone IV/IO/IM/PO

- Adult: 10 mg
- Pedi: 0.6 mg/kg, max dose 10 mg

2300 Delayed Sequence Induction (DSI)

DSI is the preferred method of securing an adult patient's airway. Each step is required to be in place or complete prior to moving to the next step. **Use of the DSI checklist is mandatory.** (Refer to [9220 DSI Checklists](#) for system specific checklist.)

Community First Responder (CFR)

Preparation

- Confirm placement of SpO₂, EtCO₂, ECG, and BP monitors
- Oxygen by NC at 6 lpm with simultaneous BVM or NRB at maximal oxygen flow

Paramedic

Preparation

1. Confirm readiness of suction, blade, tube with preloaded Bougie, syringe
2. Verbalize airway management plan
3. Identify and palpate landmarks for possible surgical airway
4. Assure BVM has B/V filter, PEEP, and EtCO₂ attached
5. Oxygen by NC at 6 lpm
6. Assure continual SpO₂ and EtCO₂ readings throughout call
7. Correct hypotension prior to and during intubation attempt – Epinephrine 10 mcg/mL (1:100,000/ Push-Dose) with goal of SBP > 100 mmHg (Refer to [4200 Circulatory Support](#))

Sedation and Pre-Oxygenation

8. Ketamine IV/IO (for sedation and analgesia prior to paralysis)
 - a. Adult: 1 mg/kg
 - b. Pedi: Not indicated
9. Properly position patient in ear to sternal notch position with head of bed (HOB) elevated > 15°
10. Increase oxygen by NC to maximal flow
11. Form two handed, thumbs-down seal on BVM, allow spontaneous respirations with maximal oxygen flow
 - a. If available, BiPAP may be utilized
12. Increase PEEP as needed to achieve maximal SpO₂
13. Upon reaching SpO₂ ≥ 94%, begin 3-minute countdown to allow for complete denitrogenation

Paralysis

14. Rocuronium IV/IO
 - a. Adult: 1 mg/kg
 - b. Pedi: Not indicated
15. Begin 90 second countdown to allow complete paralysis
16. Perform intubation
 - a. Immediately abort intubation attempt if SpO₂ < 94%, assure return of SpO₂ ≥ 94%, and begin 3-minute countdown again

Verification of intubation

- Visualization by two providers via video laryngoscope
- EtCO₂ waveform
- Present lung and absent epigastric sounds

Elevate the head of the stretcher ~45° during transport if possible

2400 Rapid Sequence Induction (RSI)

RSI process is to be used only for patients during the placement of a supraglottic airway (SGA). **It is not to be used for endotracheal intubation.** (Refer to [2300 Delayed Sequence Intubation](#))

Each step is required to be in place or complete prior to moving to the next step.

Community First Responder (CFR)

Preparation

- Confirm placement of SpO₂, EtCO₂, ECG, and BP monitors
- Oxygen by NC at 6 lpm with simultaneous BVM or NRB at maximal oxygen flow

First Responder Paramedic (FRP)

1. Confirm readiness of suction and SGA
2. Verbalize airway management plan
3. Identify and palpate landmarks for possible surgical airway
4. Maximize pre-insertion SpO₂ with pre-oxygenation

Sedation and paralysis

5. Ketamine IV/IO (for sedation and analgesia prior to paralysis)
 - a. Adult: 1 mg/kg
 - b. Pedi: Same as adult
6. Increase NC oxygen to maximal flow after onset of ketamine
7. Rocuronium IV/IO
 - a. Adult: 1 mg/kg
 - b. Pedi: Same as adult

Verification of appropriate tube placement by confirming

8. EtCO₂ waveform
9. Present lung and absent epigastric sounds

Elevate the head of the stretcher ~45° during transport if possible

2500 Post-Intubation Sedation and Analgesia

First Responder Paramedic (FRP)

This may be used for patients intubated without RSI/DSI who then need sedation & analgesia (e.g., cardiac arrest with ROSC) and MUST be used for all patients receiving RSI/DSI.

For patients with tachypnea after ketamine, attempt to match their post-paralysis ventilatory rate with their pre-paralysis respiratory rate.

Ketamine IV/IO – used as a single agent OR an infusion

- Single agent:
 - Adult: 1 mg/kg, repeat at least q 30 min or more frequently PRN
 - Pedi: Same as adult
- Infusion:
 - Adult: 1 mg/min, titrated up to effect (200 mg/100 mL NS at 30 gtts/min w/60 gtt/mL set)
 - Pedi: 0.5 mg/min, titrated up to effect (100 mg/100 mL NS at 30 gtts/min w/60 gtt/mL set)
- Document a RASS score (Refer to [9250 RASS](#))
 - Goal of -5

Fentanyl IV/IO – use as needed for adequate analgesia

- Adult: 1-2 mcg/kg q 5 minutes PRN
- Pedi: Same as adult

3000 Cardiac Emergencies

3100 Cardiac Arrest

Prior to or during resuscitation efforts, consider appropriate headings under [1230 CPR Deferral and Termination of Resuscitation](#):

- 1231 OOH-DNR
- 1232 Evidence of Incompatibility with Life
- 1233 Termination of Resuscitation

3110 Initial CPR: All Rhythms

Survival from out-of-hospital cardiac arrests is highly dependent on achieving the following goals:

1. Rapid response
2. Early high quality, minimally interrupted chest compressions
3. Early defibrillation
4. Early initial epinephrine dose

These goals can only be consistently met with a systematic, choreographed approach to cardiac resuscitation which minimizes variation. In order to achieve this approach, the following actions are mandatory for all cardiac arrests:

1. Use of cardiac arrest checklist with either an external stopwatch or monitor clock is mandatory for all cardiac arrests, when available.
2. Assume the appropriate pit crew formation as described in [9400 Pit Crew Configurations](#).
3. Apply CPR feedback devices as quickly as possible and use feedback to maximize compression quality
4. Individual compressors MUST alternate after every 100 compressions.
5. Do not begin to apply the Lucas device until at least 10 minutes of high-quality manual compressions have been performed using the recorded CPR feedback device.
6. When used, the Lucas MUST be deployed in a phased-in fashion as described in [9450 Integration of Additional Devices](#).
7. No single pause in compressions should last more than 7 seconds.
8. Compressions must not be interrupted for intubation for any reason. The compressions are more important than intubation.
9. Pre-charge the monitor(s) at least 15 seconds prior to the next scheduled rhythm analysis.
10. Do not remove CPR feedback device until immediately before the Lucas suction cup application.
 - a. May leave Zoll CPR feedback device in place during Lucas use
11. Make very visible markings on the chest wall to indicate proper positioning of the Lucas cup. Constantly monitor for movement and readjust as necessary. Remember to utilize the neck strap.
12. Rhythm analysis MUST occur every 2 compression cycles (2 minutes) and shall not last more than 7 seconds.
13. All non-traumatic adult cardiac arrests will be resuscitated for at least 40 minutes unless the EtCO₂ < 10 mmHg at 20 minutes of resuscitation OR a DNR is produced.
14. Transport of patients in cardiac arrest shall be avoided. If necessary, every effort shall be made to assure use of the Lucas device with restrained rescuers.

3111 AED Pad Size Guidelines

- Adult Pads: Weight > 55 lbs. (~25 kg)
- Pedi Pads: Weight < 55 lbs. (~25 kg)

- If questionable, use anterior-posterior placed adult pads

3112 Automated Compression Device

Automated compression device (e.g., Lucas), if used, should be applied upon arrival as described in [9450 Integration of Additional Devices](#).

3113 Initial Basic Interventions/Procedures

Community First Responder (CFR)

- Confirm unresponsiveness, apnea, and pulselessness
- For patients on an LVAD
 - Do not feel for a heart rate or blood pressure
 - Immediately phone the patient's LVAD provider for further guidance
- Follow "Pit Crew" procedure using appropriate configuration (Refer to [9400 Pit Crew Configurations](#))
- Initiate compressions at a rate of 100 - 120/min
- Apply CPR feedback device to the chest as soon as available
- Providers performing compressions will be rotated every 100 compressions to minimize fatigue
- Minimize delay between cycles
- Apply defibrillator pads immediately without interruption to compressions
- Follow device prompts
- Initiate immediate ventilations with a BVM and OPA in all cardiac arrests, except for those of suspected cardiac etiology witnessed by EMS and/or FROs
 - Presumed cardiac etiology – a patient who has a sudden onset of chest discomfort/palpitations and collapses. This does not include patients who have had persistent symptoms over a period of time, e.g., exacerbated CHF, sepsis, toxicology, etc.

3114 Initial Advanced Interventions/Procedures

Advanced EMT (AEMT)

Vascular access (IV/IO) and saline lock placement

- Upper extremity or external jugular IV or humeral head IO
- IV preferred for medication administration as soon as practical, even if initial doses are administered by humeral head IO

Supraglottic airway insertion

- MFAEMS: Primary airway in cardiac arrest (ETI as backup airway w/iGEL failure only)
- WCEMS
 - Rescue airway AFTER 2 failed intubation attempts or as instructed by an on-scene system credentialed paramedic in adult patients
 - Primary device for pediatrics
- Cervical collar should be applied after placement
- If transporting and compressions are not ongoing, elevate the head of the stretcher to ~45° if possible

First Responder Paramedic (FRP)

Epinephrine 0.1 mg/mL (1:10,000) IV/IO as soon as possible

- Adult: 1 mg
- Pedi: 0.01 mg/kg (0.1 mL/kg) q 5 minutes, no maximum amount

Epinephrine infusion IV/IO

- Adult: After initial epinephrine – 1 mg epinephrine in 100 mL NS, repeat PRN
 - Non-shockable rhythms – epinephrine infusion at 40 mcg/min
 - Shockable rhythms – Not indicated. No additional epinephrine will be administered unless there is a rhythm change to a non-shockable rhythm.
- Pedi: Not indicated

Establish second access route when practical, IV preferred if not already established
Treat underlying causes as appropriate

Paramedic

Endotracheal tube placement (preferred airway device for WCEMS)

- Adult: Video laryngoscopy only
 - Max: 1 attempt per medic, not to exceed 2 attempts total max per patient
 - Do not interrupt compressions to intubate
 - Verbalize airway management plan
 - Identify and palpate landmarks for possible surgical airway
 - Mandatory effective suctioning
 - Use apneic oxygenation via NC at 15-25 lpm
 - Perform before Lucas placement
 - If transporting and compressions are not ongoing, elevate head of the stretcher to ~45° if possible
- Pedi: SGA placement only
 - Intubation is only acceptable for suctioning resistant meconium aspiration, i.e., newborns with meconium staining who do not respond to vigorous stimulations, drying, and oral suctioning

3115 Sedation During Cardiac Arrest

For those rare cases of cardiac arrest in which a patient shows signs of awareness during CPR

First Responder Paramedic (FRP)

Ketamine IV/IO

- Adult: 1 mg/kg q 30 min PRN
- Pedi: Same as adults

Document a RASS score pre- and post-ketamine administration. (Refer to [9250 RASS](#))

- Goal of -5

3116 Cardiac Arrest in Trauma

For patients in cardiac arrest from traumatic etiology:

- See [1232 Evidence of Incompatibility with Life](#) and [3117 Withholding Resuscitative Efforts in Traumatic Arrest](#)
- Begin and continue CPR only until able to complete all indicated actions, including, but not limited to:
 - Basic airway maneuvers as needed to allow ventilations
 - Bilateral thoracostomy (finger or needle)
 - Pericardiocentesis
 - Pelvic binder

Traumatic Arrest Definition

- Lack of pulse or organized ventilatory activity on first responder arrival AND
- Lack of organized ventilatory activity after basic airway maneuvers AND
- Lack of identifiable AND correctable causes found and addressed
- ToR request may occur prior to 20 minutes of resuscitation

In general, CPR by itself is not helpful in traumatic arrest. It is, however, useful to briefly allow for rapid correction of underlying causes of arrest. There is no evidence that prolonged attempts at resuscitation as is done for medical patients is helpful in trauma. Therefore, CPR should be performed only until all possible corrective procedures have been attempted as authorized in this document. If there has been no ROSC after these have been completed, ToR should be requested regardless of the amount of time which CPR has been on-going.

Resuscitation does not need to continue for any specific period of time after completion of the above steps prior to termination.

It is acceptable to contact Medical Control in the event of unusual circumstances or if conflict arises.

3117 Withholding Resuscitative Efforts in Traumatic Arrest

First Responder Paramedic (FRP)

The FRP may withhold resuscitative efforts among patients for whom BLS or bystander resuscitation has begun in traumatic arrest (assuming the arrest was caused by trauma and not the cause of trauma, i.e., medical condition leading to minor trauma) if, upon FRP arrival, the patient is found to be apneic, pulseless, and without organized electrical activity.

It is acceptable to contact Medical Control in the event of unusual circumstances or if conflict arises.

3120 Asystole and Pulseless Electrical Activity

First Responder Paramedic (FRP)

3121 Asystole

Confirm asystole in multiple leads

3122 PEA – Narrow QRS Complex (as the initial rhythm)

Normal Saline IV/IO

- Adult: 2 L
- Pedi: 20 mL/kg

If EtCO₂ > 10 mmHg AND there is no resolution after 20 minutes of care consider:

- Pericardiocentesis
- Bilateral needle thoracostomy

NOTE: Pedi – do not use pericardiocentesis and/or bilateral needle thoracostomy without a high index of suspicion of tamponade and/or pneumothorax.

3123 PEA – Wide QRS Complex

Calcium Chloride IV/IO

- Adult: 1 gm slow push
- Pedi: 20 mg/kg slow push

FLUSH BEFORE ADMINISTRATION OF SODIUM BICARBONATE

Sodium Bicarbonate IV/IO

- Adult: 1 mEq/kg slow push
- Pedi (> 2): 1 mEq/kg slow push
- Pedi (\leq 2): 1 mEq/kg of 4.2% slow push

3130 Ventricular Fibrillation/Pulseless Ventricular Tachycardia (VF/pVT)

First Responder Paramedic (FRP)

Initial Defibrillation

- Adult: Use the vendor's maximum defibrillation settings for the device being used
- Pedi: 2 J/kg, repeat at 4 J/kg PRN

Dual Sequential Defibrillation (DSD) – for all subsequent defibrillations, if available

- Adult: Use maximum energy settings on both machines for all defibrillations as soon as a second defibrillator is available on scene
 - Ensure a 1 second delay between the shocks
- Pedi: Not indicated

Amiodarone IV/IO bolus

- Adult: 300 mg, may repeat once at 150 mg in 3 - 5 min
- Pedi: 5 mg/kg, may repeat once at initial dose in 3 - 5 min

Magnesium Sulfate IV/IO for Torsades de pointes or suspected hypomagnesemia

- Adult: 1 gm slow IVP, repeat q 5 minutes PRN to a max dose of 4 gm
- Pedi: 50 mg/kg slow IVP, repeat once

Esmolol IV/IO (for VF/pVT refractory to 2 doses of Amiodarone)

- Adult: 500 mcg/kg (0.5 mg/kg) bolus slow push over 1 min THEN infusion titrated to the resolution of the shockable rhythm
 - For the infusion mix 100 mg in 100 mL NS and infuse WO on a 60 gtt set
 - Discontinue/pause the infusion when there is resolution of the shockable rhythm
- Pedi: Not indicated

If patient is in persistent VF at 20 minutes, transport the patient if safe to do so and a STEMI center is within reasonable distance

Treat underlying causes as appropriate

3140 Underlying Causes of Cardiac Arrest

Community First Responder (CFR)

Hypothermia, any temperature – dry and warm patient but otherwise treat as per appropriate protocol

Advanced EMT (AEMT)

3141 Hypovolemia

Normal saline infusion IV/IO

- Adult: 20 mL/kg, repeat PRN until ROSC or TOR
- Pedi (> 5 years old): Same as adult
- Pedi (1 month - 5 years old): 100 mL bolus, reassess, repeat PRN
- Pedi (< 1 month): 10 mL/kg bolus, reassess, repeat PRN

3142 Hypoglycemia

Dextrose 10% IV/IO for BGL < 60 mg/dL

- Adult: 25 gm, infuse wide open
- Pedi: 0.5 g/kg (5 mL/kg) to a max of 100 mL, then reassess

First Responder Paramedic (FRP)

3143 Traumatic Arrest with Thoracic Trauma (Suspected Tension Pneumothorax/Cardiac Tamponade)

Bilateral Needle Thoracostomy, repeat PRN

Finger Thoracostomy as initial approach or after failed needle thoracostomy

Pericardiocentesis if thoracic trauma is present

3144 Beta Blocker Overdose

Follow rhythm specific protocol, e.g., asystole, PEA, VF/pVT

3145 Calcium Channel Blocker Toxicity

Calcium Chloride IV/IO

- Adult: 1 gm slow push
- Pedi: 20 mg/kg slow push

3146 Hyperkalemia

Calcium Chloride IV/IO

- Adult: 1 gm slow push
- Pedi: 20 mg/kg slow push

FLUSH BEFORE ADMINISTRATION OF SODIUM BICARBONATE

Sodium Bicarbonate IV/IO

- Adult: 1 mEq/kg slow push
- Pedi (> 2): 1 mEq/kg slow push
- Pedi (\leq 2): 1 mEq/kg of 4.2% slow push

Albuterol, nebulized

- Adult: 10 mg
- Pedi: Same as adult

3147 Tricyclic Antidepressant Toxicity

Sodium Bicarbonate IV/IO

- Adult: 1 mEq/kg slow push
- Pedi (> 2): 1 mEq/kg slow push
- Pedi (\leq 2): 1 mEq/kg of 4.2% slow push

3150 Return of Spontaneous Circulation

Advanced EMT (AEMT)

Bilateral IV access, in addition to IO, as soon as time allows

Chilled Normal Saline (NS) infusion (non-hypothermia, non-traumatic arrest)

- Adult: 1 - 2 L
- Pedi (> 10 years old): 10 - 20 mL/kg

Note: If anticipated transport time > 20 minutes AND there is limited chilled NS available, defer initiation until within 20 minutes of arrival at ED to avoid premature warming after initiation of hypothermia.

Therapeutic hypothermia is only to be initiated AFTER achievement of ROSC and not during the arrest. If the patient re-arrests after initiation of chilled NS, continue it.

Therapeutic hypothermia is contraindicated in the following patients: hypothermia, trauma, known bleeding disorders, liver failure, or responsive patients.

First Responder Paramedic (FRP)

Monitor non-trauma ROSC for 5 minutes prior to moving to ambulance

12-lead ECG

Maintain SpO₂ between 95%-98%

Epinephrine infusion IV/IO

- Adult: Continue/start epinephrine infusion titrated to a SBP > 100 mmHg (Refer to [Epinephrine infusion](#))
- Pedi: Not routinely indicated

Midazolam IV/IO (for iatrogenic hypothermia-induced shivering)

- Adult: Up to 5mg, repeat q 10 min PRN
- Pedi: 0.1 - 0.2 mg/kg, max single dose of 2 mg, repeat q 10 min PRN

3151 ROSC Ventilation Rates

EMT

Following ROSC in the patient with inadequate minute volume, ventilate at the following rates:

- < 5 days: every 1 - 1.5 seconds (40 - 60/min)
- 5 days to 8 years: every 3 - 5 seconds (12 - 20/min)
- \geq 8 years: every 6 seconds (10/min)

3200 Dysrhythmias

For purposes of dysrhythmia treatment, “symptomatic” is defined as presence of symptoms attributable to cardiac dysrhythmia. Symptoms vary among patients, but may be described as fatigue, orthostatic changes, pain, nausea, dizziness, or unsteadiness.

“Stable” and “unstable” refer to the presumed likelihood that a rhythm will deteriorate. Characteristics of “unstable” dysrhythmias might include loss of consciousness, acuity of symptom onset, speed of symptom worsening, atypical decreased interaction or mentation, or profound hypotension. The goals of treatment are to reverse symptoms by normalizing heart rate and blood pressure.

Asymptomatic dysrhythmias may not require urgent intervention but should be dynamically and constantly monitored for deterioration or clinical change.

Community First Responder (CFR)

May assist with acquisition of 12-lead ECG as requested

3210 Bradycardia

Most bradycardia patients are not sufficiently symptomatic to require intervention.

3211 Stable Bradycardia

Stable bradycardia may be accompanied by symptoms without hemodynamic compromise or be asymptomatic. If bradycardia is an unusual finding based on patient complaint and history, assess for underlying cause. Potential causes may include electrolyte disturbances, toxicity, MI, or increased vagal tone.

3212 Unstable Bradycardia

Unstable bradycardia is defined as decreased alertness and profound hypotension

It is acceptable for paramedics to use atropine as the first line agent for bradycardia

Atropine is not indicated for bradycardia associated with STEMI

Consider beta blocker toxicity

Consider hyperkalemia in dialysis or known renal failure patients with widened QRS complex

Community First Responder (CFR)

Oxygenation for infants with HR < 100 bpm

Ventilation for pediatrics with HR < 60 bpm

Start CPR for infants and children with persistent HR < 60 bpm after aggressive positive pressure ventilation

First Responder Paramedic (FRP)

Atropine IV/IO

- Adult: 0.5 mg, repeat q 3 min PRN
 - Note: Maximum total dose 3 mg
- Pedi: 0.02 mg/kg, repeat q 3 min PRN
 - Note: Minimum dose 0.1 mg
 - Maximum **single** dose 0.5 mg
 - Maximum **total** dose 1 mg

Transcutaneous Pacing (TCP)

Employed early at initial rate > 80 bpm and initial energy setting of 80 mA

Consider [ketamine](#) PRN

To minimize unrecognized patient deterioration during transition of care from EMS to ED staff, the following process must be followed:

1. Prior to moving the patient ask the ED staff to allow EMS to remove our monitoring equipment once the patient is on the ED bed
2. Do not remove EMS' monitor (including EtCO₂, SpO₂, ECG, and/or pacing) until the patient has been completely moved onto the ED bed. Print a strip showing EtCO₂, SpO₂, and ECG while the patient is on the ED bed before disconnecting the monitor.
3. Obtain the treating physician's signature for all patients with an advanced airway confirming correct placement.

Epinephrine infusion IV/IO (for persistent bradycardia and hypotension)

- Adult: Not indicated
- Pedi: (≥ 10 kg): 5 mcg/min, titrated to age appropriate SBP
 - Note: 2 mg Epinephrine 1 mg/mL (1:1000) in 100 mL NS yields 20 mcg/mL. Begin at 15 gtts/min using a 60 gtt set
- Pedi: (< 10 kg): Not indicated. See bolus dosing below.

Epinephrine 0.1 mg/mL (1:10,000) bolus IV/IO

- Adult: Not indicated
- Pedi (≥ 10 kg): Not indicated. See infusion above.
- Pedi (< 10 kg): 0.01 mg/kg q 3 - 5 minutes, max total dose 0.5 mg, titrated to age appropriate SBP

3220 Narrow Complex Tachycardia

3221 Atrial Fibrillation/Flutter with RVR (Stable, Symptomatic Patient)

First Responder Paramedic (FRP)

Diltiazem IV/IO for sustained HR ≥ 120 bpm

- Adult: 10 mg over 2 minutes, repeat once after 15 minutes at 20 mg PRN
- Pedi: OLMC
- Contraindications:
 - Wide QRS tachycardia
 - ECG suggests WPW or Lown-Ganong-Levine Syndrome (LGL)
 - IV beta blocker within the past hour
 - SBP < 100 mmHg
 - OLMC Diltiazem if hypotension is thought to be rate induced

Calcium Chloride IV/IO for diltiazem-induced hypotension

- Adult: 1 gm in 100 mL NS over 10 min
- Pedi: OLMC

OLMC Amiodarone infusion IV/IO for sustained HR ≥ 120 bpm, if diltiazem is contraindicated

- Adult: 150 mg in 100 mL NS over 10 min
- Pedi: OLMC

3222 Multifocal Atrial Tachycardia (Stable, Symptomatic)

Multifocal atrial tachycardia (MAT) is almost always caused by respiratory conditions such as COPD. Treatments are aimed at the underlying condition and require no specific treatment for the MAT.

3223 Supraventricular Tachycardia (Stable, Symptomatic)

First Responder Paramedic (FRP)

Vagal maneuvers (carotid massage is not authorized)

Diltiazem IV/IO for sustained HR \geq 150 bpm

- Adult: 10 mg over 2 minutes, repeat once after 15 minutes at 20 mg PRN
- Pedi: Not indicated
- Contraindications:
 - Wide QRS tachycardia
 - ECG suggests WPW or Lown-Ganong-Levine Syndrome (LGL)
 - IV beta blocker within the past hour
 - SBP < 100 mmHg
 - OLMC Diltiazem if hypotension is thought to be rate induced

Adenosine IV/IO (Adult HR \geq 150, Child HR \geq 180 bpm, Infant \geq 220 bpm) – initial treatment for pediatrics

- Adult: 12 mg, repeat once PRN if diltiazem is ineffective or contraindicated
- Child: 0.2 mg/kg, repeat once PRN
- Follow with immediate flush of 10-20 mL NS – avoid excess pressure with bolus

Adenosine should be decreased by 50% if patient is on Tegretol (carbamazepine) or Persantine (dipyridamole) and increased by 50% if patient is on a methylxanthine drug like theophylline or aminophylline.

Both diltiazem and adenosine are contraindicated for wide complex SVT or when the ECG suggests either WPW or LGL.

3230 Wide Complex Tachycardia

3231 Ventricular Tachycardia (Stable, Symptomatic, Sustained HR > 120)

First Responder Paramedic (FRP)

Amiodarone infusion IV/IO

- Adult: 150 mg in 100 mL NS over 10 min
- Pedi: 5 mg/kg in 100 mL NS over 20 - 30 min

3232 Torsades de Pointes (Stable, Symptomatic)

First Responder Paramedic (FRP)

Magnesium Sulfate infusion IV/IO

- Adult: 2 gm in 100 mL NS over 10 min
- Pedi: 50 mg/kg in 100 mL NS over 10 min

3233 Supraventricular Tachycardia with Aberrancy

Aberrancy is a wide complex tachycardia or a tachycardia with a narrow PR interval with a slurred upstroke at the beginning of the QRS complex.

First Responder Paramedic (FRP)

OLMC Amiodarone infusion IV/IO for sustained HR \geq 120 bpm

- Adult: 150 mg in 100 mL NS over 10 min
- Pedi: OLMC

3240 Unstable Tachycardia

First Responder Paramedic (FRP)

Consider [ketamine](#) PRN prior to cardioversion if time allows

Synchronized Cardioversion (for all rhythms except Torsades de Pointes)

- Adult: LifePack: 100 J, then 200 J, then 300 J, then 360 J PRN
Zoll X-Series: 120 J, then 150 J, then 200 J PRN
- Pedi: 1 J/kg, repeat at 2 J/kg PRN
- Preferentially use anterior-lateral pad placement

Defibrillation for Torsades de Pointes

- Adult: Maximum energy settings
- Pedi: 2 J/kg, repeat at 4 J/kg PRN

3300 General Cardiac Conditions

All forms of nitroglycerin are contraindicated in patients who have:

- taken erectile dysfunction medications within the previous 48 hours
- evidence of right ventricular infarction (RVI)
- SBP < 100 mmHg

Obtain early 12-lead ECG prior to nitroglycerin therapy

Obtain serial 12-lead ECGs about every 10 minutes when possible

Community First Responder (CFR)

May assist with acquisition of 12-lead ECG as requested

3310 Acute Coronary Syndrome (ACS)

Community First Responder (CFR)

Aspirin PO

- Adult: 324 mg, 162mg is acceptable with history of upper GI bleeding
- Pedi: OLMC

First Responder Paramedic (FRP)

Early Emergency Physician notification of “STEMI Alert”

STEMI is a diagnostic 12-lead ECG with an appropriate clinical presentation

Place MFPs in anterior-posterior position for all STEMI patients

ECG criteria for STEMI are:

- > 1 mm ST elevation in 2 or more anatomically contiguous leads
- V1 and V2 alone are not used to determine a STEMI
- Absence of imposters:
 - LVH, Ventricular Paced Rhythm, BER, Pericarditis, or LBBB
 - Inferior STEMI may be called in presence of an LBBB
- V4R is REQUIRED for patients with elevation in leads II, III, aVF

Nitroglycerin SL, after 12-lead ECG is obtained

- Adult: 0.4 mg, repeat q 5 min with SBP > 100 mmHg
- Pedi: OLMC

Nitroglycerin Paste 2% Transdermal

- Adult: 1 inch (15 mg) with SBP > 100 mmHg (may be given in conjunction with SL)
- Pedi: OLMC

Normal saline bolus IV/IO for Right Ventricular Infarction

- Adult: 10 - 20 mL/kg
- Pedi: OLMC

3320 Congestive Heart Failure (CHF)

Advanced EMT (AEMT)

NIPPV (CPAP or BVM)

First Responder Paramedic (FRP)

NIPPV

- Ventilator at the appropriate settings, if available
- Consider [ketamine](#) PRN

Nitroglycerin SL

- Adult: 0.4 mg, repeat q 5 min with SBP > 100 mmHg
 - Contraindicated with erectile dysfunction medication use within the previous 48 hours
- Pedi: OLMC

Nitroglycerin Paste 2% Transdermal (may be given in conjunction with SL)

- Adult: 1 inch (15 mg) with SBP > 100 mmHg
 - Contraindicated with erectile dysfunction medication use within the previous 48 hours
- Pedi: OLMC

3321 Acute Decompensated Heart Failure (ADHF)

Patients with ADHF will have severe respiratory distress or failure from CHF AND hypertension. Indications for treatment under this section are: SBP > 180 mmHg AND (RR > 30 OR SpO₂ < 90%).

First Responder Paramedic (FRP)

Nitroglycerin IV/IO

- Adult: 1 mg slow IVP over 1 minute, repeat q 5 minutes PRN until SBP < 160 mmHg
 - Contraindicated with erectile dysfunction medication use within the previous 48 hours
- Pedi: OLMC

3330 ICD Malfunction

First Responder Paramedic (FRP)

12-lead ECG

Magnet Placement (for observed malfunctioning ICD)

- Place magnet directly over implanted internal cardio-defibrillator
- Pacemakers in demand mode may revert to fixed mode pacing
- Tape in place until patient is transferred to definitive care

4000 General and Palliative Care

4010 Vaccine Administration

In times of public health crisis, EMS may be called upon to bring our unique mobile medical capabilities to bear on community health by augmenting existing vaccination infrastructure. In addition, EMS personnel may be used effectively on an annual basis in efforts to vaccinate our internal workforce against infectious diseases, such as influenza.

Advanced EMT (AEMT)

Administration of IM vaccines per manufacturer's recommendation and in accordance with departmental policy.

4020 Fever

EMT

Acetaminophen PO (for temperature > 100.4° F)

- Adult: 500 - 1000 mg
- Pedi: 15 mg/kg (~0.5 mL/kg), up to 1 gm

First Responder Paramedic (FRP)

Ketorolac IM

- Adult: 60 mg IM
- Pedi: Not indicated

Ketorolac IV

- Adult: 10 mg slow IV bolus
- Pedi: Not indicated

Contraindications for Ketorolac administration

- Chronic kidney disease
- Peptic ulcer disease
- Suspected intracranial hemorrhage
- Clinical dehydration
- Sepsis

4100 Psychiatric/Psychological Conditions

4110 Anxiety Management

Patients with acute emotional distress or who are mildly agitated/irritated, but who are not combative, may sometimes require intervention. This protocol should be used when physical restraint is not needed. As a general rule, many patients with anxiety respond to non-pharmacologic interventions, such as coaching, empathy, or time. Additionally, anxiety may be a symptom of an underlying medical or traumatic condition. Due effort must be made to identify these causes. There are several common conditions which may cause an agitated state that may not need medical intervention under this protocol (examples include post-ictal states and hypoglycemia).

Community First Responder (CFR)

Remove from environmental or situational causes
Minimize external stimuli (loud noises, lights, etc.)
Employ calm verbal attempts to diffuse the patient
Maintain a professional demeanor
Treat for underlying causes of anxiety

First Responder Paramedic (FRP)

Midazolam IV/IO/IM/IN for anxiety (for patients with a RASS +1), if less invasive measures are unsuccessful

- Adult: Up to 5 mg, repeat q 10 min PRN until a RASS 0 is reached
- Pedi: 0.1 - 0.2 mg/kg, repeat q 10 min PRN until a RASS 0 is reached

Refer to [9250 RASS](#) for further details.

The target is less anxiety, not decreased mental status.

4120 Resistant Patient Management

This protocol is for the confused/altered patient who is impeding essential patient care or diagnostics but does not otherwise meet the criteria for treatment under [4130 Violent Agitated Delirium](#).

First Responder Paramedic (FRP)

These patients are resisting instructions due to a lack of understanding/comprehension due to underlying disease states (e.g., psychosis, dementia, substance abuse). They may be acutely psychotic, e.g., hallucinating, responding to external stimuli, etc. Their actions inhibit provider ability to comprehensively assess and provide care. These patients may be altered because of dementia or substances; however, they do not exhibit an apparent intent to harm. This protocol should not be used if this description is, in any way, not applicable. Importantly, it must have been determined that they do not have reasonable decision-making capacity.

Any patient receiving any sedative agent must have documentation of RASS scores before and after sedation and documentation of failed attempts at verbal de-escalation. All patients sedated under this section must have SpO₂, HR, ECG, BP, and EtCO₂ monitored and documented. For those patients for whom such monitoring is impossible, the reason why it was not performed **must** be documented.

Droperidol IV/IO/IM (for patients with RASS +2 - +3) contraindicated with Parkinson's/movement disorders

- Adult: 5 mg, repeat once at 2.5 mg in 10 minutes
- Pedi: OLMC

OR

Haloperidol IV/IO/IM (for patients with RASS +2 - +3), if Droperidol is unavailable, contraindicated with seizure disorders or Parkinson's/movement disorders

- Adult: 5 mg, repeat q 10 min PRN to control behavior until a RASS 0 is reached
- Pedi: OLMC
- Note: See [5805 Dystonic Reaction](#) PRN

Midazolam IV/IO/IM/IN (for patients with RASS +2 - +3), if Droperidol is unavailable or contraindicated or if Haldol is contraindicated

- Adult: Up to 5 mg, repeat q 10 min PRN until a RASS 0 is reached
- Pedi: OLMC

Refer to [9250 RASS](#) for further details.

NOTE: Midazolam can accumulate in the elderly and produce prolonged sedation. As a result, we should attempt to avoid its use. Similarly, ketamine is not indicated unless the patient is actively violent and a threat to harming themselves or others. As a result, Droperidol will often be the most appropriate agent for geriatric patients.

4130 Violent Agitated Delirium

These patients cannot be reasoned with and

- are medical patients with delirium
- are out of control, dangerous, and actively at risk of harming themselves or others
- lack decisional capacity, are irrational, and likely unaware of their surroundings/situation
- will not respond positively to any verbal instructions
- frequently will be under the influence of substances, including stimulants and/or alcohol
- may be hallucinating or displaying bizarre behavior indicating they are delirious
- may have a history of psychiatric disorders or may have an underlying metabolic cause for their delirium

Physical restraint alone will not adequately mitigate their potential for continued self-harm and poses a danger to health care providers. Chemical restraint should be utilized early to prevent patient or provider harm. Law enforcement will likely already be involved but, if not, should be requested to help secure the scene.

If chemical restraint under this section is used, the patient should be fully restrained. Triangular bandages are not to be used for physical restraint. Rather, commercial devices should be used, preferably secured to a backboard and not the stretcher.

A combative patient will not usually be transported by EMS with handcuffs used as physical restraint. In the rare situations it is necessary to do so, the following requirements will be adhered to:

- the handcuffs will be double locked
- a peace officer will be present during EMS care and transport
- the patient will not lie or recline on handcuffs

A patient restrained by commercial restraint devices will:

- receive continuous comprehensive monitoring of vital signs including SpO₂, EtCO₂, BP, and ECG
- be restrained in supine position with legs and arms extended and without any restriction of their respiratory/ventilatory capacity, AND
- have high-flow oxygen administered via NRB

Community First Responder (CFR)

Maintain a professional demeanor

Attempt verbal de-escalation

Assure no physical restraint positions that inhibit ventilation/respiration

Assess for and treat underlying causes of combativeness:

- Blood glucose assessment
- Fever/hyperthermia
- Hyperkalemia
- Symptomatic Stimulant Toxicity

First Responder Paramedic (FRP)

Young/small children and frail/elderly patients very rarely have violent agitated delirium posing a threat to themselves or others. Thus, they will rarely require ketamine.

Chemical restraint is NOT authorized to assist law enforcement in the detainment or arrest of a person without an underlying medical etiology for their violence or for non-medical reasons.

Any patient receiving any sedative agent must have documentation of RASS scores before and after sedation and documentation of failed attempts at verbal de-escalation. All patients sedated under this section must have SpO₂, HR, ECG, BP, and EtCO₂ monitored and documented. For those patients for whom such monitoring is impossible, the reason why it wasn't performed must be documented.

Ketamine IM (for patients with a RASS +4)

- Adult: 4 mg/kg, repeat q 10 min PRN to control behavior until a RASS 0 is reached
- Pedi: OLMC
- Note: See [5806 Emergence Reaction](#)

Ketamine IV/IO (for maintenance after initial control has been achieved)

- Adult: 1 mg/kg, repeated q 10 min PRN for behavior control until a RASS 0 is reached
- Pedi: OLMC

OR

Droperidol IM/IV/IO (for patients with a RASS +4)

- Adult: 10 mg, repeat once at 5 mg in 10 minutes
- Pedi: OLMC

Refer to [9250 RASS](#) for further details.

4200 Circulatory Support

Community First Responder (CFR)

Patient positioning

Advanced EMT (AEMT)

Peripheral Vascular Access

Note: CT contrast administration for pulmonary embolism studies will usually require 18 gauge or larger access in the antecubital space.

IO access for immediate need of fluids or medications without existing vascular access

- Adult: 25 - 45 mm needle
- Pedi (3 - 39 kg): 15 mm needle

Normal Saline flush IO for unconscious patients

- Adult: Up to 5 - 10 mL via flushed saline lock/extension tubing
- Pedi: Up to 5 mL via flushed saline lock/extension tubing

Normal Saline bolus IV/IO started if the patient is hypotensive

- Adult: Up to 20 mL/kg, titrate to maintain SBP \geq 90 mmHg for trauma, SBP \geq 100 mmHg if medical
- Pedi (> 5 years old): Same as adult, titrate to maintain age appropriate SBP
- Pedi (1 month - 5 years old): 100 mL bolus, reassess, repeat PRN
- Pedi (< 1 month): 10 mL/kg bolus, reassess, repeat PRN

First Responder Paramedic (FRP)

PICC and Central Venous Access Devices – accessing PICC lines and all other central lines is not authorized. For patients *in extremis*, establish IV or IO access.

Lidocaine 2% via IO (local anesthetic for patients with GCS > 8)

- Adult: 40 mg
- Pedi: 1 mg/kg, max dose of 40 mg
- Prime lock with lidocaine, then administer slowly over 1-2 minutes, 60-90 seconds prior to IO bolus or flush.

IV Pump – use according to manufacturer's instructions and within system specific guidelines

Epinephrine 10 mcg/mL (1:100,000/"push-dose") IV/IO (for temporary BP support for hypotension during intubation, hypotension without hypovolemia, or while establishing norepinephrine infusion)

- Adult: 10 - 20 mcg (1 - 2 mL) q 3 - 5 min PRN
 - Note: Prepare by mixing 1 mL Epinephrine 0.1mg/mL (1:10,000) in 9 mL NS. 1 mL of this mixture yields 10 mcg of Epinephrine
- Pedi: Not indicated

Norepinephrine infusion IV/IO (for persistent hypotension without hypovolemia)

- Adult: 5 mcg/min, titrate to maintain SBP \geq 100 mmHg
 - Note: 2 mg in 100 mL NS yields 20 mcg/mL, begin at 15 gtts/min with a 60 gtt set

- Pedi: Not indicated

Tranexamic Acid IV/IO

For patients with traumatic or obstetric life-threatening, non-compressible bleeding (including unstable pelvic fractures) with ALL of the following:

- Shock index > 1 (Shock index = heart rate / systolic blood pressure)
- Injury/hemorrhaging occurred within the last 2 hours
- Age ≥ 18 years
- Adult: 1 gm in 100 mL NS infused over 10 min
- Pedi: Not indicated

4300 Nausea/Emesis

First Responder Paramedic (FRP)

Ondansetron IV/IO/IM/ODT

- Adult: 4 - 8 mg, repeat once PRN
 - Pedi (\geq 1 year old): 0.1 mg/kg to a max of 4 mg IV/IO/IM
- OR**
- 4 mg ODT
- Pedi (< 1 year old): 0.1 mg/kg to a max of 4 mg IV/IO/IM

Droperidol IM/slow IV/IO

- Adult: 1.25 mg, repeat once at 0.625 mg in 10 minutes
- Pedi (2 - 12 years old): OLMC
 - < 2 yo – Not indicated

Metoclopramide IM

- Adult: 10 mg, repeat once in 10 minutes
- Pedi: OLMC

Metoclopramide infusion IV/IO

- Adult: 10 mg in 100 mL NS wide open
- Pedi: OLMC
- Note: See [5805 Dystonic Reaction](#)

4310 Acute Diarrhea

Tactical Paramedic

Frequent, loose, non-bloody bowel movements in an afebrile patient that are incapacitating or otherwise limiting functional capabilities

Loperamide PO

- Adult: 4 mg, repeat with 2 mg after each loose bowel movement. No more than 16 mg/day.

4320 Vertigo

Vertigo is a sensation of spinning (either the room is spinning or the patient is spinning) that is brought on or made worse with movement of the head. It can be either central, e.g., cerebellar stroke, or peripheral, e.g., from the inner ear. There should not be any weakness with peripheral vertigo. In either case, improvement with treatment does not change the likelihood of one diagnosis over the other. Our goal is symptomatic improvement enroute to the ED for a more specific diagnosis.

First Responder Paramedic (FRP)

Diphenhydramine IV/IO/IM/PO

- Adult: 25 - 50 mg
- Pedi: OLMC 1 mg/kg

4400 Pain Control

Pain is a subjective experience. Efforts to use objective criteria (heart rate, grimace, gestalt) are notoriously unreliable. There is ample evidence in literature that health care providers systematically underestimate and undertreat pain. We do not need to have a diagnosis before treating pain, e.g., abdominal pain. We should always consider the possibility of pain in our patients and address it. This does not mean all patients must be given narcotics; we have multiple options for analgesia. Nor does treating pain mean that pain scores need to be reduced to zero. The following treatment options do not have to be given in any particular sequence. In general, ketamine should not be the initial option, however there may be circumstances where it is an appropriate initial agent. Clinical judgement based on the specifics of the situation should drive management.

In all cases, there will be NO concomitant administration of opioids and benzodiazepines.

Community First Responder (CFR)

Oxygen

Cryotherapy

Psychological measures such as distraction and guided imagery

Gentle motion restriction and packaging (consider deferral until pharmaceutical pain management)

EMT

Acetaminophen PO (for mild to moderate pain)

- Adult: 500 - 1,000 mg
- Pedi: 15 mg/kg (~0.5 mL/kg), up to 1 gm

First Responder Paramedic (FRP)

Ketorolac IM

- Adult: 60 mg
- Pedi: Not indicated

Ketorolac IV/IO

- Adult: 10 mg slow push
- Pedi: Not indicated

Contraindications for Ketorolac administration

- | | |
|-------------------------------------|------------------------|
| • Chronic kidney disease | • Clinical dehydration |
| • Peptic ulcer disease | • Sepsis |
| • Suspected intracranial hemorrhage | |

Fentanyl IV/IO/IM/IN (for moderate to severe pain)

- Adult: 0.5-2 mcg/kg q 10 min PRN
- Pedi: 0.5-2 mcg/kg q 10 min PRN, max single dose 50 mcg

Ketamine may be used for ongoing pain refractory to 2 doses of Fentanyl OR as an option for initial agent for patients in pain without IV access. It may also be used for light sedation to improve patient tolerance for procedures such as NIPPV:

Ketamine IM

- Adult: 20 mg q 10 minutes, repeat PRN
- Pedi: 0.6 mg/kg q 10 minutes, repeat PRN
 - Max single dose 20 mg

Ketamine IV/IO

- Adult: 0.3 mg/kg in 100 mL NS IV/IO infused over 10 minutes, repeat PRN
- Pedi: 0.3 mg/kg in 100 mL NS IV/IO infused over 10 minutes, repeat PRN

The target goal is a RASS 0. Therefore, do not re-dose ketamine if RASS < +1 to avoid oversedation.

5000 Medical Conditions

5010 Acute Adrenal Insufficiency (Addisonian Crisis)

Consider in any patient with known Addison's Disease/adrenal insufficiency or who is on chronic (more than a month) steroids with abrupt cessation who has the following symptoms:

- Abdominal pain
- Nausea/vomiting
- Hypotension
- Altered mental status
- Persistent hypoglycemia after treatment

Treatment is also appropriate if the patient has a physician's order for steroids (usually SoluCortef) but is unable to self-administer.

First Responder Paramedic (FRP)

Methylprednisolone IV/IO

- Adult: 125 mg over 1 min
- Pedi: 2 mg/kg over 1 min, max dose 60 mg

SoluCortef IV/IO/IM (ordered by the patient's personal physician)

- Adult: usual dose is 100 mg OR the specified dose prescribed by the endocrinologist
- Pedi: specified dose prescribed by the endocrinologist

5020 Hyperkalemia with Pulses (Symptomatic)

Assess for hyperkalemia in patients with excited delirium, renal failure (most often dialysis patients who have missed dialysis), prolonged crush (> 4 hours), or burn injury (> 1 hour).

ECG manifestations suggestive of hyperkalemia may include widened QRS, peaked T waves, bradycardia, AV block, and sine wave.

First Responder Paramedic (FRP)

12-lead ECG

Calcium Chloride IV/IO for unstable patients with abnormal ECG

- Adult: 1 gm in 100 mL NS over 10 min
- Pedi: OLMC

Albuterol, nebulized

- Adult: 10 mg
- Pedi: OLMC

5100 Allergic Reaction/Anaphylaxis

For all allergic reaction/anaphylaxis patients, continuously assess capnography (if available), pulse oximetry, and blood pressure throughout patient care.

5110 Allergic Reaction

An allergic reaction is defined as an exposure to a suspected allergen accompanied by symptoms from the respiratory, cardiovascular, gastrointestinal, or integumentary systems.

Community First Responder (CFR)

For localized skin irritation, apply a cold pack

EMT

Albuterol, nebulized for respiratory involvement

- Adult: up to 7.5 mg, repeat PRN titrated to symptom improvement
- Pedi: Same as adult

Ipratropium Bromide for respiratory involvement

- Adult: 0.5 mg, repeat PRN (may be combined with Albuterol)
- Pedi: Same as adult, max dose 1 mg

Diphenhydramine PO

- Adult: 50 mg
- Pedi: 1 mg/kg

First Responder Paramedic (FRP)

Diphenhydramine IV/IO/IM

- Adult: 25 - 50 mg
- Pedi: 1 mg/kg

Methylprednisolone IV/IO (do not use if dexamethasone is administered)

- Adult: 125 mg over one minute
- Pedi: 2 mg/kg over one minute, max dose 60 mg

OR

Dexamethasone IV/IO/IM/PO (do not use if methylprednisolone is administered)

- Adult: Not indicated
- Pedi: 0.6 mg/kg, max dose 10 mg

5120 Anaphylaxis

Treatments for anaphylaxis include treatments for allergic reaction.

An anaphylactic reaction is defined by one of the following three conditions:

- Exposure to suspected allergen AND hypotension
- Exposure to suspected allergen AND symptoms from TWO or more of the below body systems:

- Respiratory
- Cardiovascular
- Gastrointestinal
- Integumentary
- Allergic reaction that has failed to respond to treatment or has worsened

Community First Responder (CFR)

EpiPen

- Adult (> 30 kg): Adult EpiPen, assist patient with self-administration
- Pedi (\geq 30 kg): Same as adult
- Pedi (< 30 kg): EpiPen Jr, assist patient with self-administration

EMT

Epinephrine 1 mg/1mL (1:1,000) IM

- Adult (>30 kg): 0.5 mg, q 5 min
- Pedi (\geq 30 kg): Same as adult
- Pedi (< 30 kg): 0.15 mg, q 5 min

Advanced EMT (AEMT)

IV/IO access

Normal Saline infusion IV/IO

- Refer to [4200 Circulatory Support](#) for age appropriate administration

First Responder Paramedic (FRP)

Epinephrine 1 mg/1mL (1:1,000), nebulized (for laryngeal edema with stridor)

- Adult: 2 mg added to 2 mL NS (4 mL total)
- Pedi: 5 mg added to 5 mL NS (10 mL total)

Epinephrine infusion IV/IO (for persistent hypotension following IM Epinephrine)

- Adult: 5 mcg/min titrated to SBP \geq 100 mmHg
 - Note: 2 mg Epinephrine 1 mg/mL (1:1000) in 100mL NS yields 20 mcg/mL. Begin infusion at 15 gtts/min using a 60 gtt set.
- Pedi (\geq 10 kg): Same as adult titrated to age appropriate SBP
- Pedi (< 10 kg): Not indicated. See bolus below.

Epinephrine 0.1 mg/1 mL (1:10,000) IV/IO

- Adult: Not indicated. See infusion above.
- Pedi (\geq 10 kg): Not indicated. See infusion above.
- Pedi (< 10 kg): 0.01 mg/kg q 3 - 5 minutes PRN titrated to age appropriate SBP, max total dose 0.5 mg

5200 Atraumatic Headaches

Narcotics are very rarely indicated or helpful for migraines and, in fact, can make chronic headaches worse.

Community First Responder (CFR)

Decrease noxious stimuli

Provide relaxation techniques, distractions, and guided imagery

Administer high flow oxygen, regardless of SpO₂

Apply cold packs to the forehead and the base of the skull

EMT

Acetaminophen PO

- Adult: 500 - 1000 mg
- Pedi: 15 mg/kg (~0.5 mL/kg), max dose 1 gm

Advanced EMT (AEMT)

Normal Saline infusion IV/IO

- Adult: 10 - 20 mL/kg
- Pedi: Same as adult

First Responder Paramedic (FRP)

Droperidol IV/IO/IM

- Adult: 1.25 mg - 2.5 mg, repeat once at 0.625 mg - 1.25 mg in 10 minutes
 - Consider the lower dosing range with elderly patients
- Pedi (2 - 12 yo): OLMC
 - < 2 yo – Not indicated

Ketorolac IM

- Adult: 60 mg IM
- Pedi: Not indicated

Ketorolac IV

- Adult: 10 mg slow IV bolus
- Pedi: Not indicated

Contraindications for Ketorolac administration

- | | |
|---|---|
| <ul style="list-style-type: none">• Chronic kidney disease• Peptic ulcer disease• Suspected intracranial hemorrhage | <ul style="list-style-type: none">• Clinical dehydration• Sepsis |
|---|---|

Metoclopramide IM

- Adult: 10 mg, repeat once in 10 minutes
- Pedi: OLMC

Metoclopramide infusion IV/IO (if droperidol is not available)

- Adult: 10 mg in 100 mL NS wide open

- Pedi: OLMC

Diphenhydramine IV/IO to be given in conjunction with metoclopramide

- Adult: 25 - 50 mg
- Pedi: OLMC

OLMC Fentanyl IV/IO/IM/IN

- Adult: 0.5 - 1 mcg/kg
- Pedi: OLMC

5300 Obstetrical and Neonatal Emergencies

Community First Responder (CFR)

5310 Breech Birth

If the newborn's head doesn't deliver, push and maintain the vaginal wall off the newborn's face.

Position mother in [9233 McRoberts Position](#)

5320 Pre-Eclampsia/Eclampsia

5321 Pre-Eclampsia

Pre-eclampsia is a state of pregnancy induced hypertension (PIH) and associated proteinuria that may continue post-partum for a period of six weeks to three months. Patients may present with focal weakness, paresthesia, acute pulmonary edema, altered mentation, and/or visual disturbances.

First Responder Paramedic (FRP)

For patients ≥ 30 weeks gestation – 3 months postpartum who are hypertensive (BP $\geq 160/100$) AND have one of the following conditions:

- Altered mentation
- Acute pulmonary edema
- Headache
- Visual disturbances
- Focal weakness and/or paresthesia

Magnesium Sulfate infusion IV/IO for pre-eclampsia

- Adult: 4 gm in 100 mL NS over 15 minutes

5322 Eclampsia

Eclampsia is pre-eclampsia PIH with seizures.

First Responder Paramedic (FRP)

Immediately treat active seizures with benzodiazepines under [5700 Seizures and Convulsions](#) concurrently with:

Magnesium Sulfate infusion IV/IO for eclampsia

- Adult: 4 gm in 100 mL NS over 4 min for active seizures

5330 Normal Vaginal Delivery

Apply counter to pressure as the infant emerges

If membranes are intact, gently tear them open

Keep the newborn warm, dry, and at vaginal level until the cord is severed

Allow the infant to nurse

Obtain an APGAR score at 1 min and 5 min after delivery

It is appropriate to treat pain associated with delivery according to [4400 Pain Control](#)

5340 Nuchal Cord

Attempt to slip the cord over the newborn's head
Clamp and cut the cord

5350 Post-Partum Hemorrhage

Fundal Massage

Advanced EMT (AEMT)

Normal Saline infusion under [4200 Circulatory Support](#)

First Responder Paramedic (FRP)

For patients with severe, life-threatening post-partum hemorrhaging with ALL of the following:

- Persistent hypotension with shock index > 1 (shock index = heart rate / systolic blood pressure)
- Delivery occurred within the last 2 hours

Tranexamic Acid IV/IO

- Adult: 1 gm in 100 mL NS infused over 10 min
- Pedi: Not indicated

5360 Prolapsed Cord/Limb Presentation

Position mother in Trendelenberg and lift the presenting body part off the cord

5370 Cardiac Arrest in Pregnancy

For patients in cardiac arrest with fundal heights above the umbilicus:

- Apply lateral manual uterine displacement towards the left side and back toward the patient's head
- Do not utilize passive oxygenation
- Initiate early transportation after determining the absence of a shockable rhythm
- Provide ED notification as early as possible with warning to prepare for potential perimortem c-section
- Transport to nearest ED

5380 Neonatal Resuscitation

Community First Responder (CFR)

Heart rate < 100 bpm, Persistent Central Cyanosis, Lethargy

- Suction mouth and nose. Power suction devices must not exceed 100 mmHg
- Dry and warm the neonate
- Tactile stimulation
- Manual airway maneuvers
- High flow oxygen
- Assisted ventilations with supplemental oxygen at 40 - 60/min

Heart Rate < 60 bpm

- Chest compressions at a compression to ventilation ratio of 3:1 with a chest compression rate of 120/min

Apnea

- Suction mouth and nose
- Employ tactile stimulation
- Employ manual airway maneuvers
- BVM ventilations at 40-60/min with oxygen

Glucose assessment via heel stick

- Oral glucose is not indicated in the newborn
- Normal BGL in newborn is > 40 mg/dL

Advanced EMT (AEMT)

Normal Saline bolus IV/IO

10 mL/kg via syringe PRN, reassess after each bolus

Dextrose 10% IV/IO (for BGL < 40 mg/dL)

Pedi: 0.5 g/kg (5 mL/kg) to a max of 100 mL, then reassess

First Responder Paramedic (FRP)

Epinephrine 0.1 mg/mL (1:10,000) IV/IO

0.01 - 0.03 mg/kg q 3 - 5 min

Paramedic

Meconium aspiration rarely needs tracheal suctioning. Tracheal intubation for the purposes of suctioning is indicated only for thick meconium that is obstructing the trachea in persistently non-vigorous, symptomatic patients AFTER other measures have failed (not needed for thin staining or in patients who respond to other measures).

5400 Stroke

Attempt to transport family member or witness with patient.

Community First Responder (CFR)

Obtain Cincinnati Prehospital Stroke Scale

Establish time patient was last known to be normal

If symptoms are present on waking, they are assumed to have begun prior to onset of sleep

Assess vital signs including blood glucose and pulse oximetry

EMT

Maintain blood glucose level > 60 mg/dL

Advanced EMT (AEMT)

IV/IO Access

First Responder Paramedic (FRP)

A “Stroke Alert” patient is defined as a patient with all of the following:

- Positive CPHSS – refer to [9211 Cincinnati Pre-Hospital Stroke Scale](#)
- Consistent history
- Blood glucose level > 60 mg/dL
- Known symptom onset < 3 hours

An “LVO Stroke Alert” patient is defined as a patient with

- Positive CPHSS with any arm drift/weakness
- Positive VAN assessment – refer to [9212 VAN Assessment](#)
- Known symptom onset < 24 hours

12-lead ECG

Destination determination (refer to [9110 Destination Matrix](#)):

- Stroke Alert – transport to primary stroke center
- LVO Stroke Alert – transport to thrombectomy or comprehensive stroke center if transport time is no more than 30 minutes longer than to a primary stroke center
- Consider transport to a comprehensive stroke center for:
 - Suspected brainstem bleed (acute unconscious with gaze defect)
 - Suspected subarachnoid bleed (sudden onset severe headache with acute neuro deficit)

5500 Blood Glucose Management

For patients with an insulin pump, care is directed at treating hypoglycemia first, then turning off or disconnecting the pump.

5510 Symptomatic Hypoglycemia

Defined by GCS \leq 14 AND blood glucose level:

- Adult: < 60 mg/dL
- Pedi > 1 month: Same as adult
- Neonate: < 40 mg/dL
 - Note: Oral Glucose is not indicated in neonatal patients

Community First Responder (CFR)

Obtain BGL

Heel stick is preferred in newborns/infants

Administer simple carbohydrate drink or food as tolerated initially, followed by complex carbohydrates

EMT

Oral Glucose PO (for symptomatic hypoglycemic patient with patent airway)

- Adult: 15 gm, repeat q 5 min PRN, as tolerated
- Pedi (\geq 3 years old): 7.5 gm, repeat q 5 min PRN, as tolerated
- Pedi (< 3 years old): Not indicated

Advanced EMT (AEMT)

Glucagon IM (for symptomatic hypoglycemia, if IV/IO is not readily available)

- Adult: 1 mg, repeat once after 15 min PRN
- Pedi: 0.1 mg/kg, repeat once after 15 min PRN, max 1 mg

Dextrose 10% IV/IO

- Adult: 0.5 g/kg (5 mL/kg) to a max of 10 g (100 mL), repeat PRN
- Pedi: Same as adult

5520 Hyperglycemia

Advanced EMT (AEMT)

Normal Saline bolus IV/IO for suspected diabetic ketoacidosis or hyperosmolar hyperglycemic state

- Adult: Up to 20 mL/kg regardless of initial blood pressure
- Pedi (> 5 years old): Same as adult
- Pedi (1 month - 5 years old): 100 mL bolus, reassess, repeat PRN
- Pedi (< 1 month old): 10 mL/kg bolus, reassess, repeat PRN

5600 Septic Shock

Systemic Inflammatory Response Syndrome (SIRS) is a group of symptoms that may indicate serious infection. SIRS criteria are met if two or more of the following criteria are present in patients > 18 years old:

- Sustained heart rate > 90 bpm
- Respiratory Rate > 20/min
- Temperature < 96.8° F or > 100.4° F

Septic shock is present in patients meeting SIRS criteria with a suspected or documented infection plus a shock index > 1.

Shock index = heart rate / systolic blood pressure

Advanced EMT (AEMT)

Normal Saline bolus IV/IO

- Adult: 20 mL/kg

First Responder Paramedic (FRP)

Early notification of “Septic Shock Alert” is indicated ONLY if the patient:

- Meets SIRS criteria AND
- Has a clinical suspicion of infection AND
- Shock index > 1 AND
- Persistent EtCO₂ ≤ 25 mmHg

Septic Shock Alert should not be called in the absence of any one of these criteria.

5700 Seizures and Convulsions

Community First Responder (CFR)

Obtain BGL and temperature

EMT

See [4020 Fever](#)

Advanced EMT (AEMT)

Assist patient with magnet stimulation device (Vagal Stimulator) q 3 - 5 min, up to 3 times

First Responder Paramedic (FRP)

Midazolam is indicated immediately in the actively convulsing patient.
There should be **no** delay of benzodiazepine therapy in order to obtain IV/IO access.

Midazolam IM/IN for ongoing seizure

- Adult: 10 mg, repeat q 5 min PRN
- Pedi: 0.2 mg/kg, repeat q 5 min PRN

Midazolam IV/IO for ongoing seizure once established

- Adult: 5 mg, repeat q 5 min PRN
- Pedi: 0.2 mg/kg, repeat q 5 min PRN

Ketamine IV/IO/IM for seizures resistant to midazolam administration

- Adult: OLMC for seizures refractory to 2 doses of midazolam
- Pedi: OLMC

5800 Toxicology Emergencies/Adverse Reactions

Poison Center (PC) should be consulted for advice concerning toxicology; however, PC recommendations are NOT medical orders. If recommendations communicated by PC are not within this Scope of Care, the interventions require formal OLMC consultation/authorization.

800-816-1100 (Healthcare Provider)
800-222-1222 (General Public, Alternate)

If consulting PC, be prepared to provide the following information:

- Patient name, age, and approximate weight
- Substance name and quantity
- Exposure route and time
- Name of the facility to which patient will be transported

5801 Symptomatic Beta Blocker Overdose

First Responder Paramedic (FRP)

Epinephrine IV/IO

- Adult: Consider [4200 Circulatory Support](#) as a bridge to norepinephrine
- Pedi (≥ 10 kg): Epinephrine infusion
 - 5 mcg/min titrated to age appropriate SBP
 - Note: 2 mg Epinephrine 1 mg/mL (1:1,000) in 100 mL NS yields 20 mcg/mL. Begin at 15 gtts/min using a 60 gtt set
- Pedi (< 10 kg): Epinephrine 0.1 mg/mL (1:10,000) bolus IV/IO
 - 0.01 mg/kg q 3 - 5 minutes PRN titrated to age appropriate SBP, max total dose 0.5 mg

Norepinephrine infusion IV/IO (for persistent hypotension without hypovolemia)

- Adult: 5 mcg/min, titrate to maintain SBP ≥ 100 mmHg (Refer to [4200 Circulatory Support](#))
- Pedi: Not indicated

5802 Symptomatic Calcium Channel Blocker Overdose

First Responder Paramedic (FRP)

Calcium Chloride IV/IO

- Adult: 1 gm in 100 mL NS over 10 min
- Pedi: 20 mg/kg in 100 mL NS over 10 min

5803 Carbon Monoxide

CO levels > 10 mmHg in a non-smoker with acute exposure AND signs/symptoms is likely a toxic exposure. CO levels between 10 - 15 mmHg in a long-time smoker are not unusual at baseline.

Community First Responder (CFR)

Oxygen via applicable adjunct at the highest flow possible

If possible, obtain the following information for communication to receiving facility:

- Ambient CO concentration
- Duration of patient exposure

Determine carboxyhemoglobin levels if monitoring equipment is available for ALL firefighters and patients exposed to combustion products with any symptoms OR SpO₂ < 95%. Transport is indicated for CO > 10 mmHg in a non-smoker or > 15 mmHg in a smoker.

Advanced EMT (AEMT)

NIPPV (CPAP or BVM)

First Responder Paramedic (FRP)

NIPPV

- Ventilator at the appropriate settings, if available
- Consider [ketamine](#) PRN

5804 Cyanide

Cyanide may be suspected in occupational or smoke exposures (firefighting), industrial accidents, natural catastrophes, suicide and murder attempts, chemical warfare, and terrorism whenever there are multiple casualties of an unclear etiology.

Non-specific and early signs of cyanide exposure (inhalation, ingestion, or absorption) include the following warning signs and symptoms: anxiety, vertigo, weakness, headache, tachypnea, nausea, dyspnea, vomiting, and tachycardia.

The rapidity of onset is related to the severity of exposure (inhalation or ingestion) and may have dramatic, immediate effects. Patients *in extremis* will demonstrate a combination of the following: early hypertension with subsequent hypotension, sudden cardiovascular collapse, seizure, and coma.

Community First Responder (CFR)

Safely and rapidly separate the patient from the source of exposure

High flow oxygen

Advanced EMT (AEMT)

Establish 2 IVs/IOs so that a primary line is used for hydroxocobalamin infusion

NIPPV (CPAP or BVM)

First Responder Paramedic (FRP)

NIPPV

- Ventilator at the appropriate settings, if available
- Consider [ketamine](#) PRN

Hydroxocobalamin IV/IO for hypotension, seizure, or altered mental status

- Adult: 5 gm in 200 mL NS over 15 min
- Pedi: 70 mg/kg in 200 mL NS over 15 min

5805 Dystonic Reaction

Dystonic reactions are abnormal, involuntary, and uncomfortable muscle movements that are sometimes seen with the use of some medications, particularly anti-psychotics.

First Responder Paramedic (FRP)

Diphenhydramine IV/IO/IM

- Adult: Up to 50 mg
- Pedi: 1 mg/kg, max dose 25 mg

5806 Emergence Reaction

Emergence reactions are a phenomenon specific to dissociative anesthetics like ketamine. They are seen in up to 12% of patients, less frequently in young children and the elderly. They are described as hallucinations, “awake dreaming”, periods of confusion, and irrational behavior. They are not always unpleasant. When present, they occur as the therapeutic effects of ketamine are wearing off and are typically short-lived. Patients with these reactions can often be talked through them with calm reassurance. When significantly disturbing, benzodiazepines are very effective at treating them.

First Responder Paramedic (FRP)

Midazolam IV/IO/IN/IM

- Adult: Up to 5 mg, repeat q 10 min PRN
- Pedi: 0.1 - 0.2 mg/kg, repeat q 10 min PRN

5807 Opiate

Naloxone is not indicated for a patient with an advanced airway in place. Naloxone is only indicated for untreated opiate-induced hypoventilation.

EMT

Naloxone IM

- Adult: up to 2 mg, repeat q 2 min PRN. Start with low dose and titrate to effective ventilations.
- Pedi: up to 0.1 mg/kg, repeat q 2 min PRN. Titrate to effective ventilations.

Advanced EMT (AEMT)

Naloxone IV/IO/IM

- Adult: up to 2 mg, repeat q 2 min PRN. Start with low dose and titrate to effective ventilations.
- Pedi: up to 0.1 mg/kg, repeat q 2 min PRN. Titrate to effective ventilations.

5808 Organophosphate

First Responder Paramedic (FRP)

Route and concentration of atropine is contingent upon drug availability
Mark I Auto-Injector Kit, if available (Adult only)

Atropine IV/IO/IM (for organophosphate toxicity unresponsive to the Mark I)

- Adult: 2 - 6 mg, repeat q 5 min PRN
- Pedi: 0.05 mg/kg, repeat q 5 min PRN

5809 Symptomatic Stimulant Toxicity

First Responder Paramedic (FRP)

Midazolam IV/IO/IM/IN

- Adult: Up to 5 mg, repeat q 10 min PRN until a RASS 0 is reached
- Pedi: 0.1 - 0.2 mg/kg, repeat q 10 min PRN until a RASS 0 is reached

Refer to [9250 RASS](#) for further details.

5810 Alcohol Withdrawal and Delirium Tremens

First Responder Paramedic (FRP)

Midazolam IV/IO/IM/IN

- Adult: Up to 5 mg, repeat q 10 min PRN until a RASS 0 is reached
- Pedi: 0.1 - 0.2 mg/kg, repeat q 10 min PRN until a RASS 0 is reached

Refer to [9250 RASS](#) for further details.

5811 Symptomatic Tricyclic Antidepressant Toxicity

First Responder Paramedic (FRP)

Sodium Bicarbonate IV/IO

- Adult: 1 mEq/kg slow push
- Pedi (> 2): 1 mEq/kg slow push
- Pedi (\leq 2): 1 mEq/kg of 4.2% slow push

5900 Environmental Emergencies

5910 Hyperthermia

Community First Responder (CFR)

Oxygen

Move patient to shaded/cool environment, discontinue physical activity, PO fluids if tolerated

EMT

Obtain BGL if patient is altered

Obtain temperature

Oxygen to maintain SpO₂ between 94% - 96%

Begin active cooling measures if patient is altered or the temperature > 102.2° F:

- Cold packs/ice packs to axilla, groin, and neck
- Wet patient
- Increase airflow

Cold water immersion for temperature \geq 105.8° F, if immediately available

Advanced EMT (AEMT)

Normal Saline bolus IV/IO, titrated to effect

- Adult: 20 mL/kg
- Pedi: 10 mL/kg

First Responder Paramedic (FRP)

Treat under [4300 Nausea](#) as necessary

Immediately treat active seizures with benzodiazepines under [5700 Seizures and Convulsions](#)

OLMC Chilled Normal Saline infusion IV/IO (for altered mental status)

- Adult: up to 30 mL/kg
- Pedi (> 5 years old): Same as adult
- Pedi (\leq 5 years old): 10 mL/kg to a max of 100 mL, then reassess

OLMC Midazolam IV/IO (for iatrogenic hypothermia-induced shivering)

- Adult: Up to 5mg, repeat q 10 min PRN
- Pedi: 0.1 - 0.2 mg/kg, repeat q 10 min PRN

5920 Hypothermia

Hypothermia may produce severe physiologic bradycardia. Do not treat this bradycardia unless there is profound hypotension unresponsive to warmed fluids. With temperatures < 88° F ventricular fibrillation is a common cause of death. Handle patients gently to reduce this risk. Transport immediately for rewarming.

Mild hypothermia	89.6° - 95° F
Moderate hypothermia	82.4° - 89.6° F
Severe hypothermia	< 82.4° F

Community First Responder (CFR)

Oxygen

Remove wet clothing and wrap patient in blankets

Handle very gently

EMT

Obtain BGL

Obtain temperature

Oxygen to maintain SpO₂ between 94% - 96%

Advanced EMT (AEMT)

Establish IV/IO access

Warm Normal Saline bolus IV/IO, if available, titrated to effect

- Adult: 20 mL/kg
- Pedi: 10 mL/kg

First Responder Paramedic (FRP)

ECG monitoring

6000 Trauma

6001 Trauma Alert Definition

A “Trauma Alert” patient is one who meets the criteria in [9300 Trauma Transport](#) for transport to the nearest trauma center. These criteria are based on the 2011 CDC Guidelines for the Field Triage of Injured Patients.

6100 Burns

For patients with second degree burns or worse affecting > 20% body surface area (BSA), or major burns to the airway, face, hands, feet, or genitalia (without other traumatic mechanism), consider air medical transport.

6110 Chemical Burns

Consult Emergency Resource Guide
Contact Poison Control Center (1-800-222-1222)

6120 Electrical/Lightning

When multiple patients are struck simultaneously by lightning or a high voltage source, those in respiratory or cardiac arrest should be given the highest priority of care, even those who appear dead on initial evaluation.

Community First Responder (CFR)

Safely evacuate the patient from the electrical source
Identify potential entry and exit wounds
Remove items that may constrict swelling tissue
Be alert to the possibility of impending cardiac arrest
Maintain patient warmth
Spinal motion restriction in the unconscious patient
Dressings:

- < 10% BSA: Wet sterile dressings
- > 10% BSA: Dry sterile dressings

Advanced EMT (AEMT)

Normal Saline bolus IV/IO

- Adult: 10 - 20 mL/kg
- Pedi: Same as adult

6130 Thermal Burns

Community First Responder (CFR)

Stop the burning process
Be alert for developing airway compromise
Remove and account for all jewelry on a burned extremity
Maintain patient warmth for significant burns
Dressings:

- < 10% BSA: Wet sterile dressings
- > 10% BSA: Dry sterile dressings

Advanced EMT (AEMT)

Normal Saline bolus IV/IO

- Adult: 10 - 20 mL/kg (for significant burns regardless of initial blood pressure or perfusion status)
- Pedi: Same as adult

6200 Crush Injury

Advanced EMT (AEMT)

Normal Saline infusion IV/IO

- Adult: 20 mL/kg
- Pedi: Same as adult

First Responder Paramedic (FRP)

ECG Monitoring

6300 Wound Closure

Tactical Paramedic

After thorough and extensive wound irrigation and contaminant removal, the wound shall be cleaned and dried, then one of the following wound closure techniques may be utilized:

Tissue Adhesive – apply topically to well approximated, non-gaping, superficial skin wounds

Skin Staples – for closure of larger, wider wounds or wounds under tension

If there is a suspicion that, even after aggressive irrigation and contaminant removal, the patient is still at risk of infection, contact OLMC for a call-in prescription for antibiotics.

Note: Do not close any wound that cannot be adequately irrigated or that has foreign bodies that cannot be removed.

6400 Miscellaneous Trauma

6410 Bleeding Control

Community First Responder (CFR)

Direct pressure with sterile pressure dressing

Direct pressure with hemostatic dressing, if available

A tourniquet should be applied for life-threatening hemorrhage not controlled by lesser means

- Apply to proximal aspect of affected extremity
- Record time of application on device
- Do not remove or loosen once placed
- May apply multiple tourniquets if needed

EMT

Wound Packing

- Hemostatic dressing used to stop arterial bleeding in junctional areas (areas of the body which are not amenable to placing a tourniquet – the axilla, groin, and buttocks)
- May also be used as a secondary means to control hemorrhaging to the extremities after tourniquet placement
- Not used on the head or the anterior or posterior torso

Suspected Unstable Pelvic Fractures

- Apply age specific device (preferable) or sheets to reduce pelvic volume for hypotensive patients with an unstable pelvis.

Advanced EMT (AEMT)

Consider fluid treatment under [4200 Circulatory Support](#)

First Responder Paramedic (FRP)

For patients with traumatic life-threatening, non-compressible bleeding (including unstable pelvic fractures) with ALL of the following:

- Shock index > 1
- Injury occurred within the last 2 hours
- Age \geq 18 years

Tranexamic Acid IV/IO

- Adult: 1 gm in 100 mL NS infused over 10 min
- Pedi: Not indicated

Tactical Paramedic

Use of injectable hemostatic agents (XSTAT)

6415 Traumatic Brain Injury

Patients with traumatic brain injuries do not tolerate hypoxia or hypotension well. Both increase mortality and should be prevented.

- Maintain SpO₂ > 95%
- Avoid hyperventilation; keep EtCO₂ ~35 mmHg (when end tidal monitoring is available)
- Maintain SBP > 90 mmHg (Refer to [4200 Circulatory Support](#))
- Keep head of bed/stretchers elevated ~45°

First Responder Paramedic (FRP)

For persistent hypotension without hypovolemia after an appropriate fluid bolus, consider:

- Epinephrine 10 mcg/mL and/or Norepinephrine infusion (Refer to [4200 Circulatory Support](#))

6420 Epistaxis

Community First Responder (CFR)

Control bleeding with uninterrupted direct pressure to the fleshy areas of the nose for at least 15 minutes.

May use nasal clamp, if available.

Dissuade patient from swallowing blood.

First Responder Paramedic (FRP)

Oxymetazoline IN

- Adult: 1 - 2 activations/nare following voluntary clearing of nares by conscious patient
- Pedi: Not indicated

Tranexamic Acid IN

- Adult: 100 mg (1 mL) in affected nare, repeat once in 1-2 minutes as needed
- Pedi: Not indicated

Tranexamic Acid Topical

- Adult: Saturated cotton ball/gauze in affected nare (~500 mg)
- Pedi: Not indicated

6430 Skeletal Injury

Community First Responder (CFR)

Splint in the position of least pain

If a pulse is absent distal to the injury, attempt to reposition once, then splint

6440 Snakebite

Community First Responder (CFR)

Minimize patient movement

Remove all clothing, constriction, and jewelry from the affected extremity

Immobilize the affected extremity

Elevate the extremity as best as possible

Do NOT apply ice/cold packs

Confirm anti-venom is available at receiving facility

As soon as possible mark the extent of the margins for both pain and edema/discoloration. (They might be different). Date and time stamp each marking.

Safely identify the snake, if possible. Take clear, focused pictures. Do NOT transport the snake to the ED.

First Responder Paramedic (FRP)

Consider treatment under either [4110 Anxiety Management](#) or [4400 Pain Control](#)

6450 Spinal Motion Restriction (SMR)

The use of spinal motion restriction is necessary in any patient with the potential for spinal compromise. This potential is based on mechanism of injury AND patient presentation. While it may be indicated in some situations, it is also important to understand that there is very little proven benefit to the use of a long spine board. Additionally, there is potential for harm with the use of the long spine board. While these SOCs encourage applying SMR to only those patients likely to benefit from it, it is important to understand that this will most likely best be accomplished by using only a cervical collar and forgoing the use of the long spine board. This practice is supported by both the National Association of EMS Physicians and the American College of Surgeons in their 2013 joint position statement (EMS Spinal Precautions and the Use of the Long Backboard. PEC 2013; 17:392-393).

The diagram in [9310 Spinal Motion Restriction Algorithm](#) outlines the decision support process to determine if SMR is indicated. In general, if SMR is indicated, it should involve only a cervical collar without a long spine board. Our default position for trauma patients is that, if they fail the SMR clearance process in the Spinal Motion Restriction Algorithm, they need a cervical collar only. There are, however, some circumstances where the long spine board may still be indicated.

Community First Responder (CFR)

Apply cervical collar for patients who cannot be cleared under [9310 Spinal Motion Restriction Algorithm](#)

Most patients should be transported with a cervical collar seated or lying on the stretcher without a backboard.

In general, backboards should only be used for patients that require the board for movement or extrication.

“Standing take-downs” of ambulatory patients should not be performed.

6460 Taser Probe Removal

Law enforcement policy may require a patient to be transported if a conducted energy weapon was used. Providers will honor this policy if the patient is in custody of the law enforcement agency.

Community First Responder (CFR)

Remove probes

6470 Tooth Avulsion

Avoid touching roots

Place in container and transport in (in order of preference):

1. Patient saliva
2. Milk
3. Normal saline
4. Water

6480 Potential Need for Amputation

Should field staff, in conjunction with on-scene command staff, feel that the only remaining alternative to a patient's death in the setting of a prolonged extrication is a field amputation, on-scene command staff should request a response by the Dell Seton Medical Center's Field Surgical Team. This should be done through Austin/Travis County EMS Dispatch. They have an existing procedure in place to activate this team. They will coordinate transport of the team to the scene with the on-scene command staff.

The purpose of this team's response is to provide surgical assessment and procedural expertise. They will assess the scene and determine if a surgical procedure is possible or helpful.

6490 Corneal Abrasion

Tactical Paramedic

Tetracaine 0.4% Solution

- Adult: 1 - 2 gtts, repeat q 5 min PRN
- Pedi: Same as adult

9000 Appendices

9100 Facility Capabilities

9110 Destination Determination Matrix

Use the following matrix to determine closest appropriate facility.

	CATEGORY I	CATEGORY II	GENERAL ED	STEMI/ROSC	TRAUMA CENTER	PRIMARY STROKE CENTER	COMPREHENSIVE/ THROMBECTOMY STROKE CENTER	PEDIATRIC SPECIALTY CENTER	PEDIATRIC TRAUMA CENTER
Baylor Scott & White Lakeway									
Baylor Scott & White Llano									
Baylor Scott & White Marble Falls									
Baylor Scott & White McLane Children's Medical Center									1
Baylor Scott & White Pflugerville									
Baylor Scott & White Round Rock									
Baylor Scott & White Taylor									
Baylor Scott & White Temple									
Cedar Park Regional Medical Center									
Dell Children's Medical Center									1
Dell Seton Medical Center									
Seton Highland Lakes									
Seton Medical Center (Main)									
Seton Northwest									
Seton Southwest									
Seton Williamson							2		
St. David's Austin (Main)									
St. David's Children's Hospital									
St. David's Georgetown									
St. David's Heart Hospital									
St. David's North Austin Medical Center									
St. David's Round Rock Medical Center							2		
St. David's South Austin Medical Center									
St. David's Freestanding ER, Leander									
Cedar Park Freestanding ER, Leander									

1. Dell Children's Medical Center and BS&W McLane Children's are appropriate destinations for children under age 15 with significant trauma.
2. Seton Williamson and St. David's Round Rock are thrombectomy capable hospitals but not comprehensive stroke centers, i.e., Primary Plus Stroke Centers

9120 Hospital Category and Destination Determination

To better deal with the increasingly wide variety of health care facilities to which it may be appropriate to transport patients, the following category system for all receiving facilities has been developed. Existing facilities that MFAEMS and WCEMS currently transport to either already meet these criteria or are grandfathered in as Category I facilities. Any facility not currently receiving patients must meet all the following criteria to be considered for addition to the destination determination matrix.

9121 Category II Facility

Category II facilities meet the minimum criteria for receiving any patient from EMS. No patient meeting criteria for a Category I facility or Specialty Resource Center should be transported to a Category II facility. In general, Category II facilities are low volume traditional hospitals and free-standing emergency departments. To receive any patients from EMS, the following criteria must be met:

Operations and Logistics Requirements

- Be open and staffed 24/7/365 by at least
 - One appropriately trained emergency physician on-site and dedicated to the care of ED patients
 - An appropriate number of dedicated and appropriately trained ED nurses
- Accept Medicare/Medicaid
- Have on-site standard radiological services including X-ray, CT, and ultrasound
- Have on-site laboratory services
- Be capable of caring for pregnant patients (< 20 weeks gestation) with non-pregnancy complaints
- Be capable of communicating with EMS via radio
- Must have capability, through either on-site, call, or pre-defined transfer agreement, to provide the following emergency services:
 - Cardiology
 - Neurology
 - Radiology
 - Anesthesiology
 - General Surgery
 - Orthopedic Surgery
 - OB/GYN
 - Procedural Sedation (does not imply anesthesia)
- Agree to a non-diversion policy except in situations of internal hospital disasters (e.g., loss of power or vital equipment such as CT or X-ray systems, fire, flood, etc)
- Agree to participate in an automated, electronic, bi-directional data exchange in which EMS receives both billing and clinical outcome data elements
- Agree to identify a single point of ED contact for topics including logistics, operations, and/or clinical performance improvement initiatives
- The facility's administration is committed to consistently meeting these criteria as demonstrated by a letter to EMS from the facility CEO or designee

Patient Requirements

- Stable vital signs – no hypotension, brady-/tachycardia, abnormal respirations, or mental status alterations from the patient's baseline
- Do not meet criteria for transport to a Category 1 facility
- Do not meet criteria for transport to a Specialty Receiving Center (STEMI, Stroke, Trauma, Pediatric)
- No psychiatric patients

9122 Category I Facility

Category I facilities meet the minimum qualifications to be eligible to apply for Specialty Receiving Center (STEMI, Stroke, Trauma, etc). A Category I facility meets all the criteria of a Category II facility in addition to the following additional criteria:

- Offer in-patient capabilities for a variety of patients, including the following:
 - General Surgery
 - Anesthesia
 - OB/GYN
 - Orthopedics
 - Intensive Care
- Patients with unstable vital signs or altered mental status
- Hip fractures and/or open fractures
- Patients with suicidal or homicidal ideations and/or those requiring field sedation because of violence

9123 Specialty Receiving Center

A specialty receiving center has been a Category I facility for at least six months and also meets the specified criteria to receive patients with acute care needs in the following service lines (facilities do not have to meet all service lines to be a specialty receiving center):

- STEMI
- Stroke
- Trauma
- Pediatrics

9200 Reference Information

9210 Stroke Scales

9211 Cincinnati Pre-Hospital Stroke Scale (CPHSS)

The Cincinnati Pre-Hospital Stroke Screen is positive if any of the following are abnormal:

1. Facial Droop (have patient smile and show their teeth)
 - a. Normal: Both sides of face move equally
 - b. Abnormal: One side of face does not move at all
2. Arm Drift/Weakness (have patient hold both arms out with locked elbows, palms up and not touching. Maintain this for 10 seconds with eyes closed)
 - a. Normal: Both arms move equally or not at all
 - b. Abnormal: One arm drifts compared to the other or cannot be lifted at all
3. Speech (have the patient say “you can’t teach an old dog new tricks”)
 - a. Normal: Patient uses correct words with no slurring
 - b. Abnormal: Slurred, inappropriate, or absent words

9212 VAN Scale

Perform a VAN stroke scale to assess for potential large vessel occlusion (LVO) for any suspected stroke with arm drift/weakness on the CPHSS.

1. **Visual Disturbance**
 - a. Forced gaze defect or
 - b. Complete or partial blindness
 - c. Count fingers in all 4 quadrants
2. **Aphasia**
 - a. Inability to name 3 common objects (e.g., pen, watch, arm)
 - b. Inability to follow simple commands (e.g., open fist, close fist)
 - c. Slurred speech alone does not count
3. **Neglect**
 - a. Forced gaze defect
 - b. Inability to recognize one side of body when touched

VAN is positive when any component is positive **AND** there is arm weakness on the CPHSS.

NOTE: A patient can be CPHSS (+) and VAN (-).
A patient cannot be VAN (+) and CPHSS (-).

9220 Delayed Sequence Intubation Checklists

9221 Williamson County EMS DSI Checklist

START HERE	
COMPLETE FORM DURING PROCEDURE	
CALL CLINICAL STOP SIGN FOR ANY INCOMPLETE DSI, BAIL OUT, OR MISSED INTUBATION	
Incident Number: _____	
Patient's Estimated Weight in Kilograms _____	
Pre-Procedure Checklist	
<input type="checkbox"/> Prepare intubation kit <input type="checkbox"/> 4-lead ECG in place <input type="checkbox"/> SpO ₂ with good pleth wave <input type="checkbox"/> EtCO ₂ with every breath <input type="checkbox"/> Accurate blood pressure <input type="checkbox"/> Standard NC at 6 LPM in place	<input type="checkbox"/> Verbalize missed airway plan and verify surgical airway landmarks <input type="checkbox"/> Ensure all rescue devices are readily available <input type="checkbox"/> Ensure suction is ready
Sedation	
<input type="checkbox"/> Administer KETAMINE (1 mg/kg slow IV/IO push) KETAMINE Dose Given _____ Time Administered _____ Post KETAMINE EtCO ₂ _____ Post KETAMINE Respiratory Rate _____	
<input type="checkbox"/> Place STANDARD NASAL CANNULA at 25 LPM Time Nasal Cannula Placed _____	
IF NEEDED CORRECT HYPOTENSION (SBP < 100 mmHg)	
<input type="checkbox"/> PUSH DOSE EPI 1:100,000 1-2 mL q 3-5 minutes o Add 1 mL Epinephrine 1:10,000 to 9 mL NS flush <input type="checkbox"/> Consider Levophed drip and Normal Saline bolus	
Pre-Oxygenation	
<input type="checkbox"/> Place OPA or NPA _____ Time OPA or NPA Placed _____ <input type="checkbox"/> Position patient's EARS TO STERNAL NOTCH by PADDING UNDER PT'S SHOULDERS <input type="checkbox"/> RAISE THE HEAD OF THE BED to at least 15 DEGREES <input type="checkbox"/> Perform 2-HANDED "THUMBS DOWN" MASK SEAL & set PEEP to at least 5 cmH ₂ O o Adequate breathing & SpO ₂ ≥ 94%: BVM seal with NO ventilations o Adequate breathing & SpO ₂ < 94%: BVM seal with NO ventilations AND INCREASE PEEP o Inadequate breathing: BVM seal with ventilations <input type="checkbox"/> Maintain SpO ₂ ≥ 94% for AT LEAST 3 MINUTES Time SpO ₂ ≥ 94% _____	
TURN PAGE OVER	

PAGE 2	
Paralytic Administration	
<input type="checkbox"/> Administer ROCURONIUM (1 mg/kg IV/IO push) o Wait at least 90 SECONDS prior to intubation attempt o If needed: wait additional time for paralysis to set in or consider redosing paralytic if patient is not sufficiently paralyzed ROCURONIUM Dose Given _____ Time ROCURONIUM Administered _____	
BAIL OUT CRITERIA	
SpO ₂ drops below 94% Peri-intubation arrest Significant decrease in heart rate (excluding head trauma) If the lead medic calls for a "Bail Out"	Call Clinical Stop Sign for any incomplete DSI, Bail Out, or missed ET tube
Intubate the Patient	
PROVIDE CONTINUOUS SUCTION DURING INTUBATION ATTEMPT	
Attempt #1	Ensure 'VL Start' is said/noted in monitor _____ Ensure 'VL Stop' is said/noted in monitor _____ Lowest SpO ₂ during attempt _____ Lowest HR during attempt _____
Attempt #2 (AFTER REPEATING PRE-OXYGENATION STEPS)	Ensure 'VL Start' is said/noted in monitor _____ Ensure 'VL Stop' is said/noted in monitor _____ Lowest SpO ₂ during attempt _____ Lowest HR during attempt _____
SGA Placement	SGA placement time _____
Surgical Cricothyrotomy	Surgical cricothyrotomy time _____
Post Airway Management Sedation and Analgesia	
<input type="checkbox"/> Administer KETAMINE (1 mg/kg slow IV/IO push) o At least every 30 minutes or more frequently PRN -OR- <input type="checkbox"/> KETAMINE INFUSION (1 mg/min) o 200 mg of KETAMINE in 100 mL NS at 30 gtt/min on a 60 gtt set	
<small>© Williamson County EMS, v5.1 8/2022</small>	

9222 Marble Falls Area EMS DSI Checklist

Incident Number: _____

DSI Check Sheet

Check all boxes & fill all blanks

Writer _____

Airway Operator _____

Medic Holding BVM Mask _____

(Watches SpO2 and reads/fills out check sheet)

Patient's Weight in Kgs _____

Patient Height _____

Preparation:

☐ ECG ☐ BP (every 2 minutes) ☐ SpO2 ☐ EtCO2 ☐ NC/NRB/CPAP ☐ IV
 (Circle One)

☐ Correct Hypotension prior to/during intubation ☐ Patient on stretcher with head at 15 degrees, ears level with sternum

<input type="checkbox"/> King Vision Handle	<input type="checkbox"/> King Vision Blade	<input type="checkbox"/> Tube Tamer/C-Collar	<input type="checkbox"/> OPA/NPA
<input type="checkbox"/> ET Tube	<input type="checkbox"/> EtCO2 Detector (filterline)	<input type="checkbox"/> BVM/filter/EtCO2/PEEP	<input type="checkbox"/> Suction
<input type="checkbox"/> 10cc Syringe	<input type="checkbox"/> Stethoscope	<input type="checkbox"/> I-Gel	<input type="checkbox"/> Bougie
	<input type="checkbox"/> Ketamine	<input type="checkbox"/> Rocuronium	

Sedation & Oxygenation Procedure:

☐ Ketamine 1.0 mg/kg Slow IV/IO Ketamine Dose: _____ Time: _____

☐ Replace Smartcap with nasal cannula, increase flow to MAX

☐ Nasal Cannula and BVM with two handed seal and PEEP at 5cm Pre-intubation Resp. Rate: _____

☐ Squeeze bag only if patient is breathing inadequately Pre-intubation EtCO2: _____

☐ IF SpO2 drops, or doesn't increase to 94%, Increase PEEP

☐ WAIT 3 MINUTES, keeping SpO2 at 94% or greater!

STOP and/or Do Not Progress if SpO2 is lower than 94%, significant bradycardia, cardiac arrest or Lead Medic Requests STOP

Time that SpO2 reached 94% or greater: _____

☐ Rocuronium 1.0 mg/kg IBW Slow IV/IO (wait 90 seconds / paralysis) Rocuronium Dose: _____ Time: _____

Intubation:

Suction before and during intubation attempt

 1st Attempt ET Size: _____ Time _____ to _____ Lowest SpO2 and HR _____ / _____

 2nd Attempt ET Size: _____ Time _____ to _____ Lowest SpO2 and HR _____ / _____

I-gel Size: _____ Time _____ to _____ Lowest SpO2 and HR _____ / _____

☐ 2 Medics Visualize

If first attempt is unsuccessful:
☐ Epigastric/Lung Sounds

1. Restart 3 minute oxygenation while troubleshooting

2. Switch airway operators, if one is available

☐ Secure Tube

 3. Ensure BP and SpO2 are adequate, before 2nd attempt

☐ C-Collar

☐ Reassess Placement, also after any movement

☐ Ventilator, consider matching initial respiratory rates

Measurement at Teeth: _____

Post-intubation:

Place Gastric Tube

☐ Elevate the head of the stretcher 45° during transport if possible
Ketamine 1.0mg/kg Slow IV/IO at least every 30 minutes

Ketamine Dose: _____ Time: _____

9230 Pediatrics

9231 Pediatric Transport Guidelines

Pediatric patients may be transported to either full-service emergency departments or a pediatric specialty center listed in Hospital Capabilities (Refer to [9110 Destination Matrix](#)).

Patients should be transported to the nearest full-service emergency department unless one or more of the following criteria exist:

- Cardiac arrest with ROSC
- Respiratory failure (any patient requiring the use of an airway adjunct)
- Seizures requiring the use of benzodiazepines
- BRUE (Brief Resolved Unexplained Event)
- Significant trauma (e.g., meeting Trauma Alert criteria)
- Pulseless extremity distal to a fracture/dislocation
- Altered mental status
- Technology dependence (e.g., on a vent at home)
- Prior cardiac surgery
- Cardiac dysrhythmias (e.g., SVT, AF, VT)
- Infant (≤ 3 months old) fever
- Parental request

9232 Pediatric Ideal Body Weight

This chart is based on the Handtevy Pediatric System.

AGE	IDEAL BODY WEIGHT
Preemie	2 kg
Newborn	4 kg
4 months	6 kg
6 months	8 kg
1 year	10 kg
2 years	12 kg
3 years	15 kg
4 years	17 kg
5 years	20 kg
6 years	22 kg
7 years	25 kg
8 years	27 kg
9 years	30 kg
10 years	35 kg
11 years	40 kg
12 years	50 kg
13 years	60 kg

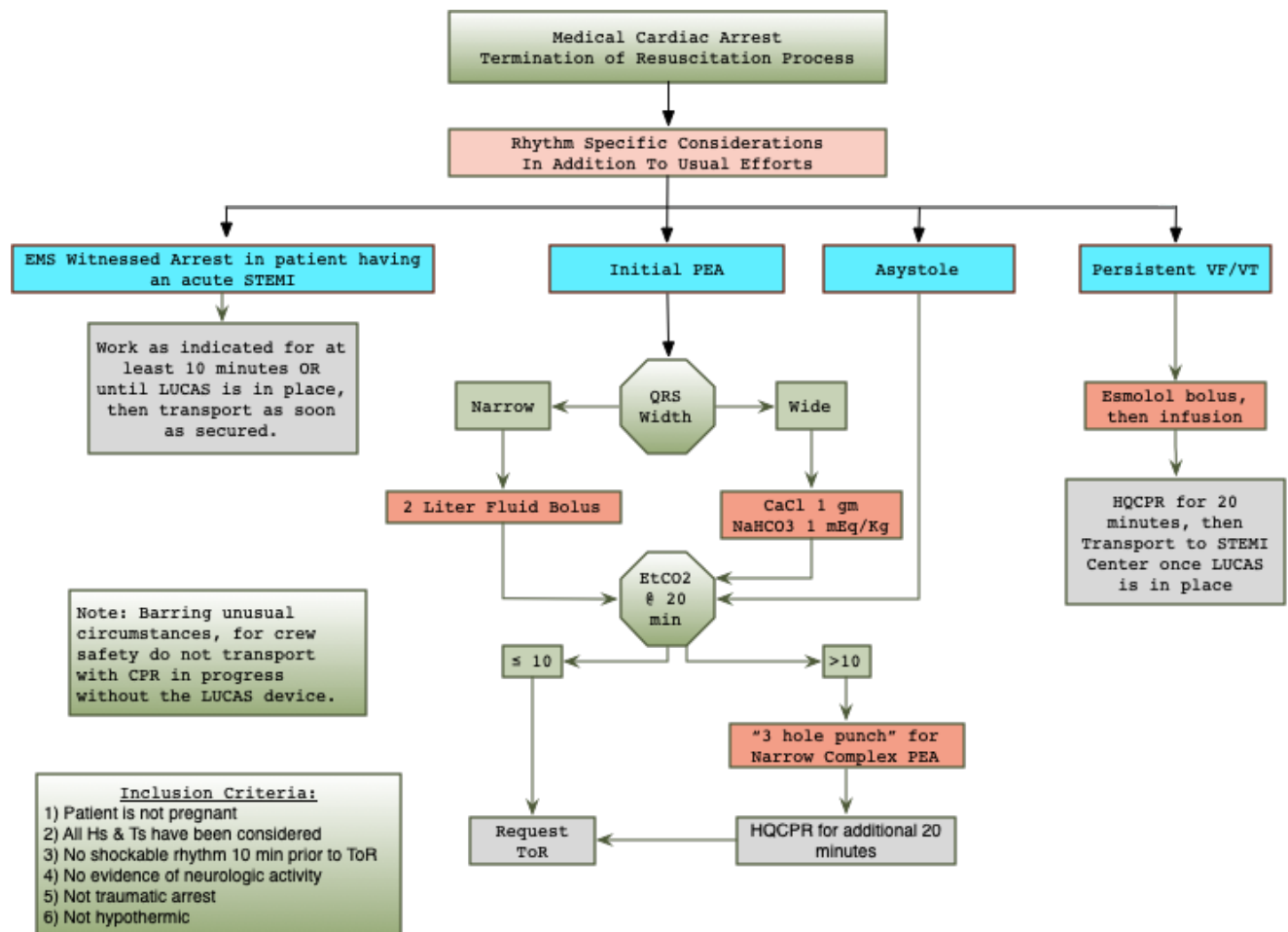
9233 McRoberts Position9234 APGAR Scoring System

Perform at 1 minute and 5 minutes postpartum

Indicator	0 Points	1 Point	2 Points
Activity (muscle tone)	Absent	Flexed arms & legs	Active
Pulse	Absent	< 100 bpm	≥ 100 bpm
Grimace (reflex irritability)	Floppy	Minimal response to stimulation	Prompt response to stimulation: pulls away or cries
Appearance	Blue/pale	Pink body, Blue extremities	Pink
Respiration	Absent	Slow &/or irregular, weak cry	Vigorous cry

9240 Termination of Resuscitation

9241 Medical Cardiac Arrest Termination of Resuscitation Algorithm



9242 Termination of Resuscitation Request Template

What Dr. Jarvis Wants to Hear When Called for an Order to Terminate Resuscitation Efforts	
Main Subject of the Request	<i>Example: "This is <UNIT> with <SYSTEM> requesting permission to stop CPR...."</i>
Age and Gender	
Witnessed or Unwitnessed Arrest	
Bystander CPR or not	
Downtime Prior to CPR/Recognition	
Significant Past Medical History	
Initial Rhythm	
Advanced Airway in Place? Which one?	
Duration of Resuscitation	
Medications Administered	
EtCO ₂ – immediately post advanced airway placement & current	
Current Rhythm	
Clear Request (TOR/Transport/Other)	

9250 Richmond Agitation-Sedation Scale (RASS)

Score	Term	Description	
+4	Combative	Overtly combative, violent, immediate danger to staff	
+3	Very agitated	Pulls or removes tube(s) or catheter(s); aggressive	
+2	Agitated	Frequent, non-purposeful movement; fights ventilator	
+1	Restless	Anxious, but movements are not aggressive or vigorous	
0	Alert and calm		
-1	Drowsy	Not fully alert, but has sustained awakening (eye opening/eye contact to <i>voice</i> for ≥ 10 seconds)	Verbal Stimulation
-2	Light sedation	Briefly awakens with eye contact to <i>voice</i> (< 10 seconds)	
-3	Moderate sedation	Movement or eye opening to <i>voice</i> , but no eye contact	
-4	Deep sedation	No response to voice, but movement or eye opening to <i>physical</i> stimulation	Physical Stimulation
-5	Unrousable	No response to <i>voice or physical</i> stimulation	

Procedure for RASS Assessment	Score
1. Observe patient	
a. Patient is alert, restless, or agitated	0 - +4
2. If not alert, state pt's name & say to open eyes & look at speaker	
a. Pt awakens w/sustained eye opening & eye contact	-1
b. Pt awakens w/eye opening & contact, but not sustained	-2
c. Pt has any mvmt in response to voice, but no eye contact	-3
3. If no response to verbal stimulation, physically stimulate pt by shaking shoulder and/or rubbing sternum	
a. Pt has any movement to physical stimulation	-4
b. Pt has no response to any stimulation	-5

Withhold further analgesia or sedation for non-intubated patients with a RASS score < +1 to avoid oversedation.

Sessler CN, Gosnell M, Grap MJ, Brophy GT, O'Neal PV, Keane KA, *et al.* The Richmond Agitation-Sedation Scale: validity and reliability in adult intensive care patients. *American Journal of Respiratory and Critical Care Medicine* 2002; 166:1338-1344.

Ely EW, Truman B, Shintani A, Thomason JWW, Wheeler AP, Gordon S, *et al.* Monitoring sedation status over time in ICU patients: the reliability and validity of the Richmond Agitation Sedation Scale (RASS). *JAMA* 2003; 289:2983-2991.

9260 Epinephrine, Ketamine, and Norepinephrine Infusions Reference Chart

Epinephrine

SOC Section	Indication	Infusion
2210 Asthma/COPD 5120 Anaphylaxis	Severe & refractory resp distress Persistent hypotension after IM epi	Adult & Pedi (≥ 10 kgs): 5 mcg/min 2 mg epi 1:1,000 in 100 mL NS; use 60 gtt set at 15 gtts/min
3114 CPR – Initial Advanced Interventions/Procedures	Infusion for non-shockable rhythms	1 mg epi in 100 mL NS at 40 mcg/min use 15 gtt set at 1 gtt/sec
3150 ROSC	Hypotension	Use above infusion titrated to SBP > 100 mmHg
PEDS ≥ 10 kg ONLY 3212 Unstable Bradycardia 5801 Symptomatic Beta Blocker OD	Persistent bradycardia & hypotension Hypotension	5 mcg/min, titrated to age appropriate SBP 2 mg epi 1:1,000 in 100 mL NS; use 60 gtt set at 15 gtts/min

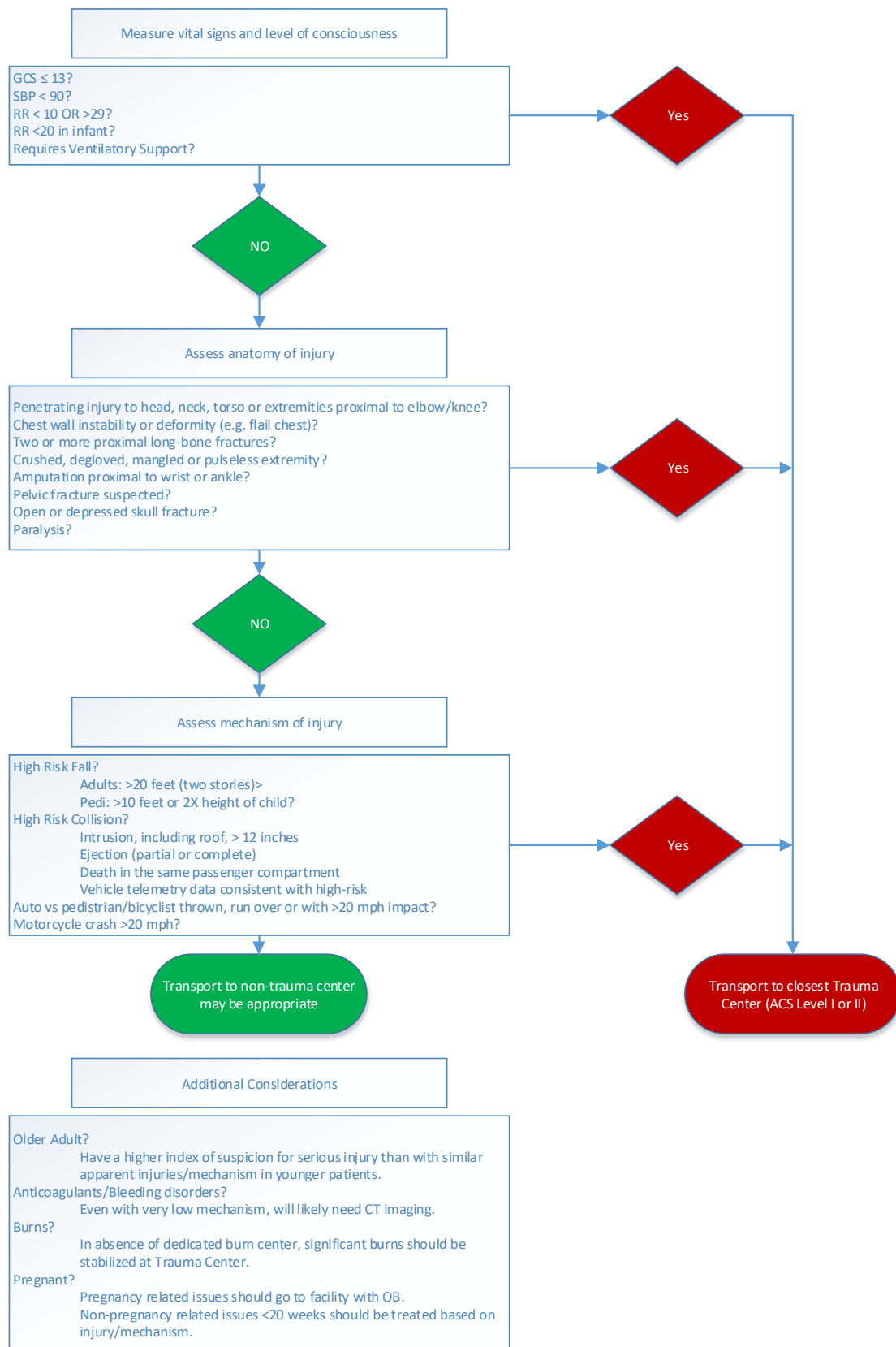
Ketamine

SOC Section	Indication	Order
2210 Asthma/COPD 3212 Unstable Bradycardia 3240 Unstable Tachycardia 3320 CHF 5803 Carbon Monoxide 5804 Cyanide	Anxiety related to NIPPV Consider w/pacing Consider w/cardioversion Anxiety related to NIPPV Anxiety related to NIPPV Anxiety related to NIPPV	Adult: 20 mg IM q 10 minutes PRN Pedi: 0.6 mg/kg q 10 minutes PRN, max single dose 20 mg
2500 Post-Intubation Sedation/Analgesia	Maintain RASS -5	Adult: 1 mg/min titrated up to effect 200 mg/100 mL NS w/60 gtt set at 30 gtts/min Pedi: 0.5 mg/min titrated up to effect 100 mg/100 mL NS w/60 gtt set at 30 gtts/min
4400 Pain Control		0.3 mg/kg in 100 mL NS infused over 10 min PRN

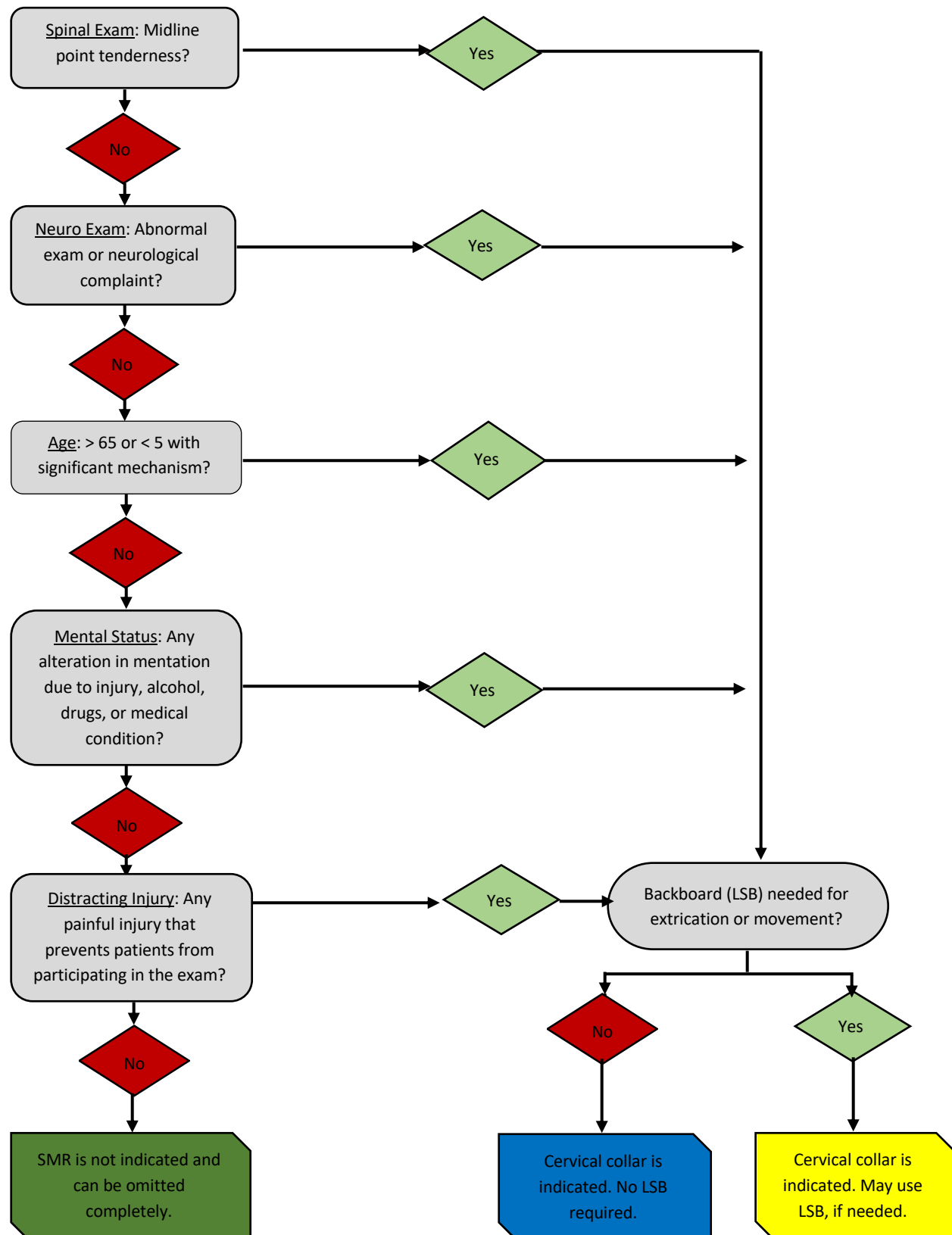
Norepinephrine – ADULT ONLY

SOC Section	Indication	Order
4200 Circulatory Support 5801 Symptomatic Beta Blocker OD	Persistent hypotension	5 mcg/min titrate to maintain SBP ≥ 100 mmHg 2 mg in 100 mL NS, w/60 gtt set & start at 15 gtts/min
6415 Traumatic Brain Injury	Maintain SBP > 90 mmHg	5 mcg/min 2 mg in 100 mL NS, use 60 gtt set & start at 15 gtts/min

9300 Trauma Transport

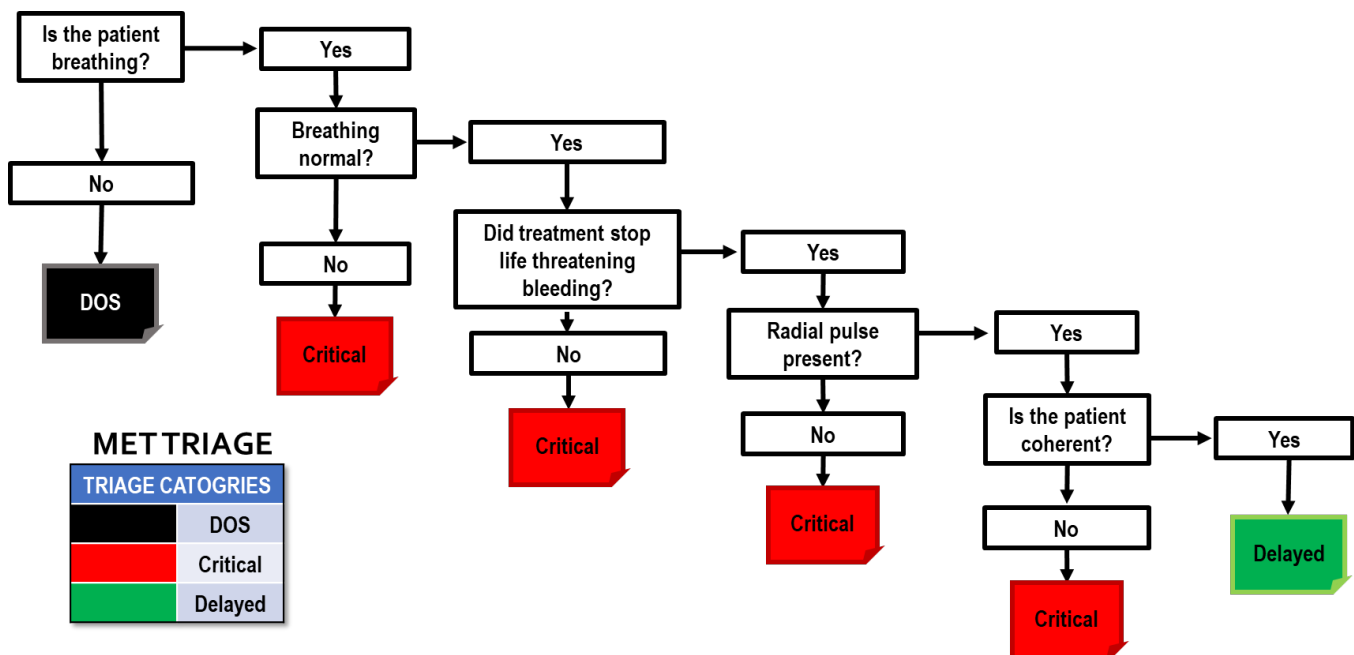


9310 Spinal Motion Restriction Algorithm



9320 Medical Entry Team Triage (MET Triage)

A rapid initial triage system used in the immediate MET entry to the scene of an MCI, active shooter event, etc. Any treatment during these events is limited to immediate life-saving trauma care (e.g., hemorrhage control with tourniquet application, chest decompression, or chest seal placement). These conditions should be treated immediately upon recognition, then the patients triaged accordingly.

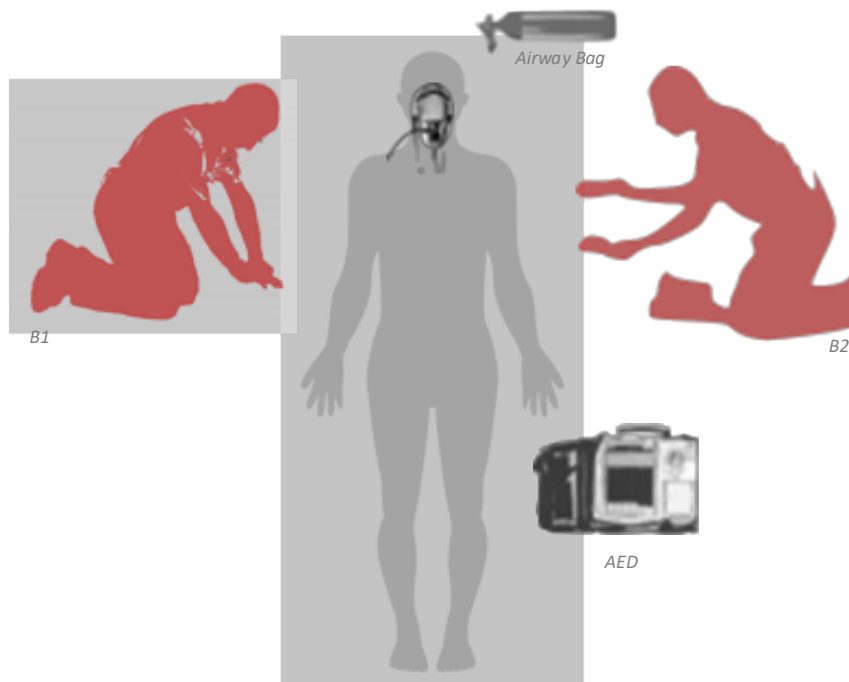


9400 Pit Crew Configurations

9401 Care Priorities

1. Cardiac arrests are complex orchestrations. By following the below configurations, time critical interventions can be performed in the most efficient way possible.
2. Keep the following priorities in mind:
 - a. Do NOT lose focus on performing high quality manual CPR upon arrival of the Lucas Device
 - b. Use the feedback from the CPR feedback device to optimize compressions
 - c. Remember passive oxygenation is performed ONLY in two situations:
 - i. Limited providers to perform interventions
 - ii. The arrest occurs in an adult, is witnessed by providers, and is of presumed cardiac etiology
 - (1) Assure EtCO₂ is in place and functioning
 - (2) Ensure that the arrival and placement of the Lucas device does not distract from other priorities
 - (3) Endotracheal intubation should be performed after other tasks have been achieved
 - (4) Compressions should NEVER be interrupted for intubation

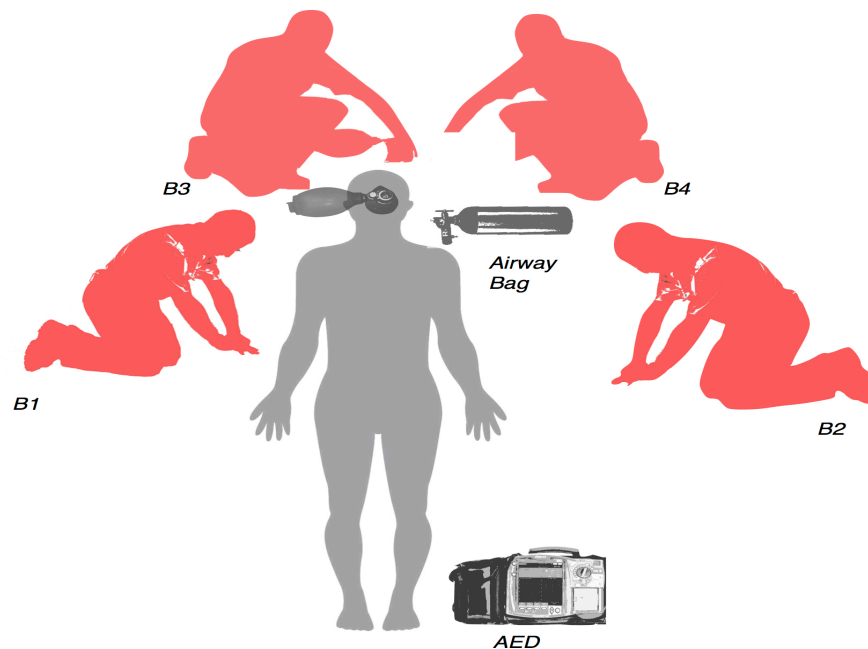
9410 Two BLS Providers



Intervention Sequence

1. Crew with two BLS providers arrives with no additional help
2. B1 (leader) assumes position at patient's right side
 - a. Places airway bag at patient's head
 - b. Checks responsiveness, initiates compressions:
 - i. Delivers 100 compressions:
 - (1) 100 compressions per min
 - (2) Push hard, push fast, push deep
 - (3) Allow full chest recoil between compressions
 - (4) Assure proper vertical alignment directly over chest
3. B2 (partner) assumes position at patient's left side
 - a. Places AED at patient's left foot
 - b. Places MFPs to patient's chest
 - c. Applies CPR feedback device to chest, if available, and assures proper function
 - d. Applies OPA and NRB at maximal flow rate
4. B2 (partner) assumes compressions immediately following B1's 100th compression without any intervening actions (no pulse check)
5. B1 (leader) completes any tasks not yet finalized
 - a. Reminds B2 to use CPR feedback instructions, if available, to optimize compression quality
6. B2 (partner) activates AED according to manufacturer's documentation and follows instructions
7. B1 (leader) resumes compressions as instructed by AED
 - a. Delivers 100 compressions
8. B2 (partner) assumes compressions immediately following B1's 100th compression without any intervening actions (no pulse check) and continues until prompted to stop by AED
9. Repeat steps 6 - 8 in roughly 2-minute cycles until additional help arrives
10. Integrate additional help into process as noted in configurations below

9420 Three to Four BLS Providers

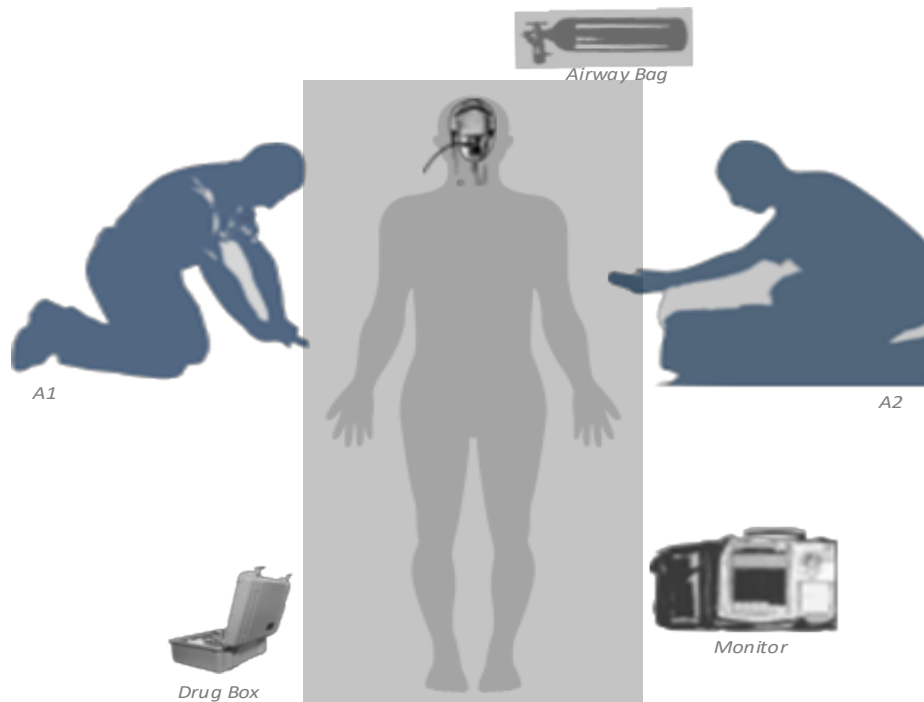


Intervention Sequence

1. B1 (leader) assumes position at patient's right side
 - a. Places airway bag at patient's head
 - b. Checks responsiveness, initiates compressions:
 - i. Delivers 100 compressions:
 - (1) 100 compressions per min
 - (2) Push hard, push fast, push deep
 - (3) Allow full chest recoil between compressions
 - (4) Assure proper vertical alignment directly over chest
2. B2 (partner) assumes position at patient's left side
 - a. Places AED at patient's left foot
 - b. Places MFPs to patient's chest
 - c. Applies CPR feedback device to chest, if available, and assures proper function
3. B3 assumes position at patient's head on right side
 - a. Applies OPA and assembles BVM attached to oxygen at maximal flow
 - i. Exception: arrest is witnessed by providers and is from presumed cardiac etiology
 - (1) Use NRB at maximal flow for first 6 minutes, then begin positive pressure ventilation with BVM
 - b. Begins asynchronous ventilations with one ventilation every 6 seconds (10 bpm)
 - i. Squeeze bag slowly to avoid over-ventilation
 - ii. Use "Smart BVM", if available
 - iii. Use portable suction as needed
4. B4 assumes position at patient's head on left side if personnel are available
 - a. Assists B3 in assembling equipment
 - b. Forms and maintains seal using 2-handed, thumbs-down seal strategy for 2-person ventilation
5. B2 (partner) assumes compressions immediately following B1's 100th compression without any intervening actions (no pulse check)

6. B1 (lead) completes any tasks not yet finalized
 - a. Reminds B2 to use CPR feedback instructions, if available, to optimize compression quality
7. B2 (partner) activates AED according to manufacturer's documentation and follows instructions immediately following his 100th compression
8. B1 (leader) resumes compressions as instructed by AED
 - a. Delivers 100 compressions
9. B2 (partner) assumes compressions immediately following B1's 100th compression without any intervening actions (no pulse check) and continues until prompted to stop by AED
10. Repeat steps 6 - 8 in roughly 2-minute cycles until additional help arrives
11. Rotate personnel into and out of compression positions as needed to avoid fatigue
12. Integrate additional help into process as noted in configurations below

9430 Two ALS Providers

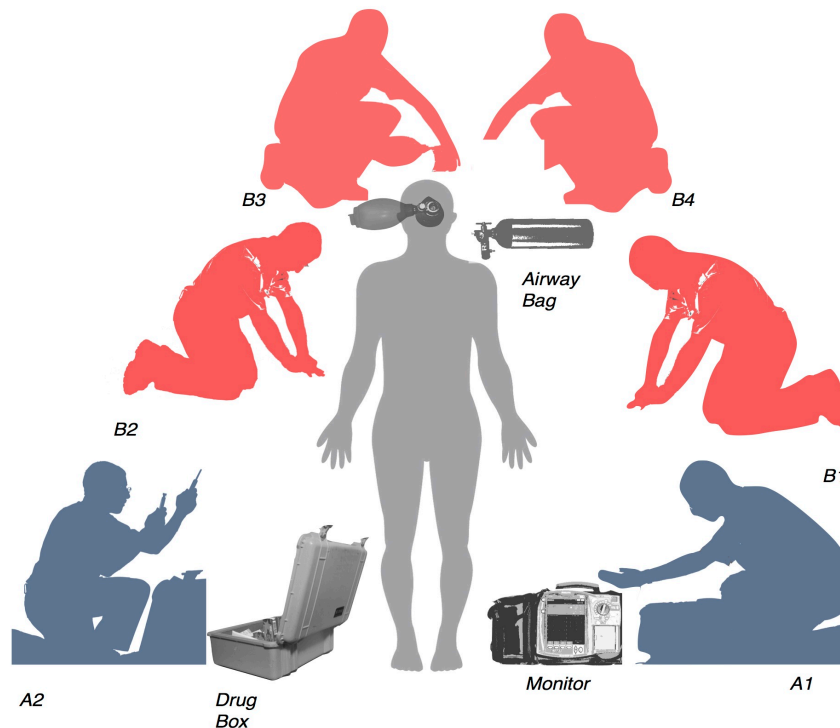


Intervention Sequence

1. Two ALS provider crew arrives with no additional help
2. A1 (partner) assumes position at patient's right side
 - a. Places airway bag at patient's head
 - b. Places drug box at patient's right leg/foot
 - c. Checks responsiveness, initiates compressions:
 - i. Delivers 100 compressions:
 - (1) 100 compressions per min
 - (2) Push hard, push fast, push deep
 - (3) Allow full chest recoil between compressions
 - (4) Assure proper vertical alignment directly over chest
3. A2 (leader) assumes position at patient's left side and in this sequence:
 - a. Places monitor/defibrillator at patient's left leg/foot, turns monitor on
 - b. Applies MFPs to patient's chest
 - c. Applies CPR feedback device and assures proper function
 - d. Applies EtCO₂ nasal cannula
 - e. Applies OPA and NRB at maximal flow rate
4. A2 (leader) assumes compressions immediately following A1's 100th compression without any intervening actions (no pulse check)
5. A1 (partner) completes any tasks not yet finalized
 - a. Reminds partner to use CPR feedback device to optimize compressions
 - b. Establishes IO access and administers medications as appropriate
 - c. Charges defibrillator at 1 min, 45 seconds (~188 compressions) into each 2 min cycle. Ensures compressions continue until end of 200 compression cycle
 - i. Assesses rhythm and delivers defibrillation as soon as a shockable rhythm is identified
 - ii. If no shockable rhythm is present, dissipates monitor charge

- d. Assumes compressions with no more than a 7 second peri-shock pause
 - i. Minimizes any peri-shock delay between compressions
- 6. Repeat in 200 compression/2 min cycles with the following priorities:
 - a. Utilize CPR feedback device to optimize compression quality
 - b. Minimize peri-shock pause
 - c. Assure timely defibrillation
 - d. Do not assist ventilations or place advanced airway until additional help arrives
- 7. When additional help arrives, they should assume compressor positions
 - a. Paramedics then move to team leader and partner positions noted in configurations below

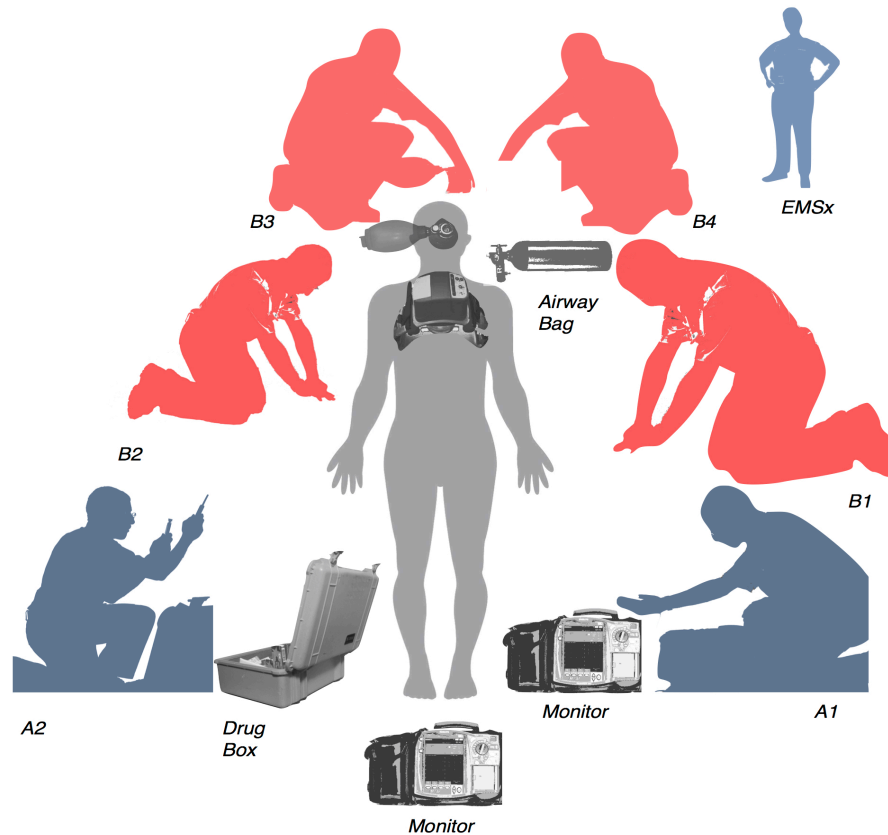
9440 ALS with Additional Providers Available



Intervention Sequence

1. BLS Is First On-scene
 - a. Follow steps from appropriate configuration
 - b. Upon arrival of EMS:
 - i. A1 assumes team leader role and receives report from on scene team
 - (1) Assumes position at patient's feet on left side
 - (2) Places monitor at patient's left foot, prepares and places MFPs at next compressor swap, turns monitor on.
 - (3) Places CPR feedback device if not already in place
 - (4) Provides coaching to use feedback to optimize compressions
 - (5) Once monitor is on and functioning, removes AED and pads, if needed
 - (6) Uses monitor for defibrillation as in Two ALS Configuration above
 - ii. A2 assumes position at patient's foot on right side
 - (1) Responsible for establishing IV/IO access if not already done
 - (2) Prepares and administers medications as appropriate
 - c. A2 performs endotracheal intubation provided compressions are not interrupted
 - i. If arrest was witnessed by providers, A2 waits until the 6 minutes of passive oxygenation is complete
2. ALS Is First On-scene
 - a. Follow steps from appropriate configuration
 - b. Upon arrival of additional personnel:
 - i. Additional personnel assume roles of B1, B2, B3, and B4. Compressor should assume compressions at the beginning of next compression cycle.

9450 Integration of Additional Devices, When Available



Intervention Sequence

1. After at least 10 minutes of manual compressions with a CPR feedback device:
 - a. Continue with the next cycle of manual compressions
 - b. Prepare Lucas:
 - i. Prepare board and second set of MFPs for placement at the next rhythm analysis pause
 - ii. Place board only (do not attach compression component) and second set of MFPs during pause
 - (1) Deliver shock, if needed, and resume manual compressions as soon as possible
 - iii. Perform another full 2-minute cycle of manual compressions with board in place
 - (1) Attach second set of MFPs to second monitor
 - iv. At next rhythm analysis, attach compression component and adjust plunger depth
 - (1) Deliver shock with dual sequence defibrillation, if needed
 - (2) Initiate automated compressions in continuous compression mode
 - (3) Pause compressions for rhythm analysis at every 2-minute cycle

9500 Acknowledgements

The creation of this document is truly the work of many. This is a very complex document that took hundreds of hours of hard work. While I have the pleasure of signing my name to it, it is the product of our systems. I would like to acknowledge the hard work of the committee members who spent countless hours in developing these SOC's and the many members of our teams who provided an outstanding (and incredibly detailed!) review. This product represents a common document that defines the joint medical practice of two EMS systems working together with one medical director. This group of very talented individuals took the best aspects of two separate protocol documents and created a joint standard. Likewise, they created a unified format, a look and feel that reflects the professionalism of two organizations. While I very much wanted to acknowledge the committee member's individual contributions, they felt like this was such a team effort that they requested I not individually recognize anyone. While respecting that wish, I want to thank each of them anyway (and I absolutely know who you are!).

Finally, this is absolutely the joint practice of medicine. To each member of these two EMS systems (and I very much include our first responder colleagues as integral members of our systems): thank you for the outstanding care you provide to our patients on a daily basis. Your compassion, commitment and service are an inspiration to me. You are the reason I am convinced I have the best job in the world. Thank you!

Take care,

Jeff

October 2013

I would like to thank the many people in both the Marble Falls Area EMS and Williamson County EMS who have tirelessly worked to improve this document through the years. Although a core group of medics in both systems work diligently on the *Standards of Care*, there are others – field medics, first responders, and even ER doctors – who provide invaluable and detailed input to the document. Thanks are also due to Dr. Jeff Jarvis who allows, indeed encourages, the medics to research and present ideas for inclusion. This can be a very frustrating process; however, the result is worth the frustrations.

This document represents the best of two outstanding EMS systems working under one medical director, Dr. Jeffrey Jarvis. The professionalism and care of both systems is evident throughout the document. I echo Jeff's thanks and appreciation for each member of the two systems, most assuredly including our various first responder colleagues, for their continued compassion and commitment to the patients and their families.

Best Regards,

Kim Farris

May 2019