Nebraska

Board of Emergency Medical Services

Approved

EMS Model Protocols

Basic and Advanced Life Support

All Provider Levels

Originally Adopted 2012

Last Revised May 2024

For the most recent updates CLICK HERE

The Table of Contents has a Revised Date to show when that Protocol or Section was revised.

Table of Contents

PROTOCOL DESIGN AND DIRECTIONS FOR USE (Revised 5/7/2024)

Individual Protocols are divided based on the level of the emergency care provider (ECP) licensure. Start at the top of each page and proceed as far down the page as your individual licensed level and special PMD approvals allow.

Each ECP is expected to know his/her own scope of practice and if applicable special Physician Medical Director (PMD) authorized skills.

ALL LEVELS

- Items that apply to ALL LEVELS
- Generally this refers to the Routine Assessment and Care Protocol

EMR

- EMR without additional PMD approval stop at this section
- Other levels consider these items and continue

EMR skills with PMD approval and competency training

- EMR with additional PMD approval stop at this section
  - Reminder the PMD may NOT have authorized every Optional Skill/Treatment
- Other levels consider these items and continue

EMT

- EMT without additional PMD approval Stop at this section
  - **Reminder the PMD may NOT have authorized every Optional Skill/Treatment**
- Other levels consider these items and continue

EMT skills with PMD approval and competency training

- EMT with additional PMD approval stop at this section
  - **Reminder the PMD may NOT have authorized every Optional Skill/Treatment**
- Other levels consider these items and continue

AEMT

- AEMT stop at this section
- Other levels consider these items and continue

EMT-I

- EMT-I stop at this section
- Other levels consider these items and continue

Paramedic

- Paramedic continue through all considerations including these items

Use of Multiple Protocols May Be Required:

- The ECP may have to use several protocols to meet the needs of the patient.

ACKNOWLEDGEMENTS (Revised 12/7/2012)

The Nebraska Board of Emergency Medical Services acknowledges the dedication and extends our gratitude to the hundreds of out-of-hospital emergency care professionals for their service to the citizens of the Great State of Nebraska.

Furthermore, the Board extends our appreciation to the Physician Medical Directors who provide the leadership necessary for effective and efficient care of the out-of-hospital patient throughout our Great State.

PURPOSE (Revised 12/7/2012)

The purpose of these protocols is to assure safe and effective intervention during the out-of-hospital phase of patient care. In consideration of the unique resources, needs, population, and geography of EMS in Nebraska, individual medical directors may choose to enhance or omit portions of these protocols in accordance with current medical practices and standards. Medical directors are responsible to ensure the EMS personnel using these protocols have the training and skills required and perform quality assurance activities to assure these protocols are used appropriately.

SCOPE OF PROTOCOLS (Revised 12/7/2012)

These protocols are applicable to Nebraska Licensed Emergency Medical Services functioning with Emergency Medical Responders (EMR), Emergency Medical Technicians (EMT), Emergency Medical Technician-Intermediates (EMT-I), Advanced Emergency Medical Technician (AEMT), and Paramedics.

PHYSICIAN MEDICAL DIRECTOR APPROVAL AND AUTHORITY (Revised 10/1/2020)

For these protocols to be valid, the service's Physician Medical Director (PMD) must approve them. Certain skills as listed in these protocols require additional authorization. The ***Physician Medical Director Authorization*** document lists the approved protocols and other PMD approved documents that must be signed by the PMD.

The Physician Medical Director retains authority over the medical aspects of the EMS Service and the ECP.

AUTHORIZATION TO FUNCTION AS AN EMERGENCY CARE PROVIDER (Revised 10/1/2020)

To function as an ECP under these protocols an individual must:

- Have a valid Nebraska EMR, EMT, AEMT, EMT-I, Paramedic, Registered Nurse, Nurse Practitioner, Physician's Assistant, or Physician license; and
- Have the Authorization of the Physician Medical Director (PMD)

The PMD must authorize skills for the individual ECP *and* the Service.

ADVANCED LEVEL PROVIDERS FUNCTIONING WITH A BASIC LIFE SUPPORT SERVICE (Revised 10/1/2020)

The licensed AEMT, EMT-I, or Paramedic when functioning as a member or employee of a licensed Basic Life Support Service, may only perform the skills and treatments listed within these protocols and listed in these protocols and the Nebraska Emergency Medical Services Practice Act.

Registered Nurses when functioning as a member or employee of a licensed Basic Life Support Service may only perform the skills and treatments listed under the EMR and EMT sections within these protocols and listed in these protocols and the Nebraska Emergency Medical Services Practice Act.

Exception nurses functioning under patient specific orders may, during a hospital-to-hospital transfer, function within the scope of practice of their nursing license.

Mid-level practitioners and physician members of a licensed Basic Life Support Service may function within the scope of practice of his/her license with PMD approval.

RESPONSIBILITY OF THE LICENSED EMERGENCY MEDICAL SERVICE (Revised 12/7/2012)

The EMS service is responsible to have certain PMD approved documents and review these documents with its employees/members. The EMS service may not knowingly allow for unauthorized practice and/or authorize practices and procedures that require PMD approval. The licensed EMS services is expected to comply with Nebraska Rules and Regulations.

RESPONSIBILITY OF THE LICENSED EMERGENCY CARE PROVIDERS AND OTHER LICENSED PROFESSIONALS (Revised 10/1/2020)

The individual licensed ECP or other licensed healthcare professionals fulfilling the role of the ECP are responsible to maintain knowledge of these protocols and to function within them. Furthermore, the ECP may not exceed his/her Practice and Procedures as authorized by the EMS Services PMD and the Nebraska Emergency Medical Services Practice Act.

PROFESSIONALISM AND ETHICS (Revised 10/1/2020)

Regardless of whether the ECP is paid or volunteer his/her time, the practice of emergency care is a profession. Our patients have a reasonable expectation to have these services provided in an ethical and professional manner. The guiding document of professionalism and ethics for the ECP of ALL LEVELS is the EMT Code of Ethics as approved by the National Association of EMTs.

MANDATORY REPORTING REQUIREMENTS (Revised 10/1/2020)

The ECP and the Service are expected to comply with mandatory reporting of misdemeanor and felony convictions, limits on practice, disciplinary actions, and unprofessional conduct. The full text of the Mandatory Reporting requirement is located in Title 172 NAC 5 – MANDATORY REPORTING BY HEALTH CARE PROFESSIONALS, FACILITIES, PEER REVIEW ORGANIZATIONS, PROFESSIONAL ASSOCIATIONS, and INSURERS. A Summary Table of Mandatory Reporting requirements and the full text of title 172 NAC 5 are available at the Nebraska Health and Human Services website.

CONFIDENTIALITY (Revised 10/1/2020)

The patient has a reasonable expectation that his/her patient information will be kept in confidence. The ECP is expected to comply with the EMS Practice Act and the Rules and Regulations.

Excerpt from the Nebraska Emergency Medical Services Practice Act

38-1225. Patient data; confidentiality; immunity. *(1) No patient data received or recorded by an emergency medical service or an out-of-hospital emergency care provider shall be divulged, intranasale public, or released by an emergency medical service or an out-of-hospital emergency care provider, except that patient data may be released for purposes of treatment, payment, and other health care operations as defined and permitted under the federal Health Insurance Portability and Accountability Act of 1996, as such act existed on January 1, 2007, or as otherwise permitted by law. Such data shall be provided to the department for public health purposes pursuant to rules and regulations of the department. For purposes of this section, patient data means any data received or recorded as part of the records maintenance requirements of the Emergency Medical Services Practice Act*

PROTOCOL ACCESS (Revised 12/7/2012)

Each EMS service will make available a copy of these protocols at the service's base of operations **AND** a copy in the response unit.

The protocols will be either hard paper copy or an electronic/digital copy.

General Principles

INFECTION CONTROL (Revised 10/1/2020)

Universal Precautions Standard
In many calls, the ECP will not have sufficient information about the patient and therefore is to follow a universal precautions standard with the use of body substance isolation (BSI) for all patient contact in which exposure to blood and/or body fluids may occur. For situations where an airborne pathogen (disease) is suspected, the ECP should employ a N95 mask or higher form of respiratory protection.

Infection Control PPE
Personal Protective Equipment (PPE) items used to provide protection for the ECP should be readily available.

Hand Washing
After patient contact, even if BSI was used, each emergency care provider should thoroughly wash his/her hands. In the absence of soap and water, an alcohol based gel or foam hand sanitizer should be used.

Service Infection Control Plan
The services PMD Approved Infection Control/Sanitation Plan should be consulted for further guidance on infection control.

SAFETY (Revised 10/1/2020)

Vehicle Operations
The Emergency Vehicle Operator is to operate the emergency vehicle with *Due Regard for The Safety of Others* in all driving situations. Not every call for EMS nor does every patient require the use of lights and/or sirens during response and/or transport.

Safety and Scene Size Up
Every call should be assessed for potential safety hazards beginning from the moment the call is received and continually assessed until the end of the call.

Each responder should take actions that minimize his/her risks of injury. Utilization of personal protective equipment such as reflective vests, specialized rescue apparel, flotation devices and other equipment should be considered based on the incident type and the potential hazards.

When confronted with a hazardous and/or violent scene, the ECP should avoid entry into the scene and call for the appropriate resources.

INCIDENT COMMAND AND PRIMARY CARE PROVIDER (Revised 12/7/2012)
For each incident, the service is expected to activate an Incident Command System (ICS) that is compliant with the National Incident Management System (NIMS).

For each patient encountered, a Primary Care Provider will be indicated on the Patient Care Report (PCR)

COMMUNICATIONS AND DOCUMENTATION (Revised 10/1/2020)

To allow for regional or local variations, the provider may follow a locally established two-way electronic communications policy/procedure. General guidelines for radio communication include:

- Avoid the use of 10 codes or other codes
- Contact the dispatch agency and advise
  - The call was received
  - The response unit is in route
  - When at the incident location
  - When leaving the incident
  - When at the Hospital (if applicable)
  - When Unit/responders back in service
- Contact the destination hospital and advise
  - Patient's age and gender
  - Patient's chief complaint
  - History of the situation – Mechanism of Injury
  - Level of consciousness and vital signs
  - Treatments provided
  - Special Teams Requests (i.e. Trauma Team)
  - ETA to destination Hospital

General Guidelines for Face to Face Patient Report

To allow for regional or local variations and needs, the provider may follow locally adopted face-to-face report policy/procedure. In absence of a local policy or procedure when transferring care at the destination facility; or to a transport service; or when tiering with another service, the ECP should give a face-to-face verbal report to a representative of the receiving entity. This verbal report should include the:

Patient's name	Complaint(s)	Mechanism of injury/nature of illness
Pertinent medical history	Medications	Allergies
Events leading the injury/illness	Treatments	Treatment given by EMS
Results of treatments		

At the conclusion of the report, check for understanding and ask if there are any questions.

Documentation

A Patient Care Report (PCR) will be completed for each patient transport, refusal, cancelled call, or standby. The PCR will include at least the minimum data required by Rules and Regulations. Additionally, the PCR will be completed by the method, within the time frame, and submitted to the Department of Health and Human Services as defined in the Rules and Regulations.

CONSENT (Revised 12/7/2012)

General Consent Guidelines

Whenever possible the ECP should obtain at least verbal consent prior to treatment. The very nature of emergency medical care means that, at times, verbal consent will not be possible, and an implied consent concept must be employed. Services are to have a consent form available, and providers are to obtain a signature from the patient or a patient representative whenever possible. If a signature cannot be obtained, documentation should reflect the reason why.

Minor Defined

An adult is an individual 19 years old or older or who is or has been married (Neb. Rev. Stat. §43-2101). Consent or refusal cannot be signed by a minor.

- A minor is an individual age 18 or under UNLESS the individual is married.
- A minor can be emancipated and given the rights of an adult.

Suicide Attempts or Threats to Harm Self

When the ECP is presented with a patient who has attempted or threatened suicide, the provider should contact law enforcement and request emergency protective custody.

GUIDELINES FOR REFUSAL (Revised 10/1/2020)

Any competent adult may refuse care and/or transportation. Also, the patient may allow transport but refuse a specific medical procedure:

- To determine if the patient is competent the ECP will:
  - Determine the patient is oriented to person, place, events, and approximate time
  - Determine the patient has not, in relation to the current situation, attempted or threatened to commit suicide or harm him/herself
  - A legal guardian or health care power of attorney may consent to or refuse care and/or transportation for an adult or minor patient.

The ECP must document refusal of care and/or transport. This documentation is to include:

- All patient data elements to complete the patient care report
- Patient assessment including vital signs and any care the patient allowed
- A signature from the patient or the patient's representative acknowledging the refusal of care and/or transport

If the patient refuses to allow vital signs, treatment or provide information, the patient care report should have a statement explaining what elements the patient refused.

The ECP should reassure the patient that EMS can be called back should the patient wish to seek medical attention at a later time.

DO NOT RESUSCITATE (DNR) (Revised 12/7/2012)

A DNR is a written order by a physician that a patient should not be resuscitated or have CPR performed. A DNR must be signed by a physician, dated, and have the patient's name.

When confronted with a patient with a DNR and the patient has no pulse, agonal breathing or no respirations, the ECP may honor the DNR and not initiate resuscitation efforts.

When confronted with a patient with a DNR and the patient is nearing death, the ECP may provide comfort care including supplemental oxygen and pain management. The patient may be transported at the request of the patient, patient's family, patient's physician or medical control.

When confronted with a patient with a DNR and the patient is NOT nearing death the ECP may provide the care as directed within these protocols.

ADVANCED DIRECTIVES (Revised 10/1/2020)

Advanced directives are documents that state the patient's wishes should certain events occur. These documents may be in the form of a "Living Will". Some of these documents maybe of such a length and complexity that the ECP may not be able to determine the wishes of the patient for the situation encountered. In these cases, resuscitation efforts should be initiated unless the sign(s) of obvious death are present. If possible, the document should be transported with the patient to the hospital.

FAMILY OBJECTIONS TO DNR – ADVANCED DIRECTIVES (Revised 10/1/2020)

In a situation where the family objects to a DNR order or an Advanced Directive, the ECP should initiate resuscitation efforts unless sign(s) of obvious death are present.

ECP ETHICAL OBJECTION (Revised 10/1/2020)

Any ECP with an ethical objection to following a DNR or Advanced Directive must inform his/her service prior to responding to these types of situations. These individuals should avoid response to these types of calls whenever possible.

MEDICAL DIRECTION AND PHYSICIAN ORDERS (Revised 10/1/2020)

Medical Direction Orders

The ECP may consult with online medical direction and follow the orders given via this method. HOWEVER, the ECP may only provide treatment within the practices and procedures for their level of licensure and the service's level of licensure.

Patient Physician Orders

The ECP may consult online with the patient's physician and follow the orders given via this method. HOWEVER, the ECP may only provide treatment within the practices and procedures for their level of licensure and the service's level of licensure. The patient care record will state the name of the physician and the orders given.

Physician on Scene

The ECP may follow the orders of a physician on scene. HOWEVER, the ECP may only provide treatment within the practices and procedures for their level of licensure and the service's level of licensure. The patient care record will state the name of the physician and the orders given.

CONCEALED HANDGUN (Revised 10/1/2020)

The Nebraska Concealed Handgun Permit Act allows certain individuals to obtain a permit to carry a concealed handgun. The rules and regulations necessary to carry out the act are listed in Title 272 Chapter 21.

The ECP's best action when confronted with a situation in which a patient has a concealed weapon is to have law enforcement take possession of the weapon. When this is not possible, the weapon should be secured until it can be turned over to law enforcement.

REPORTING CRIMES AND CRIME SCENES (Revised 10/1/2020)

Mandatory Reporting Certain Suspected Crimes

The ECP is directed under the law to report or cause a report to be intranasal to law enforcement the following;

Abuse and neglect of a child	Refer to Neb. Rev. Stat. § 28-711
Abuse and neglect of a vulnerable adult	Refer to Neb. Rev. Stat. § 28-378
Injuries as a result of a crime	Refer to Neb. Rev. Stat. § 28-902

Crime Scenes

The ECP will likely care for victim(s) of a crime and therefore should attempt to preserve evidence as best as possible while providing for patient care. Good documentation of the scene and patient's injuries will also be of benefit in these cases.

COMPLETION OF THE CALL AND PREPARATION FOR NEXT CALL (Revised 10/1/2020)

After the call, the ECP should clean and disinfect equipment and the ambulance. The ambulance should be restocked and prepared for the next call.

Providers should consider the call and, if needed, call for a Critical Incident Stress Management (CISM) debriefing by calling 402-479-4921.

Adult Routine Assessment and Care

ROUTINE ASSESSMENT AND CARE (Revised 5/7/2024)

This Protocol applies to every patient contact and is the base from which other treatment protocols build upon.

Scene Size Up

- Assess scene safety – use standard/universal precautions – determine # of patients – consider additional resources
- Determine nature of illness/mechanism of trauma

Primary Assessment, Identify and Treat Immediate Life Threats

- If mechanism of trauma indicates – consider manually stabilizing c-spine
- Form a general impression
- Determine level of consciousness – utilize AVPU scale
- If adult patient presents in cardiac arrest, start compressions unless obvious signs of death are present
- Assess airway
  - Foreign body airway obstruction – clear obstruction
  - Decreased level of consciousness (LOC) and patient cannot maintain own airway (no gag reflex)
    - Trauma suspected – utilize jaw thrust method to open airway
    - Medical patients – utilize head tilt, chin left method to open airway
    - ALL LEVELS
      - Consider oral airway
    - EMT With Approval, AEMT, EMT-I and Paramedic – may consider advanced non-visualized airway
    - EMT-I and Paramedic – may consider intubation
  - Decreased LOC and patient has decreased ability to maintain own airway (gag reflex intact)
    - ALL LEVELS
      - Monitor closely – consider one of simple airway maneuvers above
    - EMT and above – may consider nasal airway
    - Paramedic – may consider RSI
  - Suction oral airway as needed
  - Patient can maintain own airway and no suction needed – no immediate intervention
- Assess breathing
  - Absent or agonal – begin ventilations with BVM attached to oxygen (alternate may use mouth to mask)
  - Assess quality of breathing and lung sounds
    - Respiratory rate 10 and under OR 30 and above
      - Consider assisted ventilations with BVM attached to oxygen
    - Signs/Symptoms of severe respiratory distress – impending respiratory arrest
      - Consider oxygen by oxygen delivery mask
      - Consider assisted ventilations with BVM attached to oxygen
    - Signs/symptoms of moderate respiratory difficulty
      - Consider oxygen by oxygen delivery mask
    - Signs/symptoms of mild respiratory difficulty
      - Consider oxygen by nasal cannula
    - No signs/symptoms of respiratory difficulty
      - Consider oxygen appropriate to nature of illness/ mechanism of trauma
  - Special note on oxygen administration
    - EMT, AEMT, EMT-I and Paramedic
      - Hyper oxygenation should be avoided for cardiac and suspected stroke patients
      - Utilize oxygen saturation and adjust oxygen device and flow to maintain saturation between 94% and 99% BUT NOT HIGHER
      - PEEP valves may be used on BVMs

- Assess circulation
  - Absent pulse – begin CPR – follow **Cardiac Arrest Protocols**
  - Assess for bleeding
    - Control external bleeding with direct pressure, pressure bandage, pressure points and/or tourniquet
    - Control external bleeding with the use of hemostatic agents or junctional tourniquets with physician medical director approval and direction.
  - Assess quality of pulse
    - Weak – rapid pulse – consider treating for shock
    - Weak slow pulse
      - Assess airway and breathing again and treat as appropriate
      - Assess for possible cause
    - Irregular pulse
      - Assess for possible cause
    - Strength, rate, and rhythm normal – no immediate intervention
- Assess disability – quick neuro exam
  - Obtain Glasgow Coma Scale
  - Utilize a non-invasive stroke scale to rule out possible stroke
  - Check peripheral circulation, movement, and sensory

Obtain Patient History

- Obtain a chief complaint
- Obtain SAMPLE history
- Consider use of OPQRST pneumonic
- Obtain pertinent negatives

Vital Signs

- **EMR**
  - Pulse
  - Respiratory rate
  - Manual blood pressure and automatic blood pressure with appropriate training and PMD approval
  - Temperature
  - Pulse oximetry with appropriate training and PMD approval
- **EMT, AEMT, EMT-I, Paramedic**
  - Pulse
  - Respiratory rate
  - Manual and automatic blood pressure
  - Pulse oximetry reading
  - Non-invasive CO reading
  - Temperature
  - EtCO2 reading (numeric values)

Additional Monitoring as Appropriate to Patient's Illness/Injury

- **EMT-I**
  - EtCO2 including waveform capnography
  - Cardiac monitoring Leads I,II, and III
- **Paramedic**
  - All non-invasive monitoring devices
  - Device to monitor airway/ventilation pressures
  - Invasive monitoring if already established

Secondary Assessment

- Prepare for patient transport
- Expose patient as needed
- Medical – **systematic assessment of major body systems**
- Trauma – **systematic assessment for injuries**

Reassessment

- Repeat assessment of patient based on condition
- Monitor vital signs
- Identify changes in patient condition – adjust treatment as needed

SCALES AND SCORES (Revised 5/27/2014)

Glasgow Coma Scale

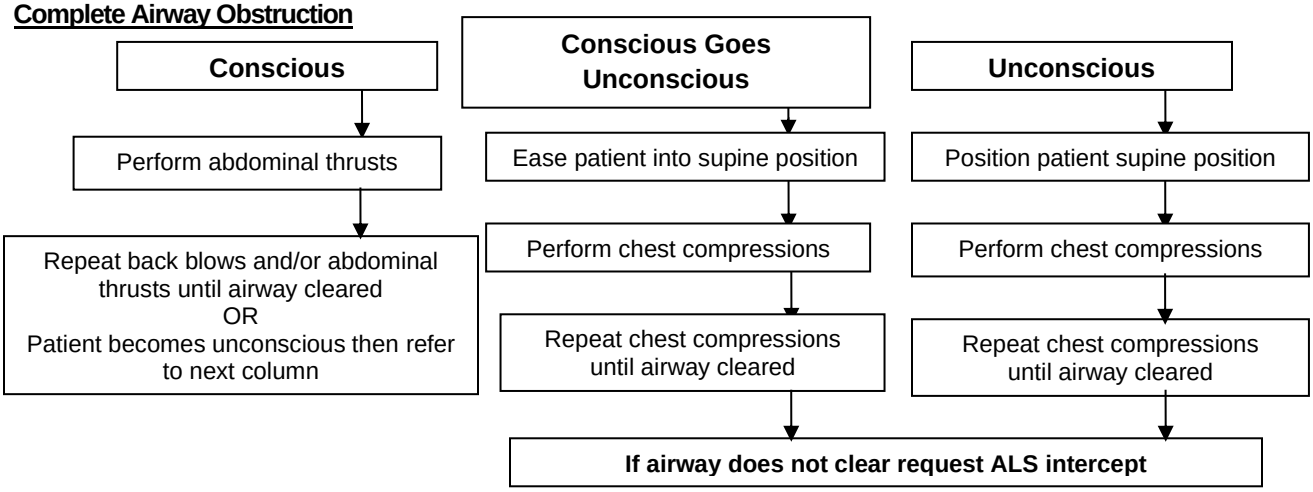
Criteria	Adult/Child	Score	Infant
Eye Opening	Spontaneous	4	Spontaneous
	To Verbal	3	To Verbal
	To Pain	2	To Pain
	No Response	1	No Response
Best Verbal Response	Oriented	5	Coos, Babbles
	Disoriented/Confused	4	Irritable Cry
	Inappropriate Words	3	Cries Only to Pain
	Incomprehensible Moans/groans	2	Moans to Pain
	No Response	1	No Response
Best Motor Response	Obeys Commands	6	Spontaneous
	Localizes Pain	5	Withdraws from Touch
	Withdraws from Pain	4	Withdraws from Pain
	Abnormal Flexion	3	Abnormal Flexion
	Abnormal Extension	2	Abnormal Extension
	No Response	1	No Response

Adult Medical Protocols

AIRWAY – CHOKING – FOREIGN BODY AIRWAY OBSTRUCTION (Revised 10/1/2020)

EMR

Complete Airway Obstruction



Partial Airway Obstruction

Monitor patient – allow patient to cough, be alert for complete obstruction

EMT

- Initiate transport

EMT skills with PMD approval and competency training

- Do not insert advanced airway unless airway cleared and persistent decreased mental status
- Focus on clearing obstructed airway prior to any IV access attempts

AEMT

- Do not insert advanced airway unless airway cleared and persistent decreased mental status

EMT-I

- Consider direct visualization with laryngoscope and removal with forceps

Paramedic

- Consider cricothyrotomy

AIRWAY – POST AIRWAY OBSTRUCTION (Revised 10/1/2020)

ALL LEVELS

- Routine assessment and care

EMR

- Consider oral airway
- Consider assisted ventilations for inadequate breathing
- Consider oxygen
- Suction as needed
- Positioning
  - Decreased mental status position on side
  - Alert patient, allow patient to assume position of comfort
- Be alert for loss of airway due to swelling
- Consider ALS

EMT

- Consider nasal airway
- Consider oxygen and adjust delivery device and LPM flow to achieve 94% or better O2 saturation
- Transport patient in position of comfort if safe to do so

EMT skills with PMD approval and competency training and AEMT

- Consider advanced airway for persistent decreased mental status
- Consider IV access

EMT-I

- Consider advanced airway for persistent decreased mental status
- Consider bronchodilator for wheezing
- Consider cardiac monitoring

Paramedic

- Consider RSI

ABDOMINAL PAIN (Revised 7/16/2021)

ALL LEVELS

- Routine assessment and care
- Consider pain management **See Pain Management Protocol

EMR

- Consider oxygen
- Consider OPQRST pneumonic for assessment of pain
- Additional assessment concerns
  - Localize pain to abdominal quadrant if possible
  - Obtain bowel and bladder habits
  - Female patients – obtain menstrual cycle history
  - Female patients – consider ectopic pregnancy
- Allow patient to assume a position of comfort
- Consider ALS

EMT

- Consider oxygen and adjust delivery device and LPM flow to achieve 94% or better O2 saturation
- Initiate transport

EMT skills with PMD approval and competency training

- Consider advanced airway for persistent decreased LOC
- Consider IV access

AEMT

- Consider 2 – 4 mg Morphine IV/IO/IM/INTRANASAL
- Consider 25-100 mcg Fentanyl IV/IO/IM/INTRANASAL
- Consider IO access for shock and IV access cannot be obtained

EMT-I

- Consider cardiac monitoring

Paramedic

- For suspected renal calculus (kidney stones)
  - Consider 15 – 30mg Ketorolac IV in addition to opioid class pain medication

ALLERGIC REACTION – ANAPHYLAXIS (Revised 7/16/2021)

ALL LEVELS

- Routine assessment and care

EMR

- Consider oral airway
- Consider assisted ventilations
- Consider oxygen
- Assess severity of reaction

Mild Reaction	Moderate Reaction	Severe Reaction
Itching and/or hives No respiratory symptoms	Itching and/or hives Mild respiratory symptoms No airway compromise	Itching and/or hives Respiratory distress Airway compromise Signs/symptoms of shock

- Consider ALS

EMT

- Consider nasal airway
- Consider oxygen and adjust delivery device and LPM flow to achieve 94% or better O2 saturation
- Consider assisting patient with his/her prescribed meter dosed inhaler
- Consider assisting patient with his/her prescribed epinephrine auto injector
    - IM epinephrine if approved by PMD
    - May repeat in 5 minutes if symptoms do not improve
- Initiate transport

EMT skills with PMD approval and competency training

- Consider 2.5mg unit dose albuterol nebulizer treatment for moderate and severe reactions
- Consider 0.5 – 2.5 mg per 3 ml (0.5 mg ipratropium bromide/3 mg albuterol sulfate) nebulizer DuoNeb
- Consider 0.3mg (adult) epinephrine auto injector or 0.3 mg epinephrine 1:1000 IM for moderate and severe reactions
    - May repeat in 5 minutes if symptoms do not improve
- Consider IV access

AEMT

- Consider 0.3mg epinephrine 1:1000 IM or SubQ for moderate and severe reactions
    - May repeat in 5 minutes if symptoms do not improve
- Consider IO access in moderate and severe reactions when IV access fails
- Consider 25 to 50mg Diphenhydramine IV/IO for mild, moderate, and severe reactions

EMT-I

- May consider one of the other EMT-I approved bronchodilators
- May consider 0.3 mg epinephrine 1:10,000 IV/IO as alternate to epi 1:1000 IM or SubQ
- Consider 125 to 250 mg Methylprednisolone IV/IO for moderate and severe reactions
- Initiate cardiac monitoring

Paramedic

- Consider RSI
- Consider vasopressor agent for anaphylactic shock with hypotension

BEHAVIORAL EMERGENCIES (Revised 10/1/2020)

ALL LEVELS

- Routine assessment and care

EMR

- Consider oxygen
- Assess for medical or traumatic causes for behavioral changes
- Attempt non-confrontational verbal reassurance to calm patient – give clear direction
- Combative patients
  - Contact law enforcement
  - Consider physically restraining patient **See restraint protocol
  - Consider use of spit hood
- Consider **excited delirium syndrome**: patients are truly out of control and have a life-threatening medical emergency they will have some or all of the following sx: *paranoia, disorientation, hyperaggression, hallucination, tachycardia, increased strength, hyperthermia*
- Consider ALS

EMT

- Consider oxygen and adjust delivery device and LPM flow to achieve 94% or better O2 saturation
- Initiate transport

EMT skills with PMD approval and competency training

- Consider obtaining blood glucose reading

AEMT

- Consider Benzodiazepine for anxiety (AEMT and Paramedic only)

EMT-I

- In absence of other signs and symptoms no additional protocol items

Paramedic

- Consider IV/IO access
- Consider Ketamine 4 mg/kg IM (max 500 mg) for excited delirium
- Consider Lorazepam 0.5 mg to 1 mg IV/IO/INTRANASAL

-or-

- Midazolam 0.05 mg/kg IV/IO/IM/INTRANASAL may repeat 1-2 mg every 10 minutes (no max)
- Consider 2.5 to 5 mg Haloperidol IV/IO/IM for combative patients

CARDIAC ARREST – DISCONTINUING BYSTANDER CPR AND WITHHOLDING CPR (Revised 10/1/2020)

The EMR or EMT may be presented with patients in which bystander CPR has been started or the patient presents with certain signs/symptoms of obvious death or a valid DNR.

Situations where bystander CPR has been initiated OR EMS arrives and no CPR is initiated:

Un-Safe Scene

- **If the scene will place the ECP "at risk of serious injury or mortal peril"[1] CPR may be discontinued or withheld**

ALL LEVELS

- Confirm the patient has:
  - No pulse
  - No respirations or attempts at respirations

- May Stop CPR or Not Initiate CPR IF the Patient Presents with **At Least One** of the Following;
  - Rigor mortis
  - Decapitation
  - Decomposition
  - Dependent lividity
  - Traumatic cardiopulmonary arrest with injuries incompatible with life; Examples:
    - Massive blood loss
    - Displacement of brain tissue
    - Blunt Head/Chest Trauma
  - Valid DNR form
  - Physician authorization

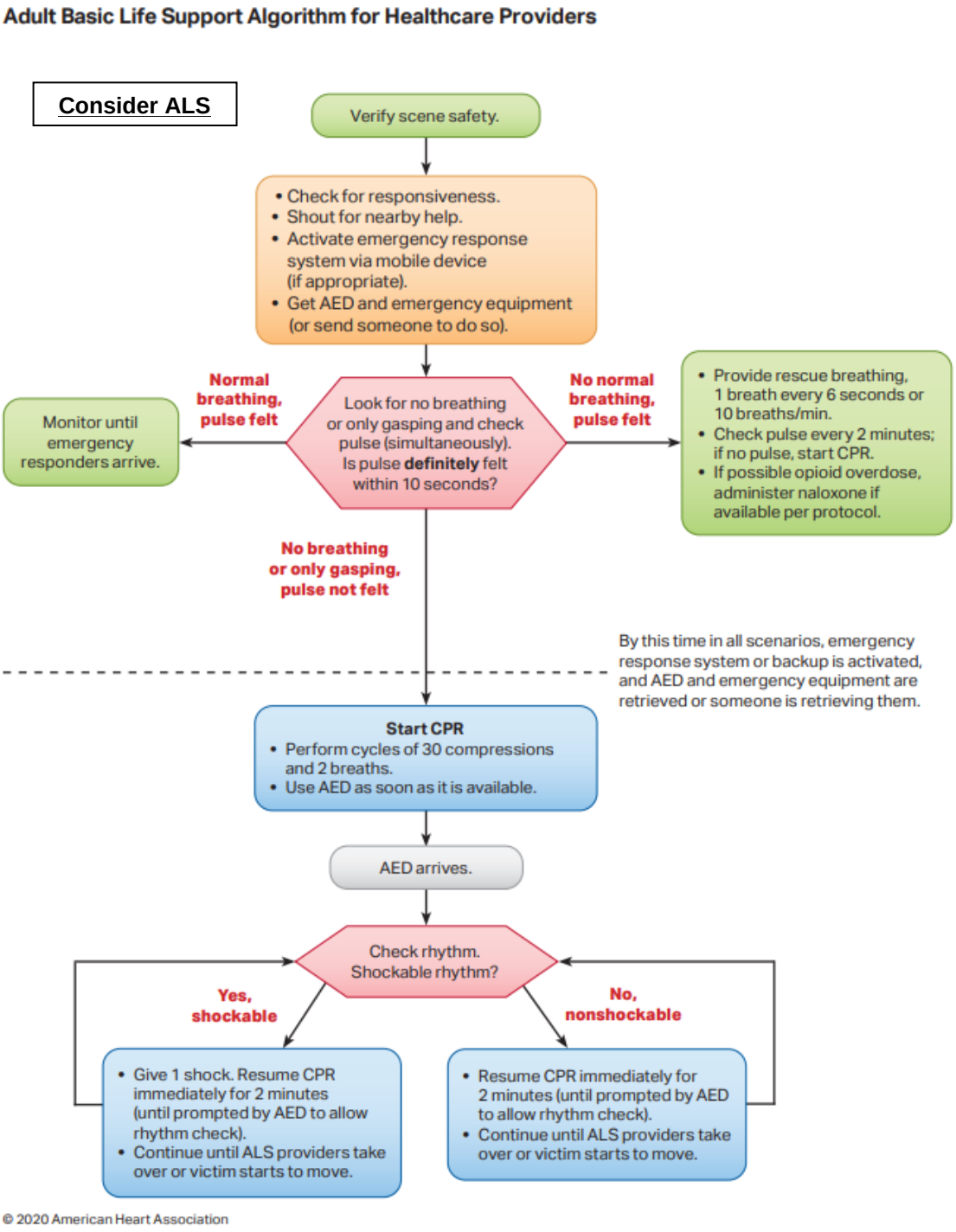
- The following will be included in the Patient Care Report;
  - CPR was or was not being performed prior to EMS arrival; OR
  - If CPR was being performed and the time it was discontinued
  - The patient had no respirations and no pulse
  - The additional criteria (from above) use to discontinue or withhold CPR

[1] Part 3: Ethics: 2010 AHA CPR and EEC Guild lines **Withholding and Withdrawing CPR(Termination of Resuscitative Efforts) Related to Out-of Hospital Cardiac Arrest**

Nebraska EMS Model Protocols
Adult Medical Protocols

CARDIAC ARREST – AED AND CPR (Revised 5/7/2024)

EMR – EMT – AEMT



EMT

- Place patient on back/CPR board
- Initiate transport
- Consider mechanical CPR

EMR skills with PMD approval and competency training

Consider mechanical CPR

EMT skills with PMD approval and competency training, AEMT, Paramedic

After First Cycle of CPR and Shock or No Shock

- Consider an advanced airway
- Consider impedance threshold device
- Consider IV access with non-medicated crystalloid solution

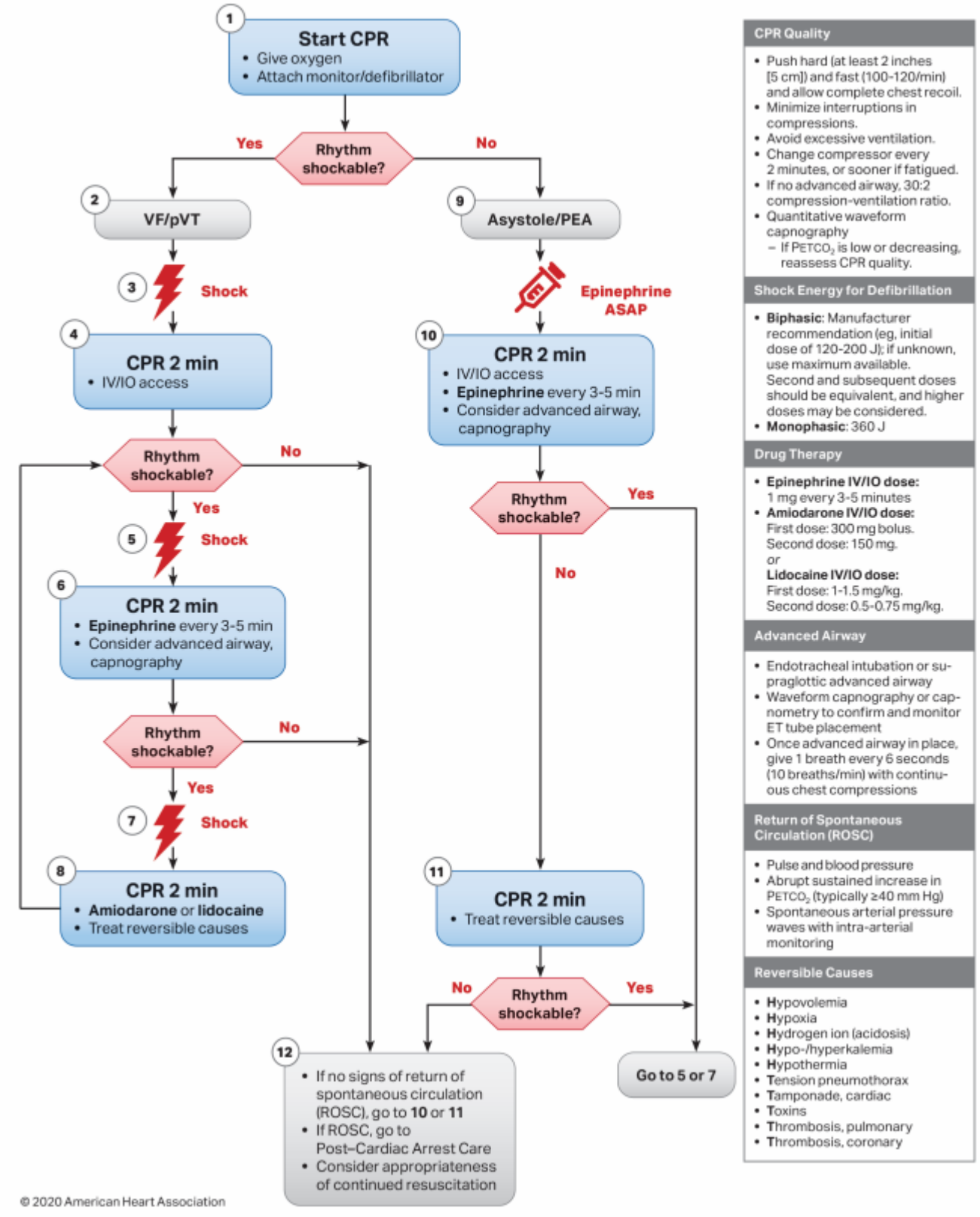
AEMT, Paramedic

- Consider IO access

CARDIAC ARREST – ADVANCED CARDIAC LIFE SUPPORT (Revised 8/27/2021)

EMT-I AND PARAMEDIC

Figure 4. Adult Cardiac Arrest Algorithm.



CPR Quality

- Push hard (at least 2 inches [5 cm]) and fast (100-120/min) and allow complete chest recoil.
- Minimize interruptions in compressions.
- Avoid excessive ventilation.
- Change compressor every 2 minutes, or sooner if fatigued.
- If no advanced airway, 30:2 compression-ventilation ratio.
- Quantitative waveform capnography
  - If $PETCO_2$ is low or decreasing, reassess CPR quality.

Shock Energy for Defibrillation

- **Biphasic**: Manufacturer recommendation (eg, initial dose of 120-200 J); if unknown, use maximum available. Second and subsequent doses should be equivalent, and higher doses may be considered.
- **Monophasic**: 360 J

Drug Therapy

- **Epinephrine IV/IO dose:** 1 mg every 3-5 minutes
- **Amiodarone IV/IO dose:** First dose: 300 mg bolus. Second dose: 150 mg.
  or
  Lidocaine IV/IO dose: First dose: 1-1.5 mg/kg. Second dose: 0.5-0.75 mg/kg.

Advanced Airway

- Endotracheal intubation or supraglottic advanced airway
- Waveform capnography or capnometry to confirm and monitor ET tube placement
- Once advanced airway in place, give 1 breath every 6 seconds (10 breaths/min) with continuous chest compressions

Return of Spontaneous Circulation (ROSC)

- Pulse and blood pressure
- Abrupt sustained increase in $PETCO_2$ (typically ≥40 mm Hg)
- Spontaneous arterial pressure waves with intra-arterial monitoring

Reversible Causes

- **H**ypovolemia
- **H**ypoxia
- **H**ydrogen ion (acidosis)
- **H**ypo-/hyperkalemia
- **H**ypothermia
- **T**ension pneumothorax
- **T**amponade, cardiac
- **T**oxins
- **T**hrombosis, pulmonary
- **T**hrombosis, coronary

CARDIAC ARREST – SPECIAL SITUATIONS (Revised 10/1/2020)

ALL LEVELS

- **Follow cardiac arrest algorithm with these special considerations**

CARDIAC ARREST OF THE OBVIOUS PREGNANT PATIENT

EMR, EMT, AEMT

- Place patient on backboard and tilt patient on backboard approximately 30 degrees to the patient's left

EMT-I and Paramedic

- Alternative to tilting patient on backboard, manually displace gravid uterus to the patient's left

CARDIAC ARREST IN SUSPECTED HYPOMAGNESEMIA

Paramedic

- Identify if patient has Torsades de Pointes cardiac rhythm and consider 1-2 grams Magnesium Sulfate IV/IO

CARDIAC ARREST IN SUSPECTED HYPERKALEMIA

Paramedic

- Identify if patient has tall spiked T Waves on Diagnostic ECG
- Consider
    - 15mg Albuterol Nebulized and ventilated into patient
    - **OR** 5 to 10ml of 10% Calcium Chloride IV/IO Over 2-5 minutes
    - **OR** 15 to 30ml 10% Calcium Gluconate IV/IO Over 2-5 minutes

CARDIAC ARREST IN KNOWN TRICYCLIC ANTIDEPRESSANT OVERDOSE

Paramedic

- Confirm patient overdosed on tricyclic antidepressant
- Consider 50mEq 8.4% Sodium Bicarbonate IV/IO

CARDIAC ARREST IN KNOWN OR HIGH SUSPICION OF CYANIDE POISONING

Paramedic

- Consider 5g diluted Hydroxocobalamin in 200ml of NS (recommended), LR or D5 IV/IO infused over 15 minutes

CARDIAC ARREST IN SUSPECTED NARCOTIC – BENZODIAZEPINE – BETA BLOCKER – CALCIUM CHANNEL BLOCKER OVERDOSE

ALL LEVELS

- No additional considerations – antidotes are contra-indicated in cardiac arrest

CARDIAC ARREST IN HYPOTHERMIA–DROWNING

EMR

- Remove wet clothing and passively warm patient

EMT Skills with Proper Competency Training

- Obtain IV access
- Consider administering warmed IV fluids

EMT-I and Paramedic

- May use Epinephrine in severe hypothermia (<87°F)
- Avoid Amiodarone and Lidocaine in sever hypothermia (<87°F)

CARDIAC ARREST IN TRAUMA

ALL LEVELS

- If resuscitation attempted follow appropriate **Cardiac Arrest Protocol**

CARDIAC ARREST – RETURN OF SPONTANEOUS CIRCULATION (Revised 10/1/2020)

ALL LEVELS

- Routine assessment and care

EMR

- Keep AED attached to patient
- Assist ventilations
- Administer oxygen
- If gag reflex returns removal of oral airway
- Suction as needed
- Consider ALS

EMT

- Administer oxygen and adjust delivery device and LPM flow to achieve 94 to 99%
- Consider obtaining diagnostic ECG
- Initiate transport

EMT skills with PMD approval and competency training

- Consider advance airway if not already in place during cardiac arrest
- Consider obtaining a blood glucose reading
- Consider IV access

AEMT

- Consider IV or IO access

EMT-I

- Consider intubation if not already in place during cardiac arrest
- Initiate cardiac monitoring
- Treat cardiac dysrhythmias
- Adjust ventilations (Rate, Tidal Volume, FiO2) to maintain these goals
  - O2 Saturation 94 to 99%
  - EtCO2 35 to 45 mmHg

Paramedic

- If patient intubated
  - Consider sedative agent **OR**
  - Consider sedative agent **First** then a non-depolarizing paralytic
- Consider inducing hypothermia if patient meet criteria
  - ** **See cardiac arrest return of spontaneous circulation induced hypothermia**
- Consider vasopressor agent for sustained hypotension

CARDIAC ARREST – RETURN OF SPONTANEOUS CIRCULATION INDUCED HYPOTHERMIA (Revised 12/7/2012)

EMR – EMT – AEMT – EMT-I

- **Not approved for this protocol**

Paramedic

- DO NOT attempt hypothermia unless the destination facility has capabilities to maintain/continue the process
- For this protocol to be in effect the following criteria must be met.

Destination Facility and ALS Service Criteria	
Destination Facility Criteria	**ALS Service Criteria**
Policies and procedures for management of inducing and maintaining hypothermia after ROSC	PMD authorization for this protocol and RSI protocol
Equipment and supplies to maintain hypothermia	Ability to • Maintain two 1,000ml IV bags of NS or LR at 34° to 36° F • Monitor body temperature
Facility is aware and approves of service to induce hypothermia after ROSC	Medications availability • Sedative agent(s) • Non-depolarizing paralytic(s) • Vasopressor agent

Patient Criteria	
Inclusion Criteria:	**Exclusion Criteria**
GCS 8 or less	GCS over 8
Age 16 and above	Under age 16
Cardiac arrest due to suspected cardiac problem	Cardiac arrest due to: • Trauma • Toxins/poisonings • Status asthmaticus • Status epilepticus
Advanced airway in place and confirmed patent	Patient obviously pregnant or confirmed pregnant
At least one IV/IO access line - preferably two	Existing DNR or terminal illness
Etco2 of 20mmhg or more	Vegetative or comatose patient prior to cardiac arrest
Initial body temp of 93°f (34°c) or greater	Anti-coagulated patient

- The Paramedic will monitor VS including
  - Temperature
  - SaO2 and EtCO2
  - Cardiac rhythm
- Verify inclusion criteria are meet and no exclusion criteria are present
- Administer cold IV fluid in 500ml boluses until patient temp reaches 93 to 94°F or maximum of 2000ml
- Apply cold packs to groin and axillary regions
- Prevent shivering
  - Administer sedative agent first then non-depolarizing paralytic agent
- Treat hypotension with vasopressor agent
- Treatment goals – adjust care as needed
  - Prevent Shivering
  - Body temp of 93°F but NOT colder than 93°F
  - O2 Saturation 94% to 99% but not above 99%
  - EtCO2 of 35 to 45 mmHg
  - Systolic BP 80 to 100

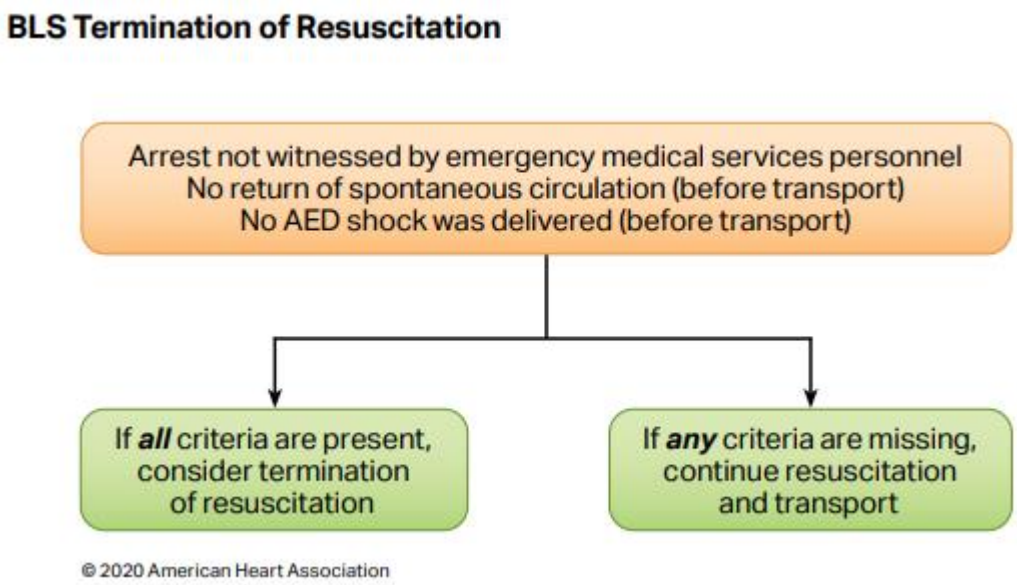
CARDIAC ARREST – TERMINATION OF RESUSCITATION (Revised 8/27/2021)

ALL LEVELS

- Routine assessment

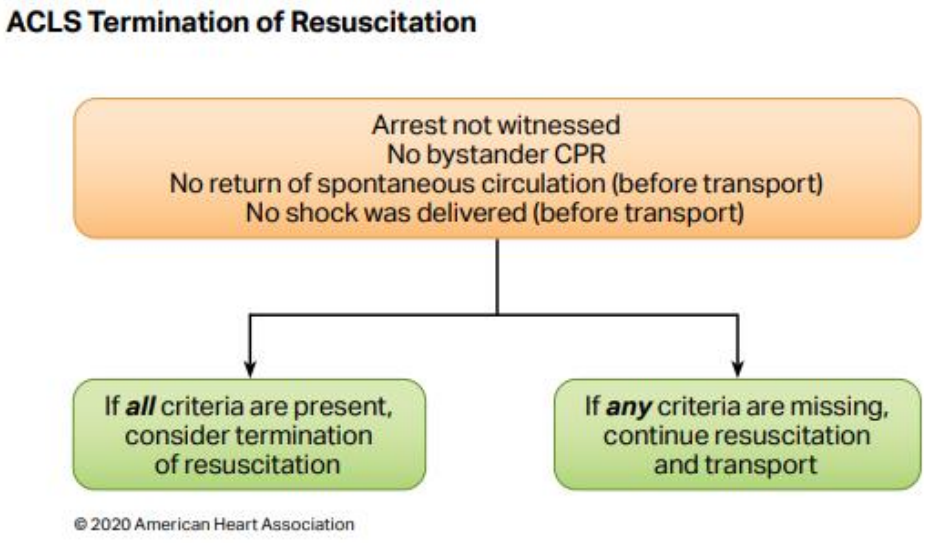
EMR, EMT and AEMT

- Consider termination resuscitation in accordance with the following algorithm
- Consider consultation with medical control or PMD



EMT-I

- Consider termination resuscitation in accordance with the following algorithm



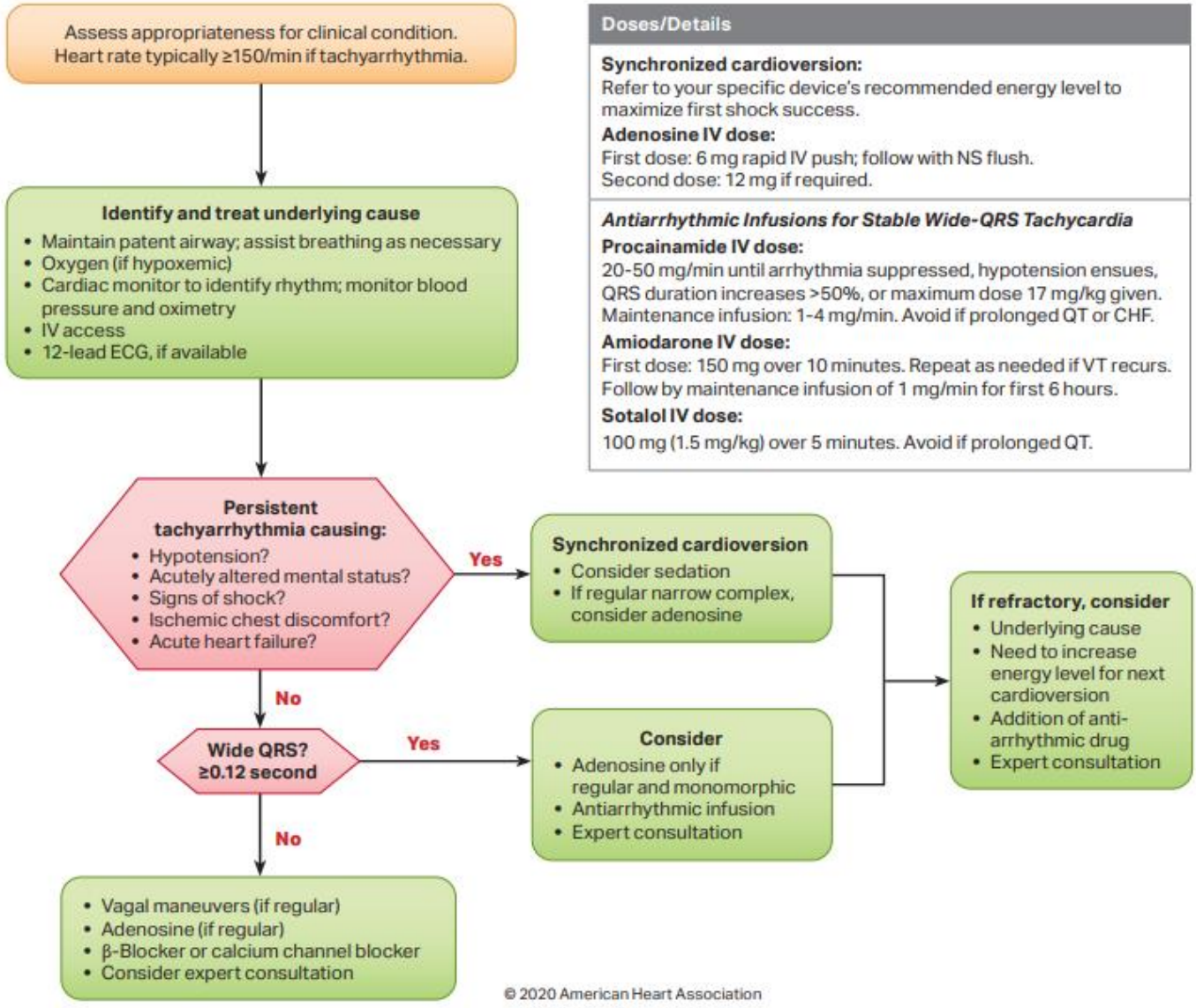
Paramedic

- As an option to above when ALL criteria are not met the paramedic may consider the following
  - Patient presents or develops asystole in three leads
  - 1 mg epinephrine administered
  - Advanced airway placed – endotracheal or advanced non-visualized airway
  - Consider termination of resuscitation

CARDIAC DYSRHYTHMIA TACHYCARDIA (Revised 8/27/2021)

EMT-I AND PARAMEDIC

Adult Tachycardia With a Pulse Algorithm



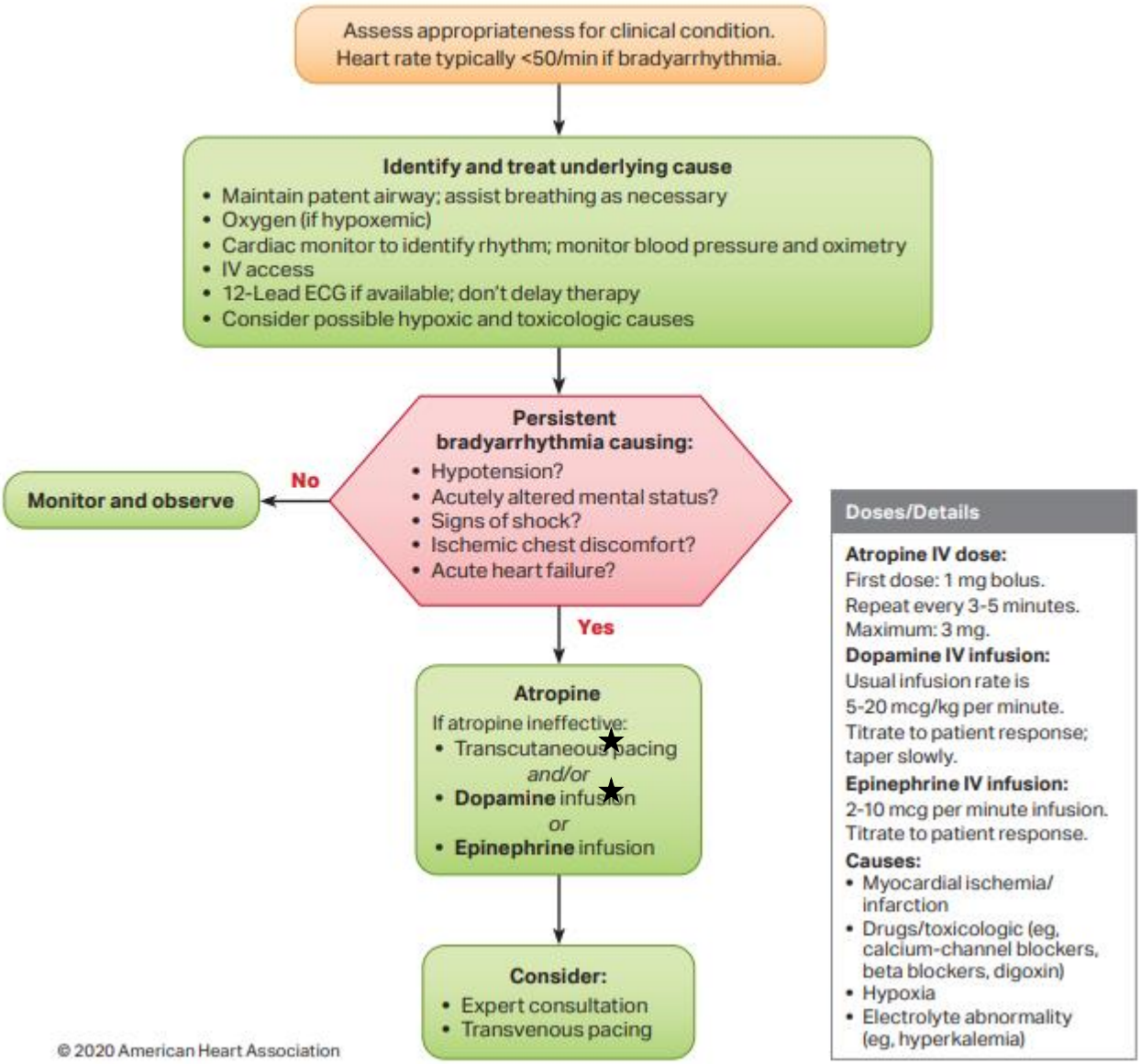
Paramedic Only Medication
Procainamide
Amiodarone Infusion
Sotalol

◆ **EMT-I Must Have Completed ACLS to Perform**
Synchronized Cardioversion

CARDIAC DYSRHYTHMIA BRADYCARDIA (Revised 8/27/2021)

EMT-I AND PARAMEDIC

Adult Bradycardia Algorithm



Paramedic Only Medication/Skill

Dopamine infusion
Epinephrine infusion

CARDIAC DIAGNOSTIC ECG FINDINGS AND SPECIAL TREATMENTS (Revised 9/22/2022)

TALL SPIKED T WAVES

Paramedic

- Consider hyperkalemia
  - Consider continuous albuterol nebulizer treatments

ST ELEVATION

Paramedic

- Consider STEMI event ****See ACS Protocol**
  - ST elevation in contiguous leads
  - No bundle branch block (unless paramedic has a comparison ECG)
  - Increased suspicion of STEMI if reciprocal to ST elevation – ST depression presents

Lead to Cardiac Wall Chart

Lead I Lateral Wall	aVR	V1 Septal Wall	V4 Anterior Wall
Lead II Inferior Wall	aVL Lateral Wall	V2 Septal Wall	V5 Lateral Wall
Lead III Inferior Wall	aVF Inferior	V3 Anterior Wall	V6 Lateral Wall

- If patient presents with ST elevation in inferior leads
  - Consider use of right sided ECG to determine right ventricular involvement
  - Do not delay transport
- If patient presents with ST elevation in inferior leads with T wave inversion in V1 and V2
  - Consider moving V4, 5 and 6 to position V7, 8, and 9 to determine posterior involvement
  - Do not delay transport

AXIS DEVIATION

Paramedic

- Extreme Right Axis Deviation – Lead I and aVF predominantly negative
  - Be alert for ventricular ectopy including V-Tach
- Right Axis Deviation – Lead I predominantly negative and aVF predominantly positive
  - Consider Right Ventricular Hypertrophy
  - Consider Dextrocardia
- Left Axis Deviation – Lead I predominantly positive, aVF predominantly negative, and Lead II predominantly negative
  - Consider left sided Heart Hypertrophy
  - Inferior wall MI

Stroke Guideline

History
- Previous CVA, TIAs
- Previous cardiac / vascular surgery
- Associated diseases: diabetes, hypertension, CAD
- Atrial fibrillation
- Medications (blood thinners)
- History of trauma

Signs and Symptoms
- Altered mental status
- Weakness / Paralysis
- Acute focal neuro deficit
- Blindness or other sensory loss
- Aphasia / Dysarthria
- Syncope
- Vertigo / Dizziness
- Vomiting
- Headache
- Seizures
- Respiratory pattern change
- Hypertension / hypotension

Differential
- See Altered Mental Status
- TIA (Transient ischemic attack)
- Seizure
- Todd's Paralysis
- Hypoglycemia
- Stroke
- Tumor
- Trauma
- Dialysis / Renal Failure

SEVERITY-BASED STROKE TRIAGE ALGORITHM FOR EMS

American Heart Association | American Stroke Association. Together to End Stroke™ — MISSION: LIFELINE

EMS Dispatch notifies responding EMS Unit of possible stroke call. EMS crew dispatched per regional stroke protocol or on scene suspicion of acute stroke by EMS providers

Upon arrival- Provide any needed ABC interventions, request dispatch of higher level of provider if necessary for unstable patients and interview patient, family and other witnesses

Perform and document results of pre-hospital stroke identification screen (CPSS, LAPSS, etc.) and POC blood glucose IV and EKG

STROKE SCREEN POSITIVE? STROKE SUSPECTED?

YES → Perform and document results from severity tool used to assess potential LVO (LAMS, RACE, CSTAT, FAST-ED, etc.)

Identify and document Time Last Known Well & Time of symptom discovery

Large Vessel Occlusion (LVO) LVO SUSPECTED? (RACE >5)

NO → Call stroke alert, pre-notify receiving facility and transport to the closest appropriate stroke center (ASRH, PSC, CSC) per your regional stroke systems of care policy

YES

Last Known Well (LKW) LKW LESS THAN 6 HOURS?

NO → Call stroke alert, pre-notify receiving facility and transport to the closest appropriate stroke center (ASRH, PSC, CSC) per your regional stroke systems of care policy

YES

DIRECT TRANSPORT TO CSC ADDS LESS THAN OR EQUAL TO 15 MINUTES?

NO → Call stroke alert, pre-notify receiving facility and transport to the closest appropriate stroke center (ASRH, PSC, CSC) per your regional stroke systems of care policy

YES

TRANSPORT TO CSC WILL NOT PRECLUDE USE OF IV ALTEPLASE?

NO → Call stroke alert, pre-notify receiving facility and transport to the closest appropriate stroke center (ASRH, PSC, CSC) per your regional stroke systems of care policy

YES → Call Stroke Alert, pre-notify receiving facility and transport directly to an appropriately certified CSC that is within the acceptable transport time, if no CSC meets the criteria then transport to the nearest designated EVT-capable center, or closest appropriate stroke center (ASRH,PSC) per your regional stroke system of care plan

NO → Stroke not suspected → Treat and transport as indicated per patient presentation

Adult Medical Guidelines

CPSS=Cincinnati Pre-hospital Stroke Scale, LAPSS=LA Prehospital Stroke Scale LVO=Large Vessel Occlusion, LKW=Last Known Well
EVT=Endovascular therapy, ASRH=Acute Stroke Ready Hospital, PSC=Primary Stroke Center, CSC=Comprehensive Stroke Center

Stroke Guideline

Stroke Guideline

Adult Medical Guidelines

Cincinnati Pre-hospital Stroke Scale

1. FACIAL DROOP: *Have patient show teeth or smile.*

Normal: both sides of the face move equally

Abnormal: one side of face does not move as well as the other side

2. ARM DRIFT: *Patient closes eyes & holds both arms out for 10 sec.*

Normal: both arms move the same or both arms do not move at all

Abnormal: one arm does not move or drifts down compared to the other

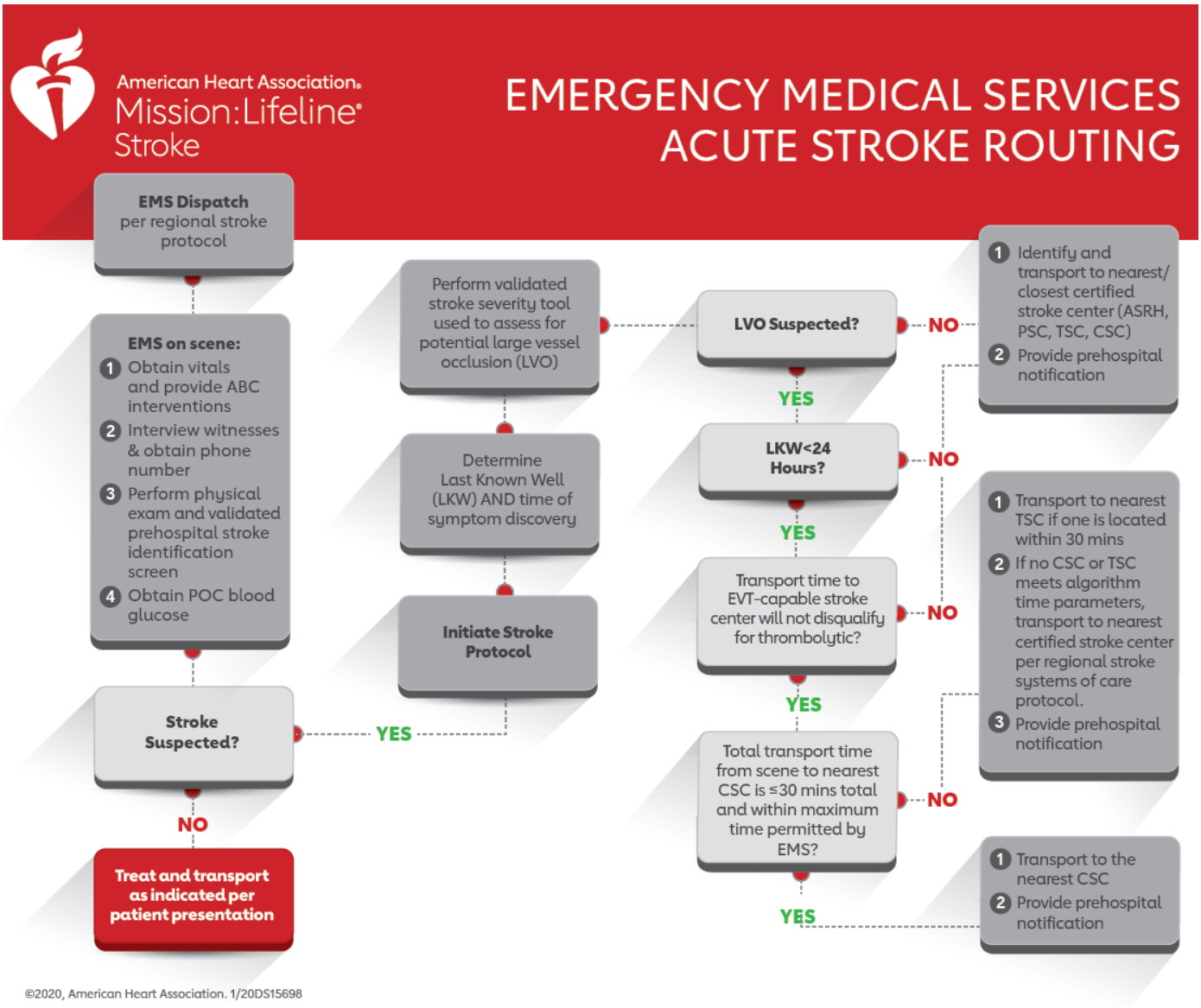
3. ABNORMAL SPEECH: *Have the patient say "you can't teach an old dog new tricks."*
Normal: patient uses correct words with no slurring **Abnormal**: patient slurs words, uses the wrong words, or is unable to speak

INTERPRETATION: If any 1 of these 3 signs is abnormal, the probability of a stroke is 72%.

ITEM	Instruction	Result	Score
Facial Palsy	Ask patient to show their teeth (smile)	**Absent** (symmetrical movement) **Mild** (slight asymmetrical) **Moderate to Severe** (completely asymmetrical)	0 1 2
Arm Motor Function	Extending the arm of the patient 90° (if sitting) or 45° (if supine)	**Normal** to **Mild** (limb upheld more than 10 seconds) **Moderate** (limb upheld less than 10 seconds) **Severe** (patient unable to raise arm against gravity)	0 1 2
Leg Motor Function	Extending the leg of the patient 30° (in supine)	**Normal** to **Mild** (limb upheld more than 5 seconds) **Moderate** (limb upheld less than 5 seconds) **Severe** (patient unable to raise leg against gravity)	0 1 2
Head & Gaze Deviation	Observe eyes and head deviation to one side	**Absent** (eye movements to both sides were possible and no head deviation was observed) **Present** (eyes and head deviation to one side was observed)	0 1
Aphasia (R side)	Difficulty understanding spoken or written words. Ask patient to follow two simple commands: 1. Close your eyes. 2. Make a fist.	**Normal** (performs both tasks requested correctly) **Moderate** (performs only 1 of 2 tasks requested correctly) **Severe** (Cannot perform either task requested correctly)	0 1 2
Agnosia (L side)	Inability to recognize familiar objects. Ask patient: 1. "Whose arm is this?" (while showing the affected arm) 2. "Can you move your arm?"	**Normal** (recognizes arm, and attempts to move arm) **Moderate** (does not recognize arm **or** is unaware of arm) **Severe** (does not recognize arm **and** is unaware of arm)	0 1 2
If RACE >5, consider Comprehensive Stroke Center		**RACE SCALE TOTAL**	

Pearls

- **Recommended Exam: Mental Status, HEENT, Heart, Lungs, Abdomen, Extremities, Neuro**
- **Time of Onset or Last Seen Normal: Interview patient, family members, and other witnesses to determine Last Known Well (LKW) time and time of Symptom Discovery.**
- **Be very precise in gathering data to establish the time of onset and report as an actual time (i.e. 13:47 NOT "about 45 minutes ago.") Without this information patient may not be able to receive thrombolytics at facility.**
- **For patients with "Woke up and noticed stroke," Time starts when patient went to sleep or was last awake and was last known normal.**
- **Attempt to identify possible stroke mimics (eg. Seizure, migraine, intoxication) and determine if patient has pre-existing substantial disability (need for nursing homecare or inability to walk without help from others).**
- **Encourage family to go directly to Emergency Department if not transported with patient and obtain mobile number of next of kin and witnesses**
- **Patients who are eligible for IV Alteplase if transported to nearest Acute Stroke Ready Hospital (ASRH) or PSC should not be rerouted to a CSC or Endovascular Treatment-capable Center if doing so would result in delay that would make them ineligible for IV Alteplase**
- **Air Medical: Important for EMS to be aware of role of air medical. May be needed to transfer a stroke patient to a geographically distant hospital that is capable of providing an advanced level of stroke care.**
- **With a duration of symptoms of less than 3.5 HOURS or UNDETERMINED, scene times should be limited to ≤ 15 minutes and the patient should be transported to capable stroke receiving facility. In-field notification of receiving facility should be performed and transport times should be minimized.**
- **Collect a list of current medications (especially anticoagulants) and obtain patient history including co-morbid conditions (eg. Serious kidney or liver disease, recent surgery, procedures or stroke) that may impact treatment decisions. .**


American Heart Association.
Mission:Lifeline®
Stroke
EMERGENCY MEDICAL SERVICES
ACUTE STROKE ROUTING
EMS Dispatch per regional stroke protocol
EMS on scene:
1 Obtain vitals and provide ABC interventions
2 Interview witnesses & obtain phone number
3 Perform physical exam and validated prehospital stroke identification screen
4 Obtain POC blood glucose
Stroke Suspected?
YES
NO
Treat and transport as indicated per patient presentation
Perform validated stroke severity tool used to assess for potential large vessel occlusion (LVO)
Determine Last Known Well (LKW) AND time of symptom discovery
Initiate Stroke Protocol
LVO Suspected?
NO
1 Identify and transport to nearest/closest certified stroke center (ASRH, PSC, TSC, CSC)
2 Provide prehospital notification
YES
LKW<24 Hours?
NO
YES
Transport time to EVT-capable stroke center will not disqualify for thrombolytic?
NO
YES
Total transport time from scene to nearest CSC is ≤30 mins total and within maximum time permitted by EMS?
NO
1 Transport to nearest TSC if one is located within 30 mins
2 If no CSC or TSC meets algorithm time parameters, transport to nearest certified stroke center per regional stroke systems of care protocol.
3 Provide prehospital notification
YES
1 Transport to the nearest CSC
2 Provide prehospital notification
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STEMI GUIDELINES (Revised 3/9/2022)

ALL LEVELS

Obtain Diagnostic ECG with initial vital signs – GOAL – First medical contact (FMC) to ECG ≤ 10 min, scene time: ≤ 15 minutes **To provide early identification and pre-hospital arrival notification for suspected myocardial infarction or STEMI.*

1. Chest pain, pressure, tightness or persistent discomfort above the waist in patients ≥ 35 years of age
2. "Heartburn" or epigastric pain
3. Complaints of "heart racing" (HR >150 or irregular and >120) or "heart too slow" (HR < 50 and symptomatic)
4. A syncopal episode, severe weakness, or unexplained fatigue
5. New onset stroke symptoms (< 24 hours old)
6. Difficulty breathing or shortness of breath (with no obvious non-cardiac cause)
7. ROSC (return of spontaneous circulation) post cardiac arrest
8. Recent cocaine, stimulant and/or other illicit drug use (patients of any age)
9. *If initial ECG is not diagnostic but suspicion is high for MI and symptoms persist, obtain serial ECG's at 5-10 minute intervals*

EMR

- Transmit diagnostic ECG to facility for interpretation or present to ALS for interpretation
- Alert hospital staff or qualified ALS personnel if ECG monitor interpretive statement infers "acute myocardial infarction" and patient has signs & symptoms suspect of acute myocardial infarction including chest discomfort and symptoms listed above
- Administer O2 based on assessment findings
- Obtain systolic/diastolic blood pressure (BP) in both arms
- Administer chewable aspirin 324 mg by mouth

EMT

- Evaluate if erectile dysfunction or pulmonary hypertension medications taken in the past 24 hours including: sildenafil (Viagra, Revatio), vardenafil (Levitra, Staxyn), or avanafil (Stendra), tadalafil (Cialis, Adcirca). Hold nitrates for 48 hours following the last dose
- Consider assisting patient with his/her own prescribed nitroglycerin
    - BP must be 110 systolic mmHg or greater
    - May repeat every 5 minutes to total of 3 doses as long as BP remains above 110 systolic

  OR
- Administer 0.4 mg Nitroglycerin SL if all the following requirements are met:
    - Have a systolic BP of 110 mmHg or greater
    - An IV is established
    - An ECG is transmitted to the receiving facility
    - On-line medical direction from the receiving facility provider to administer the nitroglycerin
- Request ALS intercept per local protocol
- Establish large bore IV (upper extremity preferred) access per protocol – non-medicated crystalloid solution IV. Establish a 2nd IV line as time allows.

AEMT – EMT-I

- Administer nitroglycerin sublingual 0.4 mg every 5 minutes up to 3 doses if chest discomfort present and SBP greater than 110 mmHg. Check BP prior to each administering dose. Withhold if SBP is less than 110 mmHg.

Paramedic

- Diagnostic ECG trained to recognize ST segment elevation of ≥ 1 mm in 2 contiguous leads or confirmed interpretation of STEMI transmitted and reviewed by a physician, nurse practitioner or physician assistant
- ECG monitor interpretive statement infers "acute myocardial infarction" with signs & symptoms suspect of acute myocardial infarction including chest discomfort and symptoms listed above
- ACI-TIPI score of 75 or greater
- Clopidogrel (Plavix) 300 mg by mouth if transferring for PPCI after confirmation by PCI receiving facility and local medical control per protocol
- Establish a nitroglycerine IV drip (if appropriate) if chest discomfort is unrelieved. Delivered via pump only. Initiate at 5 mcg/min & titrate in increments of 5 mcg/min to maintain a systolic BP of 100 mmHg or greater. Hold nitrates as indicated
- Administer analgesia as needed for discomfort per protocol
- Administer chewable aspirin 324 mg rectally if unable to PO

*Based on Mission: Lifeline and the American Heart Association

STEMI TRANSPORT GUIDELINES (Revised 10/1/2020)

ALL LEVELS

- If FMC to percutaneous coronary intervention (PCI) can be achieved in less than 90 minutes, arrange for ALS (air or ground) intercept and transport directly to PCI capable receiving hospital for primary PCI
- If FMC to PCI is greater than 90 minutes, transport to the closest appropriate non-PCI capable referring hospital for possible fibrinolytic therapy and urgent transfer to a PCI capable receiving facility for reperfusion
- Activate STEMI alert, transmit Diagnostic ECG as able, provide report to receiving hospital

Diversion Criteria

If patient demonstrates instability and/or has any one of the following diversion criteria requiring ED evaluation by a practitioner, proceed to closest appropriate hospital:

- Possible need of head CT or neurological intervention / confusion
- Emergent intubation immediate circulatory stabilization
- Chest trauma or MVC victims
- Consider DNR status
- Consider scoring with Sgarbossa criteria

Documentation Reminders

- Provide copy of eNARSIS report with verbal report to registered nurse or physician
- If STEMI/AMI alert is requested of the receiving hospital, document the time
- Provide a printed or electronic copy of pre-hospital Diagnostic ECG with report to registered nurse or physician

Patient Care Goals

- Provide early identification of patients and early notification of the hospital for suspected AMI or STEMI
- Utilize an assessment tool that may reduce the time from onset of symptoms to receiving definitive cardiac interventions at the receiving hospital
- Prepare patient for immediate transport with indicated medications administered en route to hospital. Attempt to limit the scene time to the shortest time possible

American Heart Association Mission: Lifeline EMS Best Practice Goals

- All patients with non-traumatic chest discomfort, ≥ 35 years of age, treated and transported by EMS receive a pre-hospital electrocardiogram
- All STEMI patients transported directly to a STEMI receiving center, receive a first (pre-hospital) medical contact to PCI time ≤ 90 minutes directly or ≤ 120 minutes for interfacility hospital transfers
- All lytic eligible STEMI patients treated and transported to a referring hospital for fibrinolytic therapy receive a door to needle time ≤ 30 minutes

American Heart Association Mission: Lifeline EMS Reporting Measures

- Time from symptom onset to EMS dispatch
- Time from dispatch to EMS vehicle arrival at receiving or referring hospital door
- Number of suspected AMI/STEMI patients treated and transported by EMS who receive a Diagnostic ECG
- Number of STEMI patients treated and transported to a referring hospital for potential reperfusion by fibrinolysis therapy who receive a fibrinolytic checklist screening en route to identify possible contraindications
- Number of STEMI patients who received a pre-hospital ECG, recognized STEMI, and called for a STEMI alert at the receiving or referring hospital prior to arrival

*Based on Mission: Lifeline and the American Heart Association

CHEST PAIN – DISCOMFORT (Revised 5/7/2024)

ALL LEVELS

- Routine assessment and care
- Consider pain management **See Pain Management Protocol

EMR

- Consider OPQRST pneumonic for assessment of pain
- Administer oxygen
  - Minor distress 2-6 LPM nasal cannula
  - Moderate to severe distress 10 – 15 LPM oxygen delivery mask
- Consider ALS

EMT

- Consider oxygen and adjust delivery device and LPM flow to achieve 94 to 99% O2 saturation
- Consider 4 each 81mg (total 324mg) aspirin chewed and swallowed
- Consider obtaining Diagnostic ECG and transmit/handoff for interpretation
- Consider assisting patient with his/her own prescribed nitroglycerin
  - BP must be 110 systolic mmHg or greater
  - May repeat every 5 minutes to total of 3 doses as long as BP remains above 110 systolic
- Initiate transport

EMT skills with PMD approval and competency training

- Consider IV access
- Consider assisting patient with his/her own prescribed nitroglycerin (same as above)
  - BP must be 110 systolic mmHg or greater
  - May repeat every 5 minutes to total of 3 doses as long as BP remains above 110 systolic

  OR
- Consider 0.4 mg Nitroglycerin SL if all the following requirements are met:
  - Have a systolic BP of 110 mmHg or greater
  - An IV is established
  - An ECG is transmitted to the receiving facility
  - On-line medical direction from the receiving facility provider to administer the nitroglycerin

AEMT

- Consider 0.4 mg Nitroglycerin SL
  - BP must be 110 systolic mmHg or greater
  - May repeat every 5 minutes to total of 3 doses as long as BP remains above 110 systolic mmHg
- Consider Morphine 2 – 4mg IV
- Consider ondansetron (Zofran) anti-emetic (AEMT and Paramedic only)

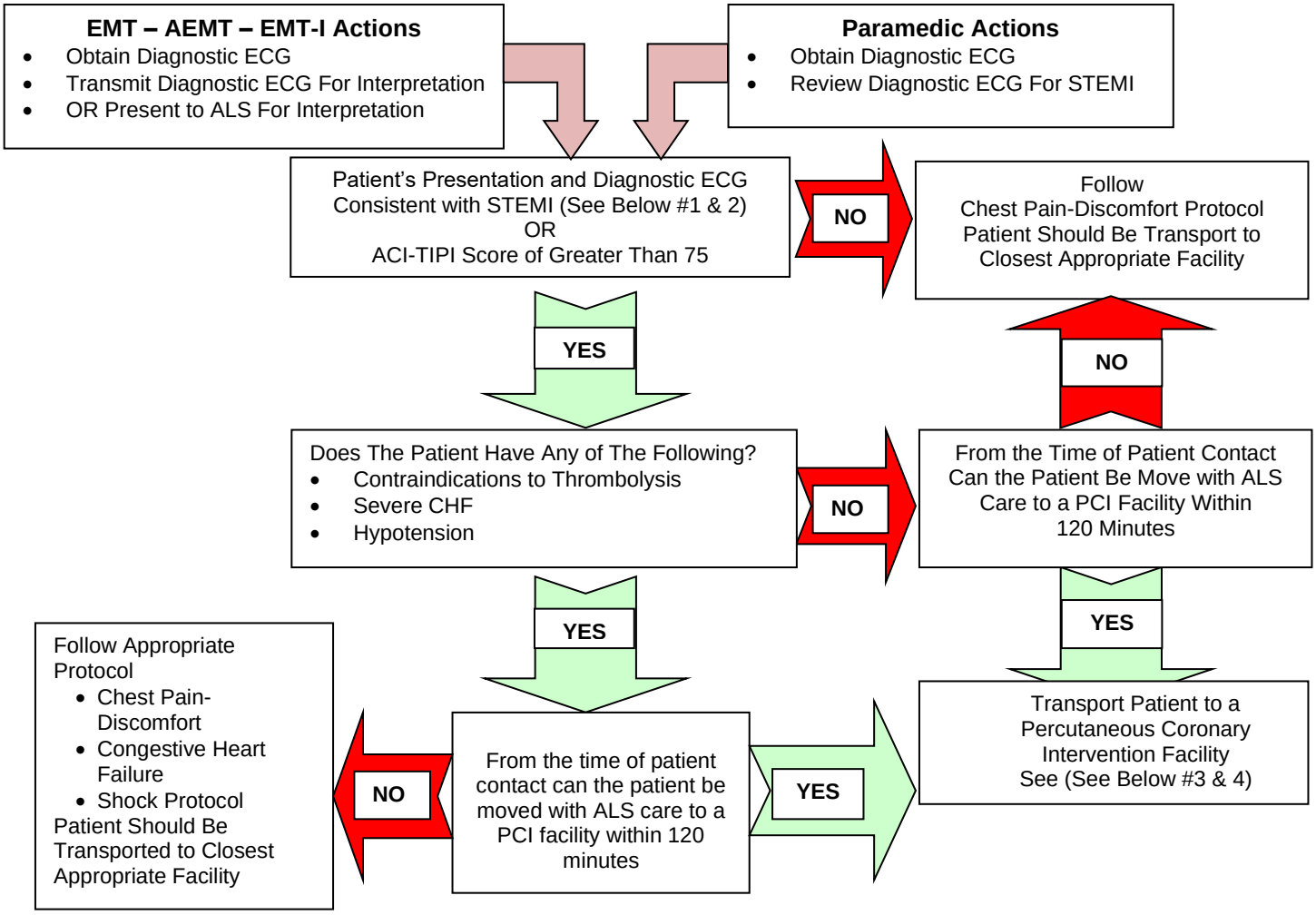
EMT-I

- Initiate cardiac monitoring
- Manage dysrhythmia ** **See Appropriate Protocol**

Paramedic

- Consider Diagnostic ECG interpretation
- Consider 0.4 mg Nitroglycerin SL
  - May repeat as needed for continued chest pain if BP remains greater than 100 systolic
  - After 1st dose may consider Nitroglycerin in conjunction with pain management
- Consider anti-emetic
  - **DO NOT USE** Droperidol (Inapsine)
  - Avoid phenothiazine class anti-emetics unless no other option is available, then use with precaution in inferior wall AMI or right ventricular AMI as identified on Diagnostic ECG

CHEST PAIN – DISCOMFORT – ACUTE CORONARY SYNDROME (Revised 10/1/2020)



Additional Guidelines

1. Acute Coronary Syndrome (ACS)
   - ACS is defined as a patient presenting with angina or angina equivalents such as chest, epigastric, arm, or jaw pain and may be associated with diaphoresis, nausea and shortness of breath/difficulty breathing.

2. Diagnostic ECG Inclusion Criteria for STEMI
   - Anterior – Inferior – Lateral MI: With ST elevation greater than 1mm in two or more contiguous leads and QRS complex 0.12 or narrower
   - Posterior MI – ST depression greater than 1mm in V1 and V2 with an R/S ratio of greater than or equal to one AND QRS complex 0.12 or narrower
   - New Left Bundle Branch Block: if patient has in his/her possession a previous ECG with narrow QRS complex to demonstrate the current wide QRS complex is new onset

3. Notify PCI facility as soon as determination is intranasal

4. If patient is to be flown: move patient to land zone/ staging area and manage until intercept

CONGESTIVE HEART FAILURE (Revised 5/7/2024)

ALL LEVELS

- Routine assessment and care

EMR

- Administer oxygen
  - Minor distress 2-6 LPM nasal cannula
  - Moderate to severe distress 10 – 15 LPM oxygen delivery mask
- Consider assisted ventilations
- Consider ALS

EMT

- Consider oxygen and adjust delivery device and LPM flow to achieve 94 to 99% O2 saturation
- Consider acquiring EtCO2 numeric value only
- Initiate transport

EMT skills with PMD approval and competency training

- Consider IV access KVO/TKO rate
- Consider CPAP ****See Chart Below for Indications and Contra-Indications**

AEMT

- Consider 2.5mg Albuterol nebulizer treatment
- Consider minimal sedation with benzodiazepine class sedative (AEMT and Paramedic only)

EMT-I

- Initiate cardiac monitoring
- Consider EtCO2 monitoring
- Manage dysrhythmia ** **See Appropriate Protocol**
- Consider 0.4mg Nitroglycerin SL if systolic BP at least 100
- May consider one of the other nebulized bronchodilators

Paramedic

- Consider Diagnostic ECG interpretation
- Consider CPAP
- Consider nitroglycerin ****Must have Patient IV/IO Access**
  - Systolic BP 180 and Greater — Consider 3 each – 0.4mg Nitroglycerin SL
  - Systolic BP 140 to 180 — Consider 2 each – 0.4mg Nitroglycerin SL
  - Systolic BP 100 to 140 — Consider 1 each – 0.4mg Nitroglycerin SL
- Consider vasopressor agent for pulmonary edema and hypotension
- Consider RSI

CPAP	
Indications	**Contra-Indications**

• Patient able to maintain own airway
• Patient able to follow at least simple commands
• Patient complains of shortness of breath-difficulty breathing
• Systolic BP at least 100
• Decreased /abnormal lung sounds
• Patient has signs of respiratory distress (not all must be present)
  ○ Able to speak only short phrases
  ○ Retractions
  ○ Tripod positioning
• Known or suspected cause of respiratory distress of
  ○ Pulmonary edema – congestive heart failure
  ○ Exacerbation of COPD
  ○ Exacerbations of asthma not relieved with bronchodilator medication
	• Patient under age 18
	• Patient unable to maintain own airway
	• Patient unable to follow simple commands – decreased LOC
	• Patient vomiting
	• Systolic BP under 90
	• Upper airway partial obstructions (Croup-Epiglottis-Upper Airway Edema-Partial FBAO)
	• Shortness of breath-difficulty breathing with a suspected/known cause of
	  ○ Pneumothorax
	  ○ Trauma
	  ○ Respiratory infection without pulmonary edema
	• Facial deformities in which a mask seal cannot be obtained

CPR INDUCED CONSCIOUSNESS SEDATION PROTOCOL (Revised 8/11/16)

ALL LEVELS

- Routine assessment and care
- Assess for signs of consciousness: spontaneous eye opening, purposeful movement, verbal response to include moaning

EMR, EMT, AEMT

- Continue CPR
- If tiering is available, requires ALS intercept

Paramedic

- Administer Ketamine bolus
  IV: 0.5-1.0 mg/kg
  IM: 2-3 mg/kg
- Consider co-administration of midazolam bolus*
  IV: 1 mg
  IM: 2 mg
- May repeat Ketamine bolus after 5-10 minutes if needed for continued sedation or if needed for continued sedation start infusion
  - IV bolus dose: 0.5-1.0 mg/kg OR IM: 2-3 mg/kg
  - IV infusion dose: 2-7 mcg/kg/minute

*Co-administration of benzodiazepines with ketamine has been suggested to decrease myocardial oxygen demand

DECREASED LEVEL OF CONSCIOUSNESS – DECREASED MENTAL STATUS (Revised 10/1/2020)

ALL LEVELS

- Routine assessment and care
- Consider 0.4 to 4mg Naloxone
    - IM Auto-Injector/INTRANASAL for suspected or known narcotic overdose; or
    - IV/IM/INTRANASAL for AEMT and above

EMR

- Consider oral airway and assisted ventilations
- Administer oxygen
- Consider Diagnostic ECG acquisition and transmission
- Utilize a non-invasive stroke scale
- Obtain onset time
- Assess for medical or traumatic cause and utilize additional protocols as needed
- Consider ALS

EMT

- Consider oxygen and adjust delivery device and LPM flow to achieve 94% or better O2 saturation
- Initiate transport

EMT skills with PMD approval and competency training

- Consider advanced airway for persistent decreased mental status
- Consider IV access
- Obtain blood glucose reading – if abnormal go to appropriate protocol

AEMT

- Consider 0.4 to 4mg Naloxone IV/IM/INTRANASAL

EMT-I

- Consider intubation for persistent decreased mental status
- Initiate cardiac monitoring

Paramedic

- Consider RSI

EPIGLOTTITIS (Revised 5/7/2024)

ALL LEVELS

- Routine assessment and care

EMR

- Administer oxygen by blow by or oxygen delivery mask humidified if possible
- Calm patient
- Allow patient to assume a position where he/she can maintain own airway
- If patient loses airway attempt BVM ventilations
- Consider ALS

EMT

- Consider oxygen and adjust delivery device and LPM flow to achieve 94% or better O2 saturation
- Initiate transport

EMT skills with PMD approval and competency training and AEMT

- Defer attempts at advanced airway
- Defer IV unless patient loses airway

EMT-I

- Initiate cardiac monitoring

Paramedic

- Consider cricothyroidotomy

HYPOGLYCEMIA – INSULIN SHOCK (Revised 7/2023)

ALL LEVELS

- Routine assessment and care

EMR

- Assess for stroke
- Assess for signs and symptoms of hypoglycemia
- If no trauma, position patient to protect airway
- Consider oxygen
- IF PATIENT CAN FOLLOW SIMPLE COMMANDS AND PROTECT OWN AIRWAY
  - Consider having patient drink juice, non-diet pop or milk
- Consider ALS

EMT

- Consider oxygen and adjust delivery device and LPM flow to achieve 94% or better O2 saturation
- IF PATIENT CAN FOLLOW SIMPLE COMMANDS AND PROTECT OWN AIRWAY
  - Consider 15 grams oral glucose gel or tablets
- Initiate transport

EMT skills with PMD approval and competency training

- Obtain blood glucose reading
- Consider IV access
- Consider advanced airway for persistent decrease mental status
- Consider Glucagon administration 1-3 mg auto-injector/IM/intranasal
- Consider 12.5 to 25 grams Dextrose 10% IV 125-250 ml 10% Dextrose
- Recheck blood glucose level every 15 minutes

AEMT

- Consider IO access when:
  - Blood glucose level indicates hypoglycemia
  - **AND** patient's mental status is decreased to point where patient cannot maintain an airway
  - **AND** IV access cannot be obtained
- Consider
  - 12.5 to 25 grams Dextrose 10-50% IV or IO
  - 100-200 ml of 12.5% Dextrose or 50-100 ml of 25% Dextrose or 25-50 ml of 50% Dextrose
- Recheck blood glucose level every 15 minutes
- ALTERNATE treatments
  - If patient can follow simple commands and protect own airway
    - Consider mixing 12.5 to 25 grams Dextrose 50% in juice and have patient drink
  - Defer IO and IV and administer 1mg Glucagon IM or INTRANASAL
    - If glucagon fails to resolve hypoglycemia
      - If patient can follow simple commands and protect own airway
        - Consider mixing 12.5 to 25 grams Dextrose 50% in juice and have patient drink
  - **OR** Consider IV access and 12.5 to 50 grams Dextrose 50% IV 10-50% IV or IO (125-250 ml 10% Dextrose or 50-100ml of 25% Dextrose or 25-50ml of 50% Dextrose)

EMT-I

- Consider intubation for persistent decrease mental status after treatment with dextrose or glucagon
  - Assess for other causes of decreased mental status
- Consider cardiac monitoring

Paramedic

- Consider 100mg Thiamine prior to Dextrose 50% when patient appears malnourished or chronic alcohol abuse

HYPERGLYCEMIA – DIABETIC COMA (Revised 10/1/2020)

ALL LEVELS

- Routine assessment and care

EMR

- Consider oxygen
- Assess for stroke
- Assess for signs and symptoms of hyperglycemia
- If no trauma, position patient to protect airway
- Consider ALS

EMT

- Consider oxygen and adjust delivery device and LPM flow to achieve 94% or better O2 saturation
- Initiate transport

EMT skills with PMD approval and competency training

- Obtain blood glucose reading
- Consider IV access
- Consider fluid bolus
  - Signs and symptoms indicate dehydration
  - **OR** glucometer indicates ketones
- Consider advanced airway for persistent decrease mental status

AEMT

- Consider IO access when
  - IV access cannot be obtained
    AND
  - blood glucose reading is 400 or more

EMT-I

- Consider cardiac monitoring
- Consider intubation for persistent decrease mental status

Paramedic

- Assess for DKA and Hyperosmolar Non-Ketotic Coma (Syndrome)

GI HEMORRHAGE (Revised 10/1/2020)

ALL LEVELS

- Routine assessment and care

EMR

- Consider oxygen
- Consider OPQRST pneumonic for assessment of pain complaints
- Assess-question patient on nausea/vomiting and bowel/stools
- Monitor for shock
- Be prepared for suctioning
- Consider ALS

EMT

- Consider oxygen and adjust delivery device and LPM flow to achieve 94% or better O2 saturation
- Initiate transport

EMT skills with PMD approval and competency training and AEMT

- Consider advanced airway for persistent decrease mental status
- Consider IV access

AEMT

- Consider IO access for profound shock and IV access cannot be obtained

EMT-I and Paramedic

- Consider intubation for persistent decrease mental status
- Consider cardiac monitoring
- Consider NG or OG tube for upper GI hemorrhage

HEADACHE (Revised 7/16/2021)

ALL LEVELS

- Routine assessment and care
- Consider pain management **See Pain Management Protocol

EMR

- Consider oxygen
- Consider OPQRST pneumonic for assessment of pain
- Assess cause of headache (stroke, trauma, etc.)
- Monitor for shock
- Be prepared for suctioning
- Consider ALS

EMT

- Consider oxygen and adjust delivery device and LPM flow to achieve 94% or better O2 saturation
- Initiate transport

EMT skills with PMD approval and competency training

- Consider IV access for severe headache associated with
  - Nausea and vomiting
  - Changes in mental status

EMT-I

- Consider cardiac monitoring

EMT-I

- Consider Zofran for nausea
- Consider Reglan for nausea

Paramedic

- Consider pain management after paramedic level neuro assessment

NAUSEA – VOMITING – DIARRHEA (Revised 10/1/2020)

ALL LEVELS

- Routine assessment and care

EMR

- Consider oxygen
- Consider OPQRST pneumonic for assessment of pain
- Assess for cause
- Assess for dehydration
- Be prepared for suctioning
- Consider ALS

EMT

- Consider oxygen and adjust delivery device and LPM flow to achieve 94% or better O2 saturation
- Examine if possible
  - Emesis for frank blood or coffee ground type emesis ****See GI Hemorrhage Protocol**
  - Stools for frank blood or tarry foul smelling stools ****See GI Hemorrhage Protocol**
- Initiate transport

EMT skills with PMD approval and competency training

- Consider IV access
- Consider 250 to 500 ml non-medicated crystalloid solution bolus(es)

AEMT

- Consider Zofran (AEMT and Paramedic only)

EMT-I

- Consider cardiac monitoring

Paramedic

- Consider antiemetic

NON-TRAUMATIC GENERALIZED PAIN (Revised 7/16/2021)

ALL LEVELS

- Routine assessment and care
- Consider pain management **See Pain Management Protocol

EMR

- Consider oxygen
- Consider OPQRST pneumonic for assessment of pain complaints
- Consider ALS

EMT

- Consider oxygen and adjust delivery device and LPM flow to achieve 94% or better O2 saturation
- Initiate transport

EMT skills with PMD approval and competency training

- Consider IV access

AEMT

- Consider IO access if IV cannot be obtained
- Consider 2-4 mg Morphine may repeat to total 10mg IV/IO/IM/INTRANASAL
- Consider 25-100 mcg Fentanyl IV/IO/IM/INTRANASAL

EMT-I

- Consider cardiac monitoring

Paramedic

- Consider pain management

NON-TRAUMATIC NOSE BLEED (Revised 5/7/2024)

ALL LEVELS

- Routine assessment and care

EMR

- Consider oxygen by oxygen delivery mask or blow by – humidified if possible
- Position patient
  - Sitting upright
  - Head in neutral position
  - Avoid head tilt position
  - If upright not possible consider lateral position
- Pinch nares together
- Direction to patient
  - Spit blood/clot out
  - Try not to swallow blood
  - Do not rub – blow nose or sniff
- Suction as needed
- Consider ALS

EMT

- Consider oxygen and adjust delivery device and LPM flow to achieve 94% or better O2 saturation
- Initiate transport

EMT skills with PMD approval and competency training

- Consider IV access for sign and symptoms of shock
- Consider non-medicated crystalloid solution bolus(es)

AEMT

- Consider IO access for signs and symptoms of shock AND if IV cannot be obtained

EMT-I

- Consider cardiac monitoring

RESPIRATORY ARREST (Revised 10/1/2020)

ALL LEVELS

- Routine assessment and care

EMR

- Open airway
  - Trauma suspected use jaw thrust method
  - Non-traumatic use head tilt-chin lift method
- Consider oral airway
- Begin ventilations at 10-12 times a minute with bag-valve-mask or mouth to mask device attached to oxygen
- Suction as needed
- Verify pulse present
- Consider cause use additional protocols if needed
- Consider ALS

EMT

- Monitor oxygen saturation adjust ventilation/minute to achieve 94% or better O2 saturation
- Consider acquiring EtCO2 numeric value only
- Initiate transport

EMT skills with PMD approval and competency training

- Consider advanced airway
- Consider IV access
- Obtain blood glucose reading

AEMT

- Consider IO access if IV cannot be obtained
- Consider cause use additional protocols if needed

EMT-I

- Consider intubation for persistent decreased mental status
- Utilize EtCO2 monitoring
- Initiate cardiac monitoring
- Consider cause, use additional protocols if needed

Paramedic

- Consider cause, use additional protocols if needed

RESPIRATORY DISTRESS – ASTHMA (Revised 07/16/2021)

ALL LEVELS

- Routine assessment and care

EMR

- Administer oxygen
- Consider assisted ventilations
- Suction as needed
- Consider ALS

EMT

- Administer oxygen and adjust delivery device and LPM flow to achieve 94% or better O2 saturation
- Consider assisting patient with his/her prescribed metered dose inhaler
  - Administer prescribed number of puffs repeat two times every 5-10 minutes if distress continues
  - Consult medical control, PMD, or patient's physician for additional doses
- Consider assisting patient with his/her prescribed epinephrine auto-injector for Status Asthmaticus
  - Consult medical control, PMD, or patient's physician for additional doses
  - Consider acquiring EtCO2 numeric value only
- Initiate transport

EMT skills with PMD approval and competency training

- Consider advanced airway for persistent decrease mental status
- Consider 2.5 mg in 3 ml Albuterol nebulizer treatment repeat two times, if symptoms do not improve or patient's condition deteriorates
- Consider 0.5 – 2.5 mg per 3 ml (0.5 mg ipratropium bromide/3 mg albuterol sulfate) nebulizer DuoNeb
- Consider CPAP with inline 2.5 mg in 3 ml albuterol nebulizer treatment **see chart on next page for indications and contra-indications
- If Albuterol nebulizer treatments fail to improve distress
  - Consider 0.3 mg (adult) Epinephrine auto-injector for Status Asthmaticus* **(See Below)**
  - Consider 0.3 mg Epinephrine 1:1000 IM for Status Asthmaticus* **(See Below)**
- Consider IV access

AEMT

- Consider IO access if IV cannot be obtained
- If Albuterol nebulizer treatments fail to improve distress
  - Consider 0.3 to 0.5 mg Epinephrine 1:1000 IM for Status Asthmaticus* **(See Below)**

EMT-I

- Consider intubation for persistent decrease mental status
  - Consider ventilating in a nebulized bronchodilator
- Consider EtCO2 monitoring
- Consider bronchodilator
- Consider cardiac monitoring
- Consider 125 -250 mg Methylprednisolone IV/IO

Paramedic

- If first line pharmaceutical interventions have minimal or no effect
  - Consider 1 to 2 grams Magnesium Sulfate infused over 10 minutes
  - **OR** consider 0.5 to 0.75 ml of a 2.5% Racemic Epinephrine nebulizer treatment
  - **OR** consider 3 to 5 ml 1mg/ml (1:1000) Epinephrine nebulizer treatment
  - **OR** consider CPAP with inline nebulized bronchodilator
- Consider RSI
  - Consider ventilating with a nebulized bronchodilator

*** Status Asthmaticus means sustained asthma not relieved by oxygen, meter dose inhaler, or nebulizer treatment**

RESPIRATORY DISTRESS – EXACERBATION OF COPD (Revised 07/16/2021)

ALL LEVELS

- Routine assessment and care

EMR

- Administer oxygen
- Consider assisted ventilations
- Suction as needed
- Consider ALS

EMT

- Administer oxygen and adjust delivery device and LPM flow to achieve 94% or better O2 saturation
- Consider assisting patient with his/her prescribed metered dose inhaler
  - Administer prescribed number of puffs repeat two times every 5-10 minutes if distress continues
  - Consult medical control, PMD, or patient's physician for additional doses
- Consider acquiring EtCO2 numeric value only
- Initiate transport

EMT skills with PMD approval and competency training

- Consider advanced airway for persistent decrease mental status
- Consider 2.5 mg in 3 ml Albuterol nebulizer treatment repeat two times if symptoms do not improve OR patient's condition deteriorates
- Consider 0.5 – 2.5 mg per 3 ml (0.5 mg ipratropium bromide/3 mg albuterol sulfate) nebulizer DuoNeb may repeat
- Consider IV access
- Consider CPAP with inline 2.5 mg in 3 ml albuterol nebulizer treatment **see chart below for indications and contra-indications

AEMT

- Consider IO access if IV cannot be obtained

EMT-I

- Consider intubation for persistent decrease mental status
  - Consider ventilating in a nebulized bronchodilator
- Consider bronchodilator
- Initiate cardiac monitoring
- Consider EtCO2 monitoring

Paramedic

- Consider CPAP with inline nebulized bronchodilator
  - Consider minimal sedation
- Consider RSI
  - Consider ventilating in a nebulized bronchodilator

CPAP	
Indications	**Contra-Indications**

• Patient able to maintain own airway
• Patient able to follow at least simple commands
• Patient complains of shortness of breath-difficulty breathing
• Systolic BP at least 100
• Decreased /abnormal lung sounds
• Patient has signs of respiratory distress (not all must be present)
  ○ Able to speak only short phrases
  ○ Retractions
  ○ Tripod positioning
• Known or suspected cause of respiratory distress of
  ○ Pulmonary edema – congestive heart failure
  ○ Exacerbation of COPD
  ○ Exacerbations of asthma not relieved with bronchodilator medication
	• Patient under age 18
	• Patient unable to maintain own airway
	• Patient unable to follow simple commands – decreased LOC
	• Patient vomiting
	• Systolic BP under 90
	• Upper airway partial obstructions (croup-epiglottis-upper airway edema-partial FBAO)
	• Shortness of breath-difficulty breathing with a suspected/known cause of
	  ○ Pneumothorax
	  ○ Trauma
	  ○ Respiratory infection without pulmonary edema
	• Facial deformities in which a mask seal cannot be obtained

RESPIRATORY DISTRESS – SPONTANEOUS PNEUMOTHORAX (Revised 10/1/2020)

ALL LEVELS
- Routine assessment and care

EMR
- Administer oxygen
- Consider assisted ventilations
- Suction as needed
- Consider ALS

EMT
- Administer oxygen and adjust delivery device and LPM flow to achieve 94% or better O2 saturation
- Initiate transport

EMT skills with PMD approval and competency training
- Consider advanced airway for persistent decrease mental status
- Consider IV access

AEMT
- Consider IO access if IV cannot be obtained

EMT-I
- Consider needle decompression for signs and symptoms of tension pneumothorax
- Initiate cardiac monitoring

Paramedic
- Consider RSI

RESPIRATORY INFECTIONS (Revised 07/16/2021)

ALL LEVELS

- Routine assessment and care

EMR

- Administer oxygen
- Suction as needed
- Consider ALS

EMT

- Consider obtaining a body temperature
- Consider oxygen and adjust delivery device and LPM flow to achieve 94% or better O2 saturation
- Consider assisting patient with his/her prescribed metered dose inhaler for sign and symptoms of distress
  - Administer prescribed number of puffs repeat two times every 5-10 minutes if distress continues
  - Consult medical control, PMD, or patient's physician for additional doses
- Consider acquiring EtCO2 numeric value only
- Initiate transport

EMT skills with PMD approval and competency training

- Consider advanced airway for persistent decrease mental status
- Consider 2.5 mg in 3 ml Albuterol nebulizer treatment for sign and symptoms of distress
  - May repeat two times if symptoms do not improve OR patient's condition deteriorates
- Consider 0.5 – 2.5 mg per 3 ml (0.5 mg ipratropium bromide/3 mg albuterol sulfate) nebulizer DuoNeb
- Consider IV access

AEMT

- Consider IO access
  - If IV cannot be obtained, or;
  - If patient in respiratory distress

EMT-I

- Consider intubation for persistent decrease mental status
  - Consider ventilating in a nebulized bronchodilator
- Consider bronchodilator for respiratory distress
- Consider cardiac monitoring
- Consider EtCO2 Monitoring
- Consider 125 – 250 mg Methylprednisolone

Paramedic

- Consider RSI
  - Consider ventilating in a nebulized bronchodilator

RENAL DIALYSIS PATIENT (Revised 10/1/2020)

ALL LEVELS

- Routine assessment and care

EMR

- Consider oxygen
- Do not use same limb for BP measurement as active dialysis shunt
- Hemorrhage from shunt puncture site
  - Use direct pressure and pressure bandage
  - As last resort use a tourniquet
- Consider ALS

EMT

- Administer oxygen and adjust delivery device and LPM flow to achieve 94% or better O2 saturation
- Initiate transport

EMT skills with PMD approval and competency training

- Consider advanced airway for persistent decrease mental status
- Consider IV access – DO NOT ATTEMPT TO ACCESS SHUNT
  - Limit fluid administration rate

AEMT

- Consider IO access if IV cannot be obtained

EMT-I

- Consider intubation for persistent decrease mental status
- Initiate cardiac monitoring

Paramedic

- Consider Diagnostic ECG
- Evaluate Diagnostic ECG for tall spiked T waves indicating hyperkalemia
  - Consider calcium gluconate or calcium chloride
  - Consider continuous albuterol nebulizer treatments to total dose of 15 mg
- Consider 100 mg Thiamine for signs and symptoms of Wernicke's Syndrome

SEIZURE AND POSTICTAL PERIOD (Revised 10/1/2020)

ALL LEVELS

- Routine assessment and care

EMR

- Active seizure
  - Administer oxygen (blow by acceptable during seizure)
  - Protect patient – pads around patient
  - Do not restrain patient
  - Do not insert anything orally
- Postictal period
  - Consider oxygen
  - Consider assisted ventilations and oral airway for persistent decreased mental status
  - Suction as needed
- Assess for trauma and stroke
- Consider ALS

EMT

- Consider nasal airway for persistent decreased mental status
- Administer oxygen and adjust delivery device and LPM flow to achieve 94% or better O2 saturation
- Initiate transport

EMT skills with PMD approval and competency training

- Consider advanced airway for persistent decrease mental status
- Consider obtaining blood glucose
- Consider IV access

AEMT

- Consider IO access
  - If IV cannot be obtained, or;
  - If seizures reoccur
- Consider benzodiazepine for repeat or continued seizures (AEMT and Paramedic only)

EMT-I and Paramedic

- Consider cardiac monitoring
- Consider 2 – 4 mg Diazepam IV/IO
  - Repeat if needed to maximum of 10 mg
  - Contact medical control for additional doses
- Consider intubation for persistent decrease mental status

TOXINS – AUTO INJECTOR ANTIDOTE KITS (Revised 9/22/2022)

NERVE AGENT – ORGANOPHOSPHATE EXPOSURE

ALL LEVELS

- Routine assessment and care

EMR

- May administer auto injector antidote kits to a fellow responder or patients in mass numbers when higher level emergency care providers are overwhelmed.

EMT-I and Paramedic

- May administer the auto injector antidote kits

Adult Auto Injector Antidote Kit Dosing Chart			
Severity	**Mild Symptoms**	**Moderate Symptoms**	**Severe Symptoms**
Signs And Symptoms	• Pinpoint pupils (miosis) • Excessive sweating • Tearing (lacrimation) • Drooling (salivation) • Runny nose • Mild chest tightness • Mild shortness of breath	• Severe chest tightness • Wheezing • Profuse airway secretions • Respiratory distress • Vomiting, abdominal cramps • Diarrhea • Muscle weakness	• Cyanosis • Seizures • Coma • Flaccid paralysis • Respiratory failure • Apnea
Treatment	**Evacuate To A Safe Area** **Administer** • One Each – Atropine and Pralidoxime (Mark I) **OR** • One – Atropine/Pralidoxime (DouDote)	**Do Not Delay** **Administer** • Two Each – Atropine and Pralidoxime (Mark I) **OR** • Two – Atropine/Pralidoxime (DouDote)	**Do Not Delay** **Administer** • Three Each – Atropine and Pralidoxime (Mark I) **OR** • Three – Atropine/Pralidoxime (DouDote)

TOXINS – INHALED (Revised 10/1/2020)

ALL LEVELS

- Routine assessment and care

EMR

- Assess for trauma
- Administer high flow oxygen
- Consider assisted ventilations
- Consider oral airway
- Suction as needed
- Consider ALS

EMT

- Consider nasal airway
- Assess CO level by non-invasive monitor
  - If elevated administer high flow oxygen
  - If within normal values administer oxygen and adjust delivery device and LPM flow to achieve 94% or better O2 saturation
- If non-invasive CO monitoring not available
  - Administer high flow oxygen
- Consider assisting patient with his/her prescribed metered dose inhaler
  - Administer prescribed number of puffs repeat
    - May repeat in 10 minutes if distress continues
    - Total repeat doses is two
  - Consult medical control, PMD, or patient's physician for additional doses
- Consider acquiring EtCO2 numeric value only
- Initiate transport

EMT skills with PMD approval and competency training

- Consider advanced airway for persistent decrease mental status
- Consider 2.5 mg in 3 ml Albuterol nebulizer treatment
  - May repeat two times if symptoms do not improve OR patient's condition deteriorates
- Consider IV access

AEMT

- Consider IO access if IV cannot be obtained

EMT-I

- Consider intubation for persistent decrease mental status
  - Consider ventilating in a nebulized bronchodilator
- Consider nebulized bronchodilator
- Initiate cardiac monitoring
- Consider EtCO2 monitoring

Paramedic

- Consider RSI
  - Consider ventilating in a nebulized bronchodilator

TOXINS – OVERDOSE (Revised 10/1/2020)

ALL LEVELS
- Routine assessment and care

EMR
- Consider oxygen
- Consider assisted ventilations
- Consider oral airway
- Obtain name of medication/drug
  - **See Next Page for Additional Information**
- Consider ALS

EMT
- Consider nasal airway
- Consider oxygen and adjust delivery device and LPM flow to achieve 94% or better O2 saturation
- Consider contacting destination facility via radio/phone with name of medication/drug
- Consider contacting poison control
- Initiate transport

EMT skills with PMD approval and competency training
- Consider advanced airway for persistent decrease mental status
- Consider IV access

AEMT
- Consider IO access if IV cannot be obtained

EMT-I
- Consider intubation for persistent decrease mental status
- Consider cardiac monitoring

SPECIAL INSTRUCTIONS FOR SPECIFIC TOXINS (Revised 9/22/2022)

IF LEVEL NOT LISTED USE THE TOXIN – OVERDOSE PROTOCOL ABOVE

STIMULANTS – COCAINE – METHAMPHETAMINE – ECSTASY

EMR
- Obtain temperature
- If temperature is over 102°F and infection not suspected, consider passive cooling

EMT skills with PMD approval and competency training and AEMT
- Consider fluid boluses for elevated temps and signs and symptoms of dehydration

AEMT
- For patients that present awake, alert with severe anxiousness/anxiety and/or hallucinations
  - Consider Benzodiazepine (AEMT and Paramedic only)

EMT-I
- For patients that present awake, alert with severe anxiousness/anxiety and/or hallucinations
  - Consider 2 – 4 mg Diazepam IV/IO

NARCOTICS – OPIATES – BARBITUATES

ALL LEVELS
- Routine assessment and care

EMR
- Consider 0.4 to 4 mg Naloxone IM auto-injector/INTRANASAL for suspected or known narcotic overdose, or IM/IV/IO/INTRANASAL for AEMT and above
    - If symptoms of narcotic overdose reoccur after initial response to Naloxone, re-administer dose

EMT
- Consider diagnostic ECG acquisition and transmission

EMT skills with PMD approval and competency training and AEMT
- Consider advanced airway if Naloxone fails to improve respiratory status
- Consider IV access

EMT-I and Paramedic
- Consider intubation if Naloxone fails to improve respiratory status

TRICYCLIC ANTIDEPRESSANT

ALL LEVELS
- Routine assessment and care

Paramedic
- For patients that present or develop decreased mental status, hypotension and widen QRS
    - Consider 50 mEq 8.4% Sodium Bicarbonate
    - Consider vasopressor agent

CALCIUM CHANNEL BLOCKER

ALL LEVELS
- Routine assessment and care

Paramedic
- For known calcium channel blocker overdose and patients that present or develop decreased mental status and hypotension
    - Consider 5 ml of 10% Calcium Chloride IV/IO over 2-5 Minutes
    - **OR** 15 ml of 10% Calcium Gluconate IV/IO over 2-5 Minutes
    - Consider vasopressor agent
- *****Avoid Calcium Chloride and Calcium Gluconate when calcium channel blocker overdose can NOT be confirmed OR in mixed overdose situations**

TOXINS – POISONS (Revised 10/1/2020)

ALL LEVELS

- Routine assessment and care
- Call for special resources to remove patient from hot zone if needed

EMR

- Consider oxygen
- Decontaminate patient if needed – call for special HAZMAT if needed
  - Dry chemicals brush then flush from skin
  - Wet chemical flush with water
- Obtain name of toxin and route(s) of exposure
- Unless directed by medical control or poison control do not induce/encourage vomiting
- Consider ALS

EMT

- Consider contacting destination facility via radio/phone with name of toxin
- Consider contacting poison control
- Initiate transport

EMT skills with PMD approval and competency training

- Consider IV access
- Consider advanced airway for persistent decrease mental status

AEMT

- Consider IO access if IV cannot be obtained

EMT-I

- Consider cardiac monitoring
- Consider intubation for persistent decrease mental status

SPECIAL INSTUCTIONS FOR SPECFIC POISONS (Revised 12/7/2012)

ORGANOPHOSPHATES

EMR – EMT – AEMT

- See above

EMT-I

- Consider Atropine 1 mg IV/IO repeat until symptoms improve

Paramedic

- Consider 600 mg to 1200 mg Pralidoxime over 5 minutes IV/IO or infusion over 15 – 30 minutes

CYANIDE POISONING

EMR-EMT-AEMT-EMT-I

- See above

Paramedic

- Consider 5 g Hydroxocobalamin in 200 mL NS (recommended), LR or D5 over 15 minutes

SHOCK (Revised 10/1/2020)

ALL LEVELS

- Routine assessment and care
- Consider pain management **See Pain Management Protocol

EMR

- Administer oxygen
- Consider assisted ventilations
- Consider oral airway
- Assess for trauma
  - Control external hemorrhage
  - Manually stabilize c-spine and extremity deformities
- Assess for dehydration
- Assess for potential of allergic reaction ****go to Allergic reaction anaphylaxis protocol**
- Position supine unless respiratory status does not allow for this
- Conserve body heat
- Consider ALS

EMT

- Consider nasal airway
- Administer oxygen and adjust delivery device and LPM flow to achieve 94% or better O2 saturation
- Obtain temperature and if fever present in absence of trauma consider dehydration/sepsis
- Initiate transport

EMT skills with PMD approval and competency training

- Consider advanced airway for persistent decrease mental status
- Consider IV access
- Consider fluid boluses 250ml to 500ml then reassess

AEMT

- Consider IO access if IV cannot be obtained
- Consider ondansetron (Zofran) anti-emetic (AEMT and Paramedic only)

EMT-I

- Consider intubation for persistent decrease mental status
- Initiate cardiac monitoring
- Assess for potential of cardiogenic shock

Paramedic

- Assess for type of shock
- General considerations for shock
  - When considering anti-emetic choose an agent with the least cardiac effects
  - When considering pain management choose an agent with least effect on BP
- Shock types and considerations

Hypovolemic	Cardiogenic	Obstructive Shock	Distributive

Consider 250 to 500ml fluid boluses with frequent reassessments	• Consider fluid bolus
	• Consider vasopressor agent
	• Manage dysrhythmias
		• Assess for tension pneumothorax – treat with needle decompression
		• Assess for cardiac tamponade – alert destination facility
			• Anaphylaxis – **go to allergic reaction anaphylaxis protocol**
			• Neurogenic (spine) shock – fluid boluses
			• Sepsis
			  ○ Consider fluid boluses
			  ○ Consider vasopressor agents

Adult Trauma Protocols

TRAUMA SYSTEM (Revised 12/7/2012)

The goal of the TRAUMA SYSTEM is to get the injured patient to the most appropriate facility by the most appropriate means in a timely manner. EMS should consult with Medical Control/Local Hospital if any patient meets trauma system guidelines so the patient is transported to the most appropriate facility. In some cases, the patient may bypass a local hospital or stop only to be stabilized by the local hospital then transferred on to a regional trauma center.

The Nebraska Trauma System is divided into geographic regions each with its own regional advisory board. Each region and specifically designate trauma centers may have additional trauma system activation guidelines. This protocol presents a general overview for the ECP.

GENERAL TRAUMA SYSTEM (TRAUMA TEAM) GUIDELINES:

1. Considerations for trauma system activation
    - Vitals and LOC
        - Adult heart rate >130
        - Adult systolic BP <85
        - Adult respiratory rate <10 or >29
        - ****see Pediatric vital signs and ventilation guidelines**
        - Altered mental status
    - Anatomy of injury
        - Penetrating trauma to head, neck, torso, groin
        - Combinations of burns >20% or face/airway burns
        - Amputation at or above wrist/ankle
        - Spinal cord injury
        - Flail chest
        - Two or more proximal long bone injuries
    - Biomechanics of injury
        - Ejected from vehicle
        - Auto vs. Pedestrian/bicycle >5 mph
        - Motorcycle/ ATV crash
        - Pedestrian thrown or run over
    - Other risk factors
        - Provider impression of unstable patient
        - Extreme(s)
        - Age (<2 >60)
        - Environment (heat/cold)
        - Health/illness (pregnancy, COPD, CHF, Diabetes)
        - Exposure to hazardous materials
    - High energy transfer
        - Rollover
        - Fall >10 feet
        - Extrications > 20 minutes
    - Burn injury
        - 2nd and 3rd degree burns of face, hands, feet, perineum
        - Significant electrical burns
        - Inhalation injury

2. Procedure:
    - Consult with medical control and/or local hospital
    - Request trauma system (trauma team) activation
    - Call for ALS intercept – if available

TRAUMA CARE HEAD – CHEST – ABDOMEN (Revised 3/9/2022)

ALL LEVELS

- Adult routine assessment and care
- Assess for shock and treat
- Consider pain management **See Pain Management Protocol

<table>
<tr><th></th><th>Head/Neck/Spine</th><th>Chest</th><th>Abdomen</th></tr>
<tr><td rowspan="3">EMR</td><td colspan="3">Administer oxygen
Consider assisted ventilations
Consider oral airway
Consider OPQRST pneumonic for assessment of pain
Suction as needed
Manually stabilize head and neck
Control external bleeding
Stabilize impaled objects in place
Assess CMS
Consider trauma team – trauma system activation</td></tr>
<tr><td colspan="3">May control external bleeding with the use of hemostatic agents or junctional tourniquets with physician medical director approval and direction.</td></tr>
<tr><td>Open trauma
*bandage or pack open wounds including with quick clotting bandaging
*consider occlusive dressing for open neck wounds
Closed trauma
*consider cold pack to areas of edema</td><td>Open chest trauma – sucking chest wound
*seal wound with occlusive dressing
Closed chest trauma
*consider stabilizing flail sections with bulky dressings</td><td>Open abdominal trauma – eviscerations
*do not attempt to replace contents
*place contents on top of abdomen
*cover with thick moist dressing
Closed abdominal trauma
*attempt to localize pain to an abdominal region/quadrant</td></tr>
<tr><td rowspan="2">EMT</td><td>Defer Nasal Airways</td><td>May Consider Nasal Airway</td><td>May Consider Nasal Airway</td></tr>
<tr><td colspan="3">Consider oxygen and adjust delivery device and LPM flow to achieve 94% or better O2 saturation
For signs and symptoms of ICP and GCS of 6 and under – consider hyperventilation of patient
Initiate transport</td></tr>
<tr><td>EMT skills with PMD approval and competency training</td><td colspan="3">Consider advanced airway for persistent decrease mental status
Consider IV access
Assess for shock and administer appropriate fluid boluses</td></tr>
<tr><td>AEMT</td><td colspan="3">Consider IO access as first access route in unstable pediatric patients
Assess for shock and administer appropriate fluid boluses
Consider Morphine 2 – 4 mg IV/IO/INTRANASAL</td></tr>
<tr><td>EMT-I</td><td>*Consider cardiac monitoring</td><td>*Initiate cardiac monitoring
*needle decompress patient with sign and symptoms of tension pneumothorax</td><td>*Consider cardiac monitoring</td></tr>
<tr><td>Paramedic</td><td>Consider RSI
Consider administration of TXA **See TXA Administration protocol Pg 146</td><td colspan="2">Defer insertion of NG tube – use OG tube in suspected head injury
Defer insertion of NG AND OG tube in any patients with gastric bypass or gastric banding
Consider 100 mg Thiamine IV/IO for patients with gastric bypass or gastric banding</td></tr>
<tr><td colspan="4">*special consideration for extremity injuries in multi-systems trauma
Consider utilizing a full body stabilization device and splint injured extremities to the device and/or patient to allow for rapid scene time and then splint extremities in route to destination
Stabilization of suspected pelvic and femur fractures is a high priority</td></tr>
</table>

AMPUTATIONS – EXTREMITY – SOFT TISSUE TRAUMA (Revised 10/1/2020)

ALL LEVELS

- Adult routine assessment and care
- Assess for shock and treat
- Consider pain management **See Pain Management Protocol

	Amputations	Extremity	Soft Tissue
EMR	Administer oxygen Consider assisted ventilations Consider oral airway Consider OPQRST pneumonic for assessment of pain Suction as needed Manually stabilize head and neck Control external bleeding Stabilize impaled objects in place Assess CMS Consider trauma team activation		
	May control external bleeding with the use of junctional tourniquets with Physician Medical Director approval and direction		
	• *Wrap amputated part in dressing and keep cool • *Do not place tissue directly on ice	• *Manually stabilize painful and/or deformed extremity • *Apply cold pack to extremity	• *Return Avulsion type flaps to anatomic position if possible. • *Bandage open wounds • Consider removing impaled objects through the cheek into the mouth • *For eye injuries – cover both eyes
EMT	Consider oxygen and adjust delivery device and LPM flow to achieve 94% or better O2 saturation initiate transport		
EMT skills with PMD approval and competency training	Consider advanced airway for persistent decrease mental status Consider IV access Assess for shock and administer appropriate fluid boluses		
AEMT	Consider IO access as first access route in unstable pediatric patients Assess for shock and administer appropriate fluid boluses Consider Morphine 2 – 4 mg IV/IO/INTRANASAL		
EMT-I	*Consider cardiac monitoring	*Consider cardiac monitoring	*Consider cardiac monitoring
Paramedic	Consider RSI Consider administration of TXA **See TXA Administration protocol Pg 146 Consider reduction of deformed fractures or dislocations **only** if there is loss of signs of circulation, loss of sensation distal to the deformity, OR if it is necessary in order to otherwise care for and transport the patient *For stable patients, consider on-scene pain management to ease pain of movement/splinting Defer insertion of NG and OG tube in any patient with gastric bypass or gastric banding Consider 100 mg thiamine IV/IO for patients with gastric bypass or gastric banding		

***Special consideration for extremity injuries in multi-systems trauma**

- Consider utilizing a full body stabilization device and splint injured extremities to the device and/or patient to allow for rapid scene time and then splint extremities in route to destination
- Stabilization of suspected pelvic and femur fractures is a high priority

SPINAL STABILIZATION (Revised 1/2/2020)

ALL LEVELS

- See adult assessment model
- See general management of the trauma patient appropriate to level of provider
- EMT and EMR specific assessment and care
    - Obtain GCS score
    - Consider OPQRST pneumonic
- Assess for location, type and duration of pain
- Assess circulation sensation and movement in extremities
    - Manually stabilize head/neck
    - Control external bleeding
        - Control external bleeding with direct pressure, pressure bandage, pressure points and/or tourniquet
        - May control external bleeding with the use of hemostatic agents or junctional tourniquets with physician medical director approval and direction.
    - Stabilize impaled objects
    - Reassess circulation sensation and movement distal to injury
    - For inadequate breathing ventilate patient at 10 to 12 times a minute
- Avoid hyperventilating patient unless patient has:
    - GCS of eye opening 1 – verbal 2 or less – motor 2 or less, AND;
    - Serial increases in BP, AND;
    - Serial decreases in pulse, AND;
    - Erratic respiratory pattern
- Prepare for transport
- If BLS service, consider ALS

EMT, AEMT, EMT-I, and Paramedic

- Consider spinal stabilization

Appropriate patients to be stabilized with a backboard may include those with:

- Blunt trauma and altered level of consciousness
- Spinal pain or tenderness
- Neurologic complain (e.g., numbness or motor weakness)
- Anatomic deformity of the spine
- High-energy mechanism of injury and any of the following:
    - Suspected drug or alcohol intoxication
    - Inability to communicate
    - Distracting injury

Patients for whom stabilization on a backboard is not necessary include those with all of the following:

- Normal level of consciousness (Glasgow Coma Score [GCS] 15)
- No spine tenderness or anatomic abnormality
- No neurologic findings or complaints
- No distracting injury
- No suspected drug or alcohol intoxication

Patients with penetrating trauma to the head, neck, or torso and no evidence of spinal injury should not be stabilized on a backboard.

If extrication is required from a vehicle:

- After placing a cervical collar, if indicated, children in a booster seat and adults should be allowed to self-extricate.
- For infants already strapped in a car seat with built-in harness, extricate the child while strapped in his/her car seat.

Spinal precautions can be maintained by application of a rigid cervical collar and securing the patient firmly to the EMS stretcher, and may be most appropriate for:

- Patients who are found to be ambulatory at the scene
- Patients who must be transported for a protracted time, particularly prior to inter-facility transfer
- Patients for whom a backboard is not otherwise indicated

Whether or not a backboard is used, attention to spinal precautions among at-risk patients is paramount. These include application of a cervical collar, adequate security to a stretcher, minimal movement/transfers, and maintenance of in-line stabilization during any necessary movement/transfers.

In situations when utilization of a backboard is indicated:

- Assess circulation sensation and movement distal in extremities
- Select appropriate sized cervical collar and place on patient
- Select and apply spinal stabilization device
- Reassess circulation sensation and movement distal in extremities
    - Consider extremity stabilization

BITES AND ENVENOMATION (Revised 10/1/2020)

ALL LEVELS

- Routine assessment and care
- Assess for shock and treat
- Consider pain management **See Pain Management Protocol

EMR

- Consider oxygen
- Consider OPQRST for assessment of pain
- Control any external bleeding
- Consider manual stabilization of affected extremity
- Human bites and animal bites
  - Bandage wound
- Snake bite
  - Attempt to identify breed of snake
  - Slow venous return
- Insect bites
  - Remove stinger/venom sac
- Spider bites
  - Consider cold pack
- Assess for allergic reaction go to allergic reaction – **See Anaphylaxis Protocol
- Consider ALS

EMT

- Consider oxygen and adjust delivery device and LPM flow to achieve 94% or better O2 saturation
- Initiate transport

EMT skills with PMD approval and competency training

- Consider IV access
  - **Minor bites without associated sign and symptoms, IV should be deferred

AEMT

- Consider IV access for pain management
- Consider IO access if IV cannot be obtained
- Consider 2 – 4mg Morphine IV/IO

EMT-I

- Consider cardiac monitoring

Paramedic

- Consider pain management

BURNS (Revised 10/1/2020)

ALL LEVELS

- Routine assessment and care
- Assess for shock and treat
- Consider pain management **See Pain Management Protocol

Burn Type and Treatment Chart

Thermal Burns	Electrical Burns	Radiation Burns	Chemical Burns
THINK SAFETY Remember scene safety and appropriate PPE			
Stop burning process	Verify the electrical source is de-energized	Patient and radiation source need to be separated	• Brush dry chemicals from skin – flush with water • Wet chemicals flush with water
Do Not Apply Any Ointments or Creams			
Do not intentionally rupture blisters	Assess for entrance and exit wounds	Decontaminate patient prior to transport	Decontaminate patient prior to transport
Cover burns/wounds with dry dressings			Wrap patient with dry sheet

EMR

- Administer oxygen
- Consider assisted ventilations
- Consider oral airway
- Consider OPQRST for assessment of pain
- Consider manually stabilize head/neck
- Estimate body surface area burned and extend of burn
- Consider trauma system activation
- Consider ALS

EMT

- Defer nasal airway in facial burns and inhalation of super-heated air
- Administer oxygen and adjust delivery device and LPM flow to achieve 94% or better O2 saturation
- Initiate transport

EMT skills with PMD approval and competency training

- Consider advanced airway for persistent decrease mental status
- Consider IV access

Parkland Formula for Fluid Resuscitation in Thermal Burn Patients

4 ml **X** body surface area burned **X** patient weight in kg = total fluid over 24 hours
Half given in 1st eight hours

AEMT

- Consider IO access if IV cannot be obtained
- Consider 2 – 4mg Morphine IV/IO

EMT-I

- Consider intubation for persistent decrease mental status
- Initiate cardiac monitor for all electrical burns – consider for all other burns

Paramedic

- Consider RSI for burns to airway – inhaled superheated gases – inhaled chemicals
- Consider pain management

CRUSH INJURY (Revised 10/1/2020)

All Levels

- Routine assessment and care
- Assess for shock and treat
- Initiate transport
- Consider pain management **See Pain Management Protocol

EMR

- Administer oxygen
- Manually stabilize head/neck
- Consider oral airway
- Consider assisted ventilations
- Consider OPQRST for assessment of pain
- Control external bleeding
  - Control external bleeding with direct pressure, pressure bandage, pressure points and/or tourniquet
  - May control external bleeding with the use of hemostatic agents or junctional tourniquets with physician medical director approval and direction.
- Consider trauma system activation
- Consider ALS

EMT

- Consider nasal airway
- Administer oxygen and adjust delivery device and LPM flow to achieve 94% or better O2 saturation

EMT skills with PMD approval and competency training

- Consider advanced airway for persistent decrease mental status
- Pre – release
  - Consider two large bore IV access sites
  - Administer fluid bolus(es) to maintain 90 systolic BP
- Release – during process to free patient
  - Administer fluid bolus(es) to maintain 90 systolic BP
- Post release
  - Administer fluid bolus(es) to maintain 90 systolic BP

AEMT

- Consider single IO access if unable to obtain IV access
- Consider 2 – 4mg Morphine if BP stabilizes above 100 systolic

EMT-I

- Consider intubation for persistent decrease mental status
- Initiate cardiac monitoring

Paramedic

- Consider RSI
- Pre – release
  - For entrapment over 60 minutes **and** systolic BP 90mmHg or greater
    - Consider adding 50mEq Sodium Bicarbonate to 1000 ml NS infuse bolus 500 ml then remain 500 ml over 30 minutes
- Release – during process to free patient
  - Administer fluid bolus(es) to maintain 90 systolic BP
- Consider diagnostic mode 3 lead or Diagnostic ECG and evaluate for tall spiked T waves indicating hyperkalemia
  - Consider Calcium Gluconate or Calcium Chloride
  - Consider continuous Albuterol nebulizer treatments to total dose 15mg
- Consider administration of TXA **See TXA Administration protocol Pg 146

ENVIRONMENTAL TRAUMA – EXPOSURE TO HEAT AND COLD (Revised 10/1/2020)

ALL LEVELS

- Routine assessment and care
- Assess for shock and treat
- Consider pain management **See Pain Management Protocol

EMR

- Administer oxygen
- Manually stabilize head/neck
- Consider assisted ventilations
- Consider OPQRST for assessment of pain
- Exposure to cold – hypothermia
  - Gently move patient to warm area if no spinal injury suspected
  - Remove wet clothing
  - Frozen/ near frozen extremities
    - Expose to warm surroundings
    - Consider dry dressing to pad
  - Body wide hypothermia
    - Passively warm patients with warm packs and blankets
- Exposure to heat
  - Gently move patient to cool area if no spinal injury suspected
  - Remove excessive clothing
  - Normal mental status and perspiration intact
    - Passive cool patient with fanning and cool dressing
  - Decrease mental status and/or no perspiration
    - Aggressive cooling with wet sheet, fanning and cold packs
- Consider trauma system activation
- Consider ALS

EMT

- Consider nasal airway
- Administer oxygen and adjust delivery device and LPM flow to achieve 94% or better O2 saturation
- Initiate transport

EMT skills with PMD approval and competency training

- Consider advanced airway for persistent decrease mental status
- Consider IV access

AEMT

- Consider IO access if IV cannot be obtained

EMT-I

- Consider intubation for persistent decrease mental status
- Initiate cardiac monitoring

Paramedic

- Consider RSI
- When passive warming frozen extremities consider pain management

SCUBA DIVING – DECOMPRESSION "THE BENDS" TRAUMA (Revised 10/1/2020)

ALL LEVELS

- Routine assessment and care
- Assess for shock and treat
- Consider pain management **See Pain Management Protocol

EMR

- Administer high flow oxygen
- Monitor mental status – track/document AVPU and GCS
- Consider OPQRST for assessment of pain
- Assess and monitor CMS
- Assess dive history
  - Time of dive
  - Length of time of dive
  - Depth
  - Any problems with dive
- Consider ALS

EMT

- Administer oxygen and adjust delivery device and LPM flow to achieve 94% or better O2 saturation
- Initiate transport

EMT skills with PMD approval and competency training

- Consider IV access

AEMT

- Consider IO access if IV cannot be obtained
- Consider 2 – 4mg Morphine IV/IO

EMT-I

- Consider cardiac monitoring

Paramedic

- Consider pain management

SEXUAL ASSAULT (Revised 10/1/2020)

ALL LEVELS

- Routine assessment and care
- Assess for shock and treat
- Consider pain management **See Pain Management Protocol

EMR

- Consider oxygen
- Consider OPQRST for assessment of pain
- Manage open wounds
- Stabilize impaled objects in place
- Encourage patient not to wash or shower
- Consider trauma system activation
- If possible have EMS provider of same sex as patient provide assessment and treatment
- Consider ALS

EMT

- Consider oxygen and adjust delivery device and LPM flow to achieve 94% or better O2 saturation
- Initiate transport

EMT skills with PMD approval and competency training

- Consider IV access
- Consider advanced airway for persistent decrease mental status

AEMT

- Consider IO access if IV cannot be obtained
- Consider 2 – 4 mg Morphine IV/IO

EMT-I

- Consider cardiac monitoring

Paramedic

- Consider pain management

TRAUMA DURING PREGNANCY (Revised 10/1/2020)

ALL LEVELS

- Routine assessment and care
- Assess for shock and treat
- Consider pain management **See Pain Management Protocol

EMR

- Consider oxygen
- Consider assisted ventilations
- Manually stabilize head/neck
- Monitor mental status – track/document AVPU and GCS
- Consider OPQRST for assessment of pain
- Stabilize impaled objects in place
- Assess and monitor CMS
- Position patient on left side or sitting position
- Consider trauma system activation
- Consider ALS

EMT

- Administer oxygen and adjust delivery device and LPM flow to achieve 94% or better O2 saturation
- Initiate transport

EMT skills with PMD approval and competency training

- Consider advanced airway for persistent decrease mental status
- Consider IV access

AEMT

- Consider IO access if IV cannot be obtained

EMT-I

- Consider intubation for persistent decrease mental status
- Consider cardiac monitoring

Paramedic

- Consider pain management

OB/Gynecological Protocols

GYNECOLOGICAL PAIN – VAGINAL BLEEDING (Revised 7/16/2021)

ALL LEVELS

- Routine assessment and care
- Consider pain management **See Pain Management Protocol

EMR

- Consider oxygen
- Additional assessment concerns
  - Localize pain to abdominal quadrant if possible
  - Assess for trauma
  - Obtain bowel and bladder habits
  - Obtain menstrual cycle history
  - Obtain gynecological history
  - Consider ectopic pregnancy
- Allow patient to assume a position of comfort
- Consider ALS

EMT

- Consider oxygen and adjust delivery device and LPM flow to achieve 94% or better O2 saturation
- Transport patient in position of comfort if safe to do so

EMT skills with PMD approval and competency training

- Consider advanced airway for persistent decreased LOC
- Consider IV access

AEMT

- Consider 2 – 4 mg Morphine IV/IO/IM/INTRANASAL
- Consider 25-100 mcg Fentanyl IV/IO/IM/INTRANASAL

EMT-I

- Consider cardiac monitoring

Paramedic

- Consider pain management

COMPLICATIONS DURING PREGNANCY (Revised 10/1/2020)

ALL LEVELS

- Routine assessment and care

EMR

- Administer oxygen
- Obtain bowel and bladder habits
- Obtain pregnancy history
- Complications
  - Seizures (eclampsia) – protect patient – call for ALS
  - Hypertension possible (pre-eclampsia) – monitor vitals – reduce stimuli
  - Hypotension – place patient on left side
  - Hypoglycemia/Hyperglycemia – **See hypoglycemia or hyperglycemia protocol**
  - Miscarriage – monitor for shock – may place OB pad over genitals
- Allow patient to assume a position of comfort
- Consider ALS

EMT

- Administer oxygen and adjust delivery device and LPM flow to achieve 94% or better O2 saturation
- Initiate transport

EMT skills with PMD approval and competency training

- Consider advanced airway for persistent decreased LOC
- Obtain blood glucose reading
- Consider IV access

AEMT

- Consider IO access if IV access cannot be obtain
- Complications
  - Hypoglycemia – **See Hypoglycemia or Hyperglycemia Protocol**

EMT-I

- Initiate cardiac monitoring

Paramedic

- Complications
  - Pre-eclampsia – hypertension
    - Consider 1 – 2 grams Magnesium Sulfate diluted in 25 to 250ml infused slowly
    - If SBP > 160 mmHg or DBP is > 110 mmHg, consider:
      - Labetalol 10-20 mg slow IV push (over 2 min). May repeat every 10 min with additional doses of 40 mg then 80 mg to a max dose of 300 mg until DBP <100.
      - If BP is responsive consider labetalol drip at 2 - 8 mg/min administered by mechanical infusion pump
      - If BP is not responsive to Labetalol then consider administration of Hydralazine 5 mg IV repeated as needed every 20 min at a dose of 5 – 10 mg IV to a total dose of 40 mg.
      - Monitor patient for sudden decreases in blood pressure. To avoid sudden reduction in perfusion to the placenta, diastolic blood pressure should not be reduced to < 100 mmHg.
  - Eclampsia– seizures
    - Consider 2 – 4 grams Magnesium Sulfate diluted in 25 to 250ml infused slowly;
    - Contact medical control or PMD for additional doses beyond max doses
    - If somnolence, muscular paralysis, or respiratory depression occurs, discontinue Magnesium Sulfate infusion and consider Calcium Gluconate 1 g of 10% solution over 1 – 2 min. If Calcium Gluconate is not available, consider Calcium Chloride 500 mg slow IV injection (not to exceed 1 ml/min).
    - Refer to seizure protocol

LABOR (Revised 10/1/2020)

ALL LEVELS

- Routine assessment and care

EMR

- Consider oxygen
- Obtain pregnancy status
  - Known complications
  - Due date
  - Number previous pregnancies
  - Number of previous live births
  - Has amniotic fluid passed (water broke)
- Time contractions
- Prepare for field delivery if
  - Contraction are regular and 2 minutes or sooner together
  - Patient has urge to push
  - Exam genital region for bulging
- Do not perform vaginal exam
- Consider ALS

EMT

- Consider oxygen and adjust delivery device and LPM flow to achieve 94% or better O2 saturation
- Initiate transport

EMT skills with PMD approval and competency training and AEMT

- Consider IV access

EMT-I and Paramedic

- Consider cardiac monitoring

DELIVERY – UNCOMPLICATED (Revised 10/1/2020)

ALL LEVELS

- Routine assessment and care
- For complicated deliveries (breech, limb presentation or prolapsed umbilical cord) see **Delivery Complicated Protocol**

EMR

- Consider oxygen
- Obtain pregnancy status
  - Known complications
  - Due date
  - Number previous pregnancies
  - Number of previous live births
  - Has amniotic fluid passed (water broke)
- Time contractions
- Do not perform vaginal exam
- Obtain field delivery kit (OB kit)
- Uncomplicated delivery
  - Provide gentle pressure/ support as head emerges
  - Suction nose and mouth with bulb syringe as head emerges – assess for meconium staining
  - Examine for cord around neck and free if needed
  - Allow infant's head/shoulders to turn
  - Support infant throughout rest of birth
  - Suction nose and mouth
  - See neonatal care protocol for care of infant
- Reassess mother
  - Prepare for delivery of placenta
- Consider ALS

EMT

- Consider oxygen and adjust delivery device and LPM flow to achieve 94% or better O2 saturation
- Initiate transport

EMT skills with PMD approval and competency training and AEMT

- Consider IV access

EMT-I and Paramedic

- Consider cardiac monitoring

DELIVERY – COMPLICATED (Revised 10/1/2020)

ALL LEVELS

- Routine assessment and care

EMR

- Consider oxygen
- Obtain pregnancy status
  - Known complications
  - Due date
  - Number previous pregnancies
  - Number of previous live births
  - Has amniotic fluid passed (water broke)
- Time contractions
- Do not perform vaginal exam
- Obtain field delivery kit (OB kit)
- Consider positioning patient in head down buttocks up position
- Encourage patient to breathe through contractions
- Consider ALS

EMT

- Consider oxygen and adjust delivery device and LPM flow to achieve 94% or better O2 saturation
- Breech birth
  - Support buttocks and body as it emerges
  - Create airway – two fingers inserted vaginally making a V shape and pushing vaginal wall from nose/mouth
  - Examine for cord around neck and free if needed
  - Suction nose and mouth with bulb syringe as head emerges – assess form meconium staining
  - If labor stalls – head does not deliver insert two fingers vaginally create V in birth canal around infant's nose/mouth – suction if possible
- Limb presentation
  - Position patient in head down buttocks up position
  - Encourage patient to breathe through contractions
- Prolapsed umbilical cord
  - Position patient in head down buttocks up position
  - Insert two or three fingers vaginally provide gentle pressure against infant's head
  - Wrap cord with moist dressing
  - Encourage patient to breathe through contractions
- Initiate transport

EMT skills with PMD approval and competency training and AEMT

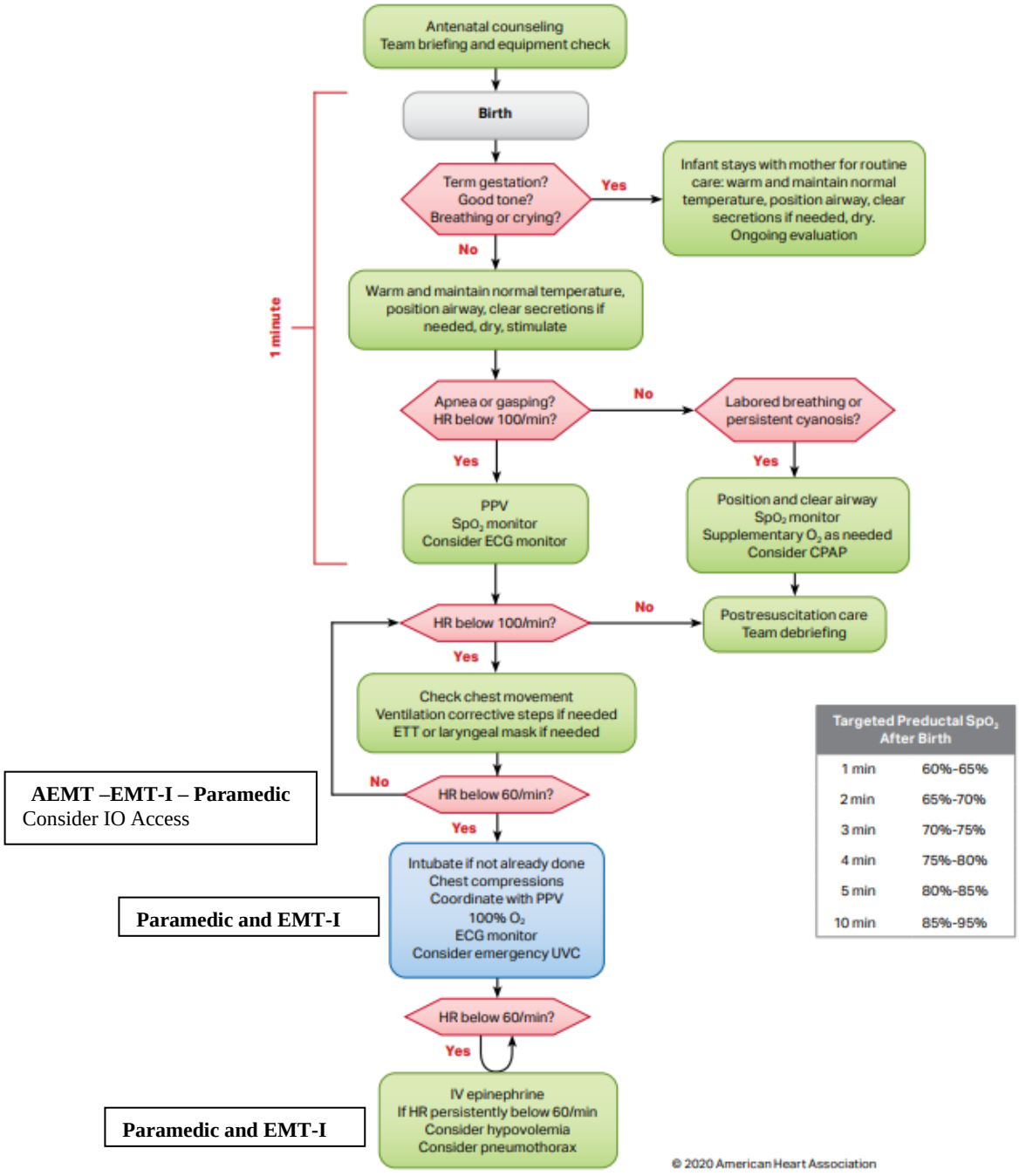
- Consider IV access on mother

EMT-I and Paramedic

- Consider cardiac monitoring

NEW BORN (NEONATAL) CARE (Revised 8/27/2021)

Neonatal Resuscitation Algorithm



APGAR Scale – Score New Born at 1 Minute and 5 Minutes After Birth			
	0 Points	**1 Point**	**2 Points**
Heart Rate	Absent	<100	>100
Respiratory Effort	Absent	Slow Irregular	Strong Cry
Muscle Tone	Flaccid	Some Flexion	Active Motion
Irritability	No Response	Some	Vigorous
Color	Blue/Pale Centrally	Body Pink – Extremity Blue/Pale	Fully Pink

Pediatric General Principals

PROTOCOLS (Revised 12/7/2012)

A copy of these protocols should be carried on each ambulance/first responder unit and be in a location that the care provider has access to them.

PEDIATRIC REFERENCE AND RESUSCITATION TAPE (Revised 12/7/2012)

It is the recommendation of these protocols that each ambulance or first responder unit should have available pediatric specific reference(s) and/or resuscitation tape carried on the unit preferably in a pediatric dedicated response kit/bag.
Examples;

- EMS field guide/ handbook with pediatric specific section
- Pediatric charts – graphs
- Broselow tape

RECOMMENDATIONS FOR PEDIATRIC EQUIPMENT (Revised 7/7/2016)

It is the recommendation of these protocols that each ambulance or first responder unit should have available pediatric specific equipment.

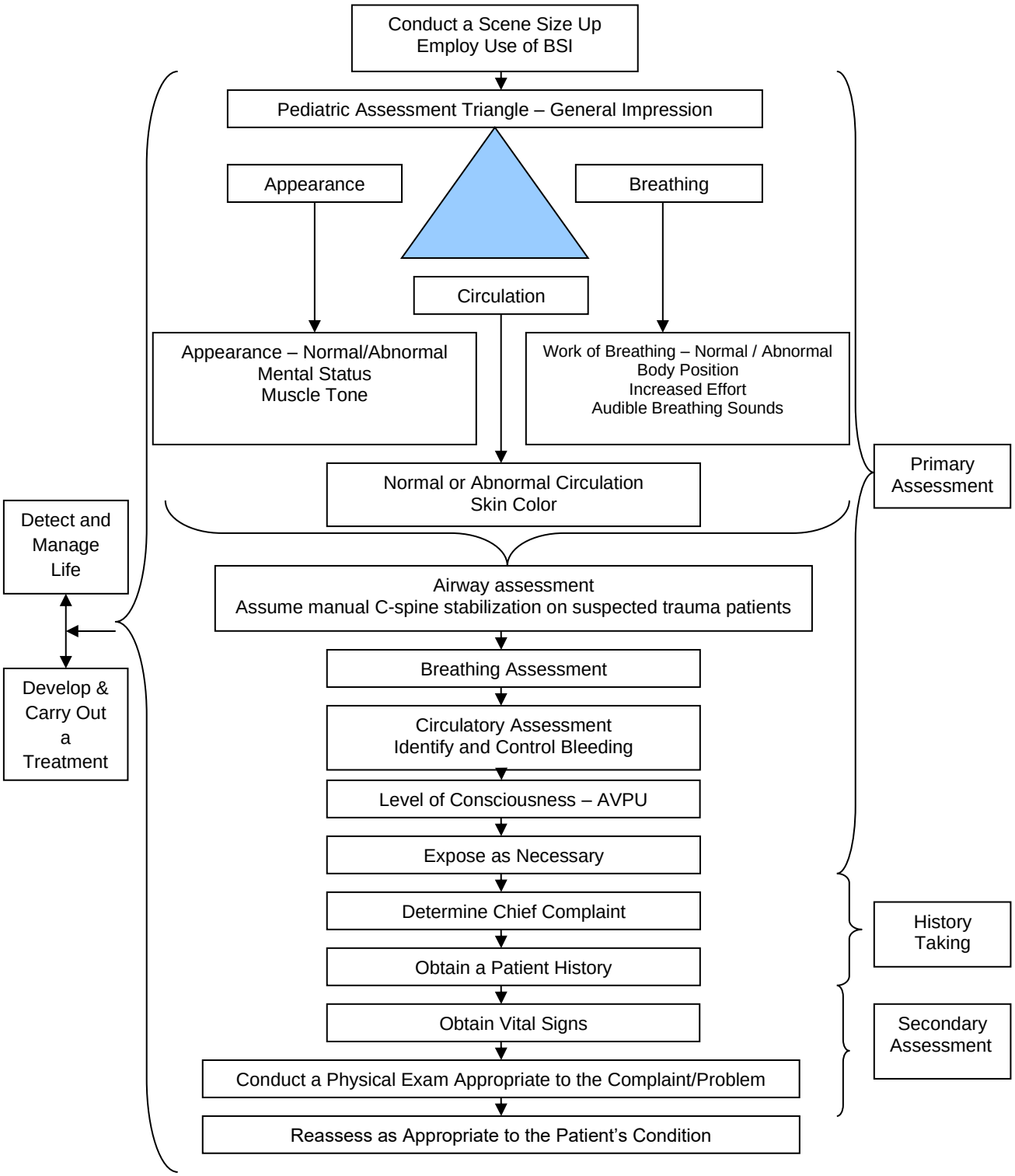
ALS and BLS equipment recommendations

- Car seat type device for safe transport of infants and small children
- Pediatric spinal stabilization device
- Pediatric C-collar(s)
- Pediatric extremity splints
- Infant bag valve mask
- Child bag valve mask
- Pediatric sized oral airways
- Pediatric oxygen mask
- Pediatric nasal cannula
- Pediatric capable AED
- Pediatric capable pulse oximeter
- Selection of BP cuffs for children
- If approved
    - Pediatric sized non-visualized advanced airways
    - 0.15 Epinephrine Auto-Injector

ALS equipment recommendations

- Selection endotracheal tubes sizes 3 to 5.5
- Selection of laryngoscope blades for pediatric patients
- Pediatric ET tube holder
- Selection of IV catheters sizes 20 to 24
- Devices or means for measured flow of IV fluids
- Arm board
- IO device
- Pediatric capable monitoring equipment

PEDIATRIC ASSESSMENT MODEL (Revised 12/7/2012)



Pediatric Routine Assessment and Care

ROUTINE ASSESSMENT AND CARE (Revised 5/7/2024)

This Protocol applies to every patient contact and is the base from which other treatment protocols build upon.

Scene Size Up

- Assess scene safety – use standard/universal precautions – determine # of patients – consider additional resources
- Determine nature of illness/mechanism of trauma
- Determine age and estimated or stated weight
  - Newborn to 1 year is defined as an infant for resuscitation
  - 1 year to onset of puberty is defined as a child for resuscitation

Primary Assessment, Identify and Treat Immediate Life Threats

- If mechanism of trauma indicates
  - Consider manually stabilizing c-spine
- Form a general impression
- Determine level of consciousness – utilize AVPU scale
- If infant or child presents in cardiac arrest begin chest compressions
- Assess airway
  - Foreign body airway obstruction – clear obstruction
  - Decreased LOC and patient cannot maintain own airway (no gag reflex)
    - Trauma suspected – utilize jaw thrust method to open airway
    - Medical patients – utilize head tilt, chin left method to open airway
    - ALL LEVELS
      - Consider oral airway
    - EMT with approval, AEMT, EMT-I and Paramedic
      - May consider appropriate sized advanced non visualized airway
    - EMT-I and Paramedic
      - May consider intubation
  - Decreased LOC and patient has decreased ability to maintain own airway (gag reflex intact)
    - Monitor closely – consider one of simple airway maneuvers above
    - EMT and above
      - May consider nasal airway
    - Paramedic
      - May consider RSI
  - Suction oral airway as needed
  - Patient can maintain own airway and no suction needed – no immediate intervention
- Assess breathing
  - Absent or agonal – begin ventilations with BVM attached to oxygen
  - Assess quality of breathing and lung sounds
    - Signs/symptoms of severe respiratory distress – impending respiratory arrest
      - Consider oxygen by oxygen delivery mask
      - Consider assisted ventilations with BVM attached to oxygen at 5 to 6 per minute
    - Signs/symptoms of moderate respiratory difficulty
      - Consider oxygen by oxygen delivery mask
    - Signs/symptoms of mild respiratory difficulty
      - Consider oxygen by nasal cannula
    - No signs/symptoms of respiratory difficulty
      - Consider oxygen appropriate to nature of illness/ mechanism of trauma
  - Assisted ventilations chart

Age	Ventilations/Minute	Ventilations/Second
Newborn	40-60	1 Every Second
Infant	30-40	1 Every 2 Seconds
1-6 Years	20-30	1 Every 3 Seconds
6-12 Years	16-20	1 Every 3 to 4 Seconds
12-16 Years	12-16	1 Every 5 Seconds
Adult	10-12	1 Every 5 to 6 Seconds

- Assess circulation
  - Absent or pulse 60 or less – begin CPR – **follow Cardiac Arrest Protocols**
  - Assess for bleeding
    - Control external bleeding with direct pressure, pressure bandage, pressure points and/or tourniquet
    - May control external bleeding with the use of hemostatic agents or Junctional Tourniquets with physician medical director approval and direction.
  - Assess quality of pulse
    - Weak – rapid pulse, poor skin color, poor cap refill
      - Consider treating for shock
      - Consider assisted ventilations
    - Weak slow pulse
      - 60 or less begin compressions
      - Reassess airway and breathing – consider assisted ventilations
      - Assess for possible cause
    - Irregular pulse
      - Asses for possible cause
      - Strength, rate, rhythm normal, and skin normal – no immediate intervention
- Assess disability – quick neuro exam
  - Obtain Glasgow Coma Scale
  - Utilize a non-invasive scales and scores
  - Check peripheral circulation, movement, and sensory

Obtain Patient History

- Obtain a chief complaint
- Obtain SAMPLE history
- Consider use of OPQRST pneumonic
- Obtain pertinent negatives

Vital Signs

- **EMR**
  - Pulse
  - Respiratory rate
  - Manual blood pressure and automatic blood pressure with appropriate training and PMD approval.
  - Pulse oximetry reading with appropriate training and PMD approval.
- **EMT, AEMT, EMT-I, Paramedic**
  - Pulse
  - Respiratory rate
  - Manual and automatic blood pressure
  - Pulse oximetry reading
  - Non-invasive CO reading
  - Temperature
  - EtCO2 numeric value only

Hypotension Guidelines

Neonates (0 to 28 Days)	Systolic BP Under 60
Infants (1 Month to 12 Months)	Systolic BP Under 70
Child (1 Year to 10 Years)	Systolic BP Under 70 + 2 X Age in Years
Child (Over 10)	Systolic BP Under 90

Hypotension should be interpreted within the context of the entire Patient Assessment

Additional Monitoring as Appropriate to Patient's Illness/Injury

- **EMT-I**
  - EtCO2 including capnography
  - Cardiac monitoring lead I,II, and III
- **Paramedic**
  - All non-invasive monitoring devices
  - Device to monitor airway/ventilation pressures
  - Invasive monitoring if already established

Secondary Assessment

- Prepare for patient transport
- Expose patient as needed
- Medical
  - Systematic assessment of major body systems
- Trauma
  - Systematic assessment for injuries

Reassessment

- Repeat assessment of patient based on condition
- Monitor vital signs
- Identify changes in patient condition adjust treatment as needed

Pediatric Normal Vital Signs

Age	Average Heart Rate	Heart Rate Range	Respiratory Range	Average Systolic BP	Range
Newborn	140	110 – 180	40 – 60	72	52 – 92
1 Month	135	90 – 170	30 – 50	82	60 – 104
1 Year	120	80 – 160	20 – 30	94	70 – 118
2 Years	110	80 – 130	20 – 30	95	73 – 117
4 Years	105	80 – 120	20 – 30	96	65 – 117
6 Years	100	75 – 115	18 – 24	97	76 – 116
8 Years	90	70 – 110	18 – 22	99	79 – 119
10 Years	90	70 – 110	16 – 20	102	82 – 122
12 years	85	60 – 110	16 – 20	106	84 – 128
14 years	80	60 – 105	16 – 20	110	84 – 136

Pediatric Glasgow Coma Score

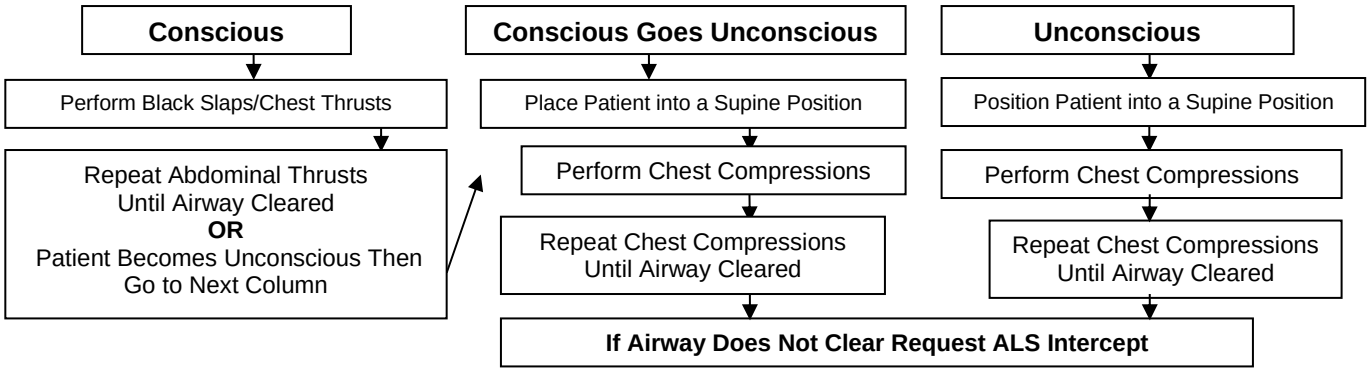
Criteria	Adult/Child	Score	Infant
Eye Opening	Spontaneous	4	Spontaneous
	To Verbal	3	To Verbal
	To Pain	2	To Pain
	No Response	1	No Response
Best Verbal Response	Oriented	5	Coos, Babbles
	Disoriented/Confused	4	Irritable Cry
	Inappropriate Words	3	Cries Only to Pain
	Incomprehensible – Moans/groans	2	Moans to Pain
	No Response	1	No Response
Best Motor Response	Obeys Commands	6	Spontaneous
	Localizes Pain	5	Withdraws from Touch
	Withdraws from Pain	4	Withdraws from Pain
	Abnormal Flexion	3	Abnormal Flexion
	Abnormal Extension	2	Abnormal Extension
	No Response	1	No Response

Pediatric Medical Protocols

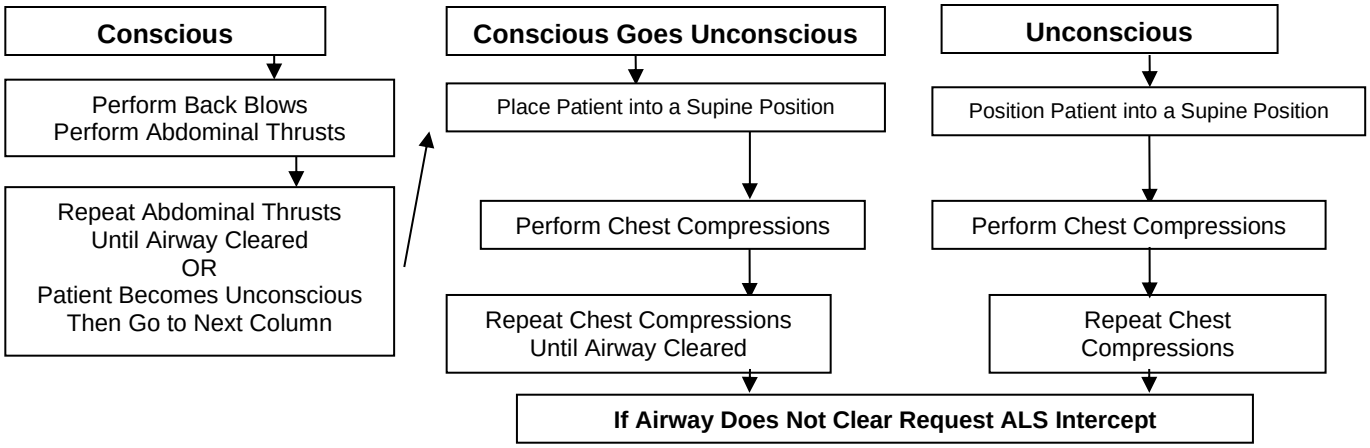
AIRWAY – CHOKING – FOREIGN BODY AIRWAY OBSTRUCTION (Revised 10/1/2020)

EMR

Complete Airway Obstruction UNDER 1 Year Old



Complete Airway Obstruction 1 Year to Adolescent



Partial Airway Obstruction

Monitor Patient Allow Patient to Cough, Be Alert for Complete Obstruction

EMT

- Initiate transport

EMT skills with PMD approval and competency training

- Do not insert advanced airway unless airway cleared and persistent decreased mental status
- Focus on clearing obstructed airway prior to any IV access attempts

AEMT

- Do not insert advanced airway unless airway cleared and persistent decreased mental status
- Focus on clearing obstructed airway prior to any IV access attempts

EMT-I

- Consider direct visualization with laryngoscope and removal with forceps

Paramedic

- Consider Cricothyrotomy

AIRWAY – POST AIRWAY OBSTRUCTION (Revised 10/1/2020)

ALL LEVELS

- Pediatric routine assessment and care

EMR

- Be alert for loss of airway due to swelling
- Consider oxygen
- Considered assisted ventilations for inadequate breathing
- Positioning
  - Decreased mental status position on side
  - Alert patient allow patient to assume position of comfort
- Suction as needed
- Consider ALS

EMT

- Initiate transport
  - Consider use of car seat type restraint device

EMT skills with PMD approval and competency training and AEMT

- Consider advanced airway for persistent decreased mental status
- Consider IV access

EMT-I

- Consider advanced airway for persistent decreased mental status
- Consider bronchodilator for wheezing
- Consider cardiac monitoring

Paramedic

- Consider RSI for airway edema

ABDOMINAL PAIN (Revised 8/27/2021)

ALL LEVELS

- Pediatric routine assessment and care
- Consider pain management **See Pain Management Protocol

EMR

- Additional assessment concerns
  - Localize pain to abdominal quadrant if possible
  - Obtain bowel and bladder habits
- Consider OPQRST pneumonic for assessment of pain
- Allow patient to assume a position of comfort
- Consider ALS

EMT

- Initiate transport
  - Consider use of car seat type restraint device

EMT skills with PMD approval and competency training

- Consider advanced airway for persistent decreased LOC
- Consider IV access

AEMT

- Consider IO access for shock if IV access cannot be obtained
- Consider 0.05 to 0.2 mg/kg up to 4 mg max of Morphine IV/IO/IM/INTRANASAL
- Consider 1.0-2.0 mcg/kg up to 100 mcg max of Fentanyl IV/IO/IM/INTRANASAL

EMT-I

- Consider cardiac monitoring

Paramedic

- Consider pain management

ALLERGIC REACTION – ANAPHYLAXIS (Revised 09/22/2022)

ALL LEVELS

- Pediatric routine assessment and care

EMR

- Assess severity of reaction
  - Itching and/or hives
  - No respiratory symptoms
- Administer oxygen
- Consider assisted ventilations for severe reactions
- Consider ALS

EMT

- Consider assisting patient with his/her prescribed meter dosed inhaler
- Consider assisting patient with his/her prescribed epinephrine auto injector
  - IM epinephrine if PMD approved
  - May repeat in 5 minutes if symptoms do not improve
- Initiate transport
  - Consider use of car seat type restraint device

EMT skills with PMD approval and competency training

- Consider 2.5mg unit dose Albuterol nebulizer treatment for moderate and severe reactions
- Consider 0.5 – 2.5 mg per 3 ml (0.5 mg ipratropium bromide/3 mg albuterol sulfate) nebulizer DuoNeb
- Patient 30kg and under
  - Consider 0.15mg (pediatric) epinephrine auto injector or IM injection for moderate and severe reactions
    - May repeat in 5 minutes if symptoms do not improve
- Patient over 30kg
  - Consider 0.3mg (adult) epinephrine auto injector or IM injection for moderate and severe reactions
    - May repeat in 5 minutes if symptoms do not improve
- Consider IV access

AEMT

- Consider 0.01mg/kg (0.01ml/kg) (0.5 ml (0.5 mg) Max Dose) 1mg/ml (1:1000) Epinephrine IM for moderate and severe reactions
  - May repeat in 5 minutes if symptoms do not improve
- Consider IO access in moderate and severe reactions
- Consider 1 to 2 mg/kg (50 mg max dose) Diphenhydramine IV/IO/IM for mild, moderate, and severe reactions

EMT-I

- Consider bronchodilator
- Consider 2 mg/kg (125 mg max dose) Methylprednisolone IV/IO for moderate and severe reactions
- Initiate cardiac monitoring

Paramedic

- Consider RSI
- Consider vasopressor agent for anaphylactic shock with hypotension

CARDIAC ARREST – DISCONTINUING BYSTANDER CPR AND WITHHOLDING CPR (Revised 12/7/2012)

The EMR or EMT may be presented with patients in which bystander CPR has been started or the patient presents with certain sign/symptoms of obvious death or a valid DNR.

Situations where bystander CPR has been initiated OR EMS arrives and no CPR is initiated:

Un-Safe Scene
If the scene will place the ECP "at risk of serious injury or mortal peril"[2] CPR may be discontinued or withheld

ALL LEVELS

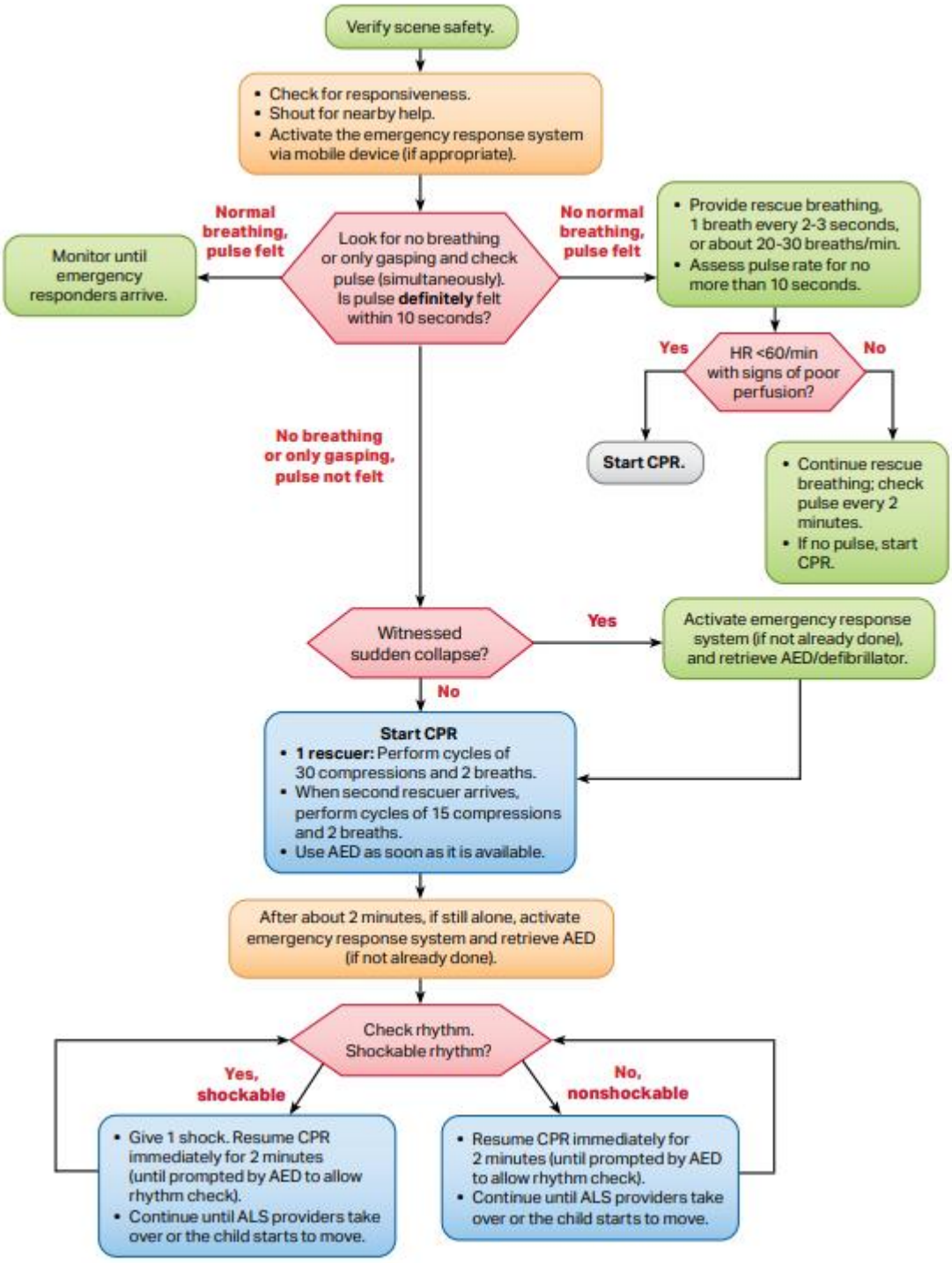
- Confirm the patient has
  - No pulse
  - No respirations or attempts at respirations
- May Stop CPR or Not Initiate CPR IF the Patient Presents with **At Least One** of the Following;
  - Rigor mortis
  - Decapitation
  - Decomposition
  - Dependent lividity
  - Traumatic cardiopulmonary arrest with injuries incompatible with life; Examples
    - Massive blood loss
    - Displacement of brain tissue
    - Blunt Head/Chest Trauma
  - Valid DNR form
  - Physician authorization
- The following will be included in the Patient Care Report;
  - CPR was or was not being performed prior to EMS arrival OR
  - If CPR was being performed the time it was discontinued
  - The patient had No Respirations and No Pulse
  - The additional criteria (from above) use to discontinue or withhold CPR

[2] Part 3: Ethics: 2010 AHA CPR and EEC Guild lines **Withholding and Withdrawing CPR(Termination of Resuscitative Efforts) Related to Out-of Hospital Cardiac Arrest**

CARDIAC ARREST – AED AND CPR (Revised 5/7/2024)

EMR – EMT - AEMT

Pediatric Basic Life Support Algorithm for Healthcare Providers—Single Rescuer



EMR skills with PMD approval and competency training

- Consider mechanical CPR

EMT

- Place patient on back/CPR board
- Initiate transport
- Consider ALS

EMT skills with PMD approval and competency training and AEMT

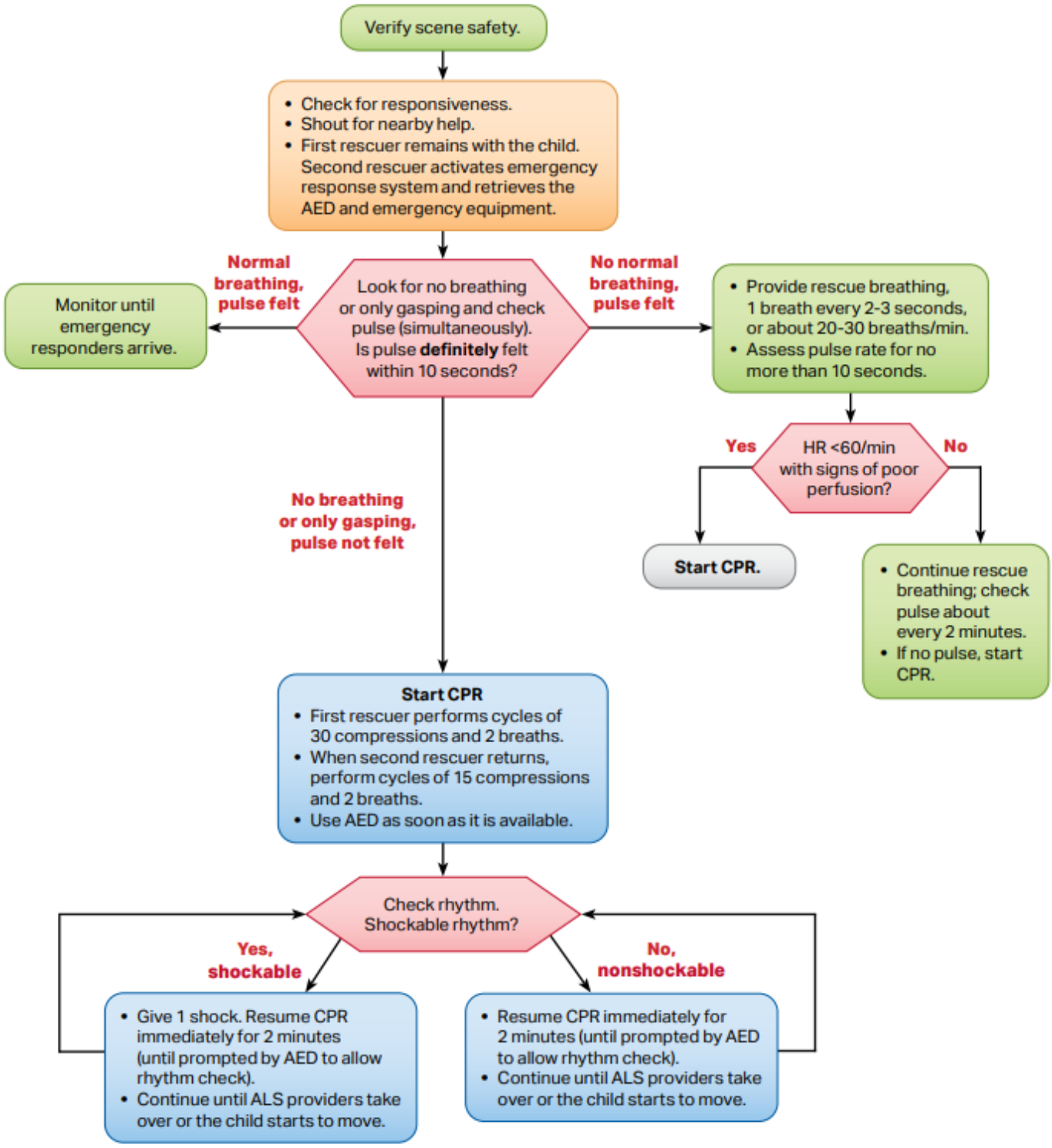
After First Cycle of CPR and Shock or No Shock

- Consider an advanced airway
- Consider IV access with non-medicated crystalloid solution

AEMT

- Consider IO access

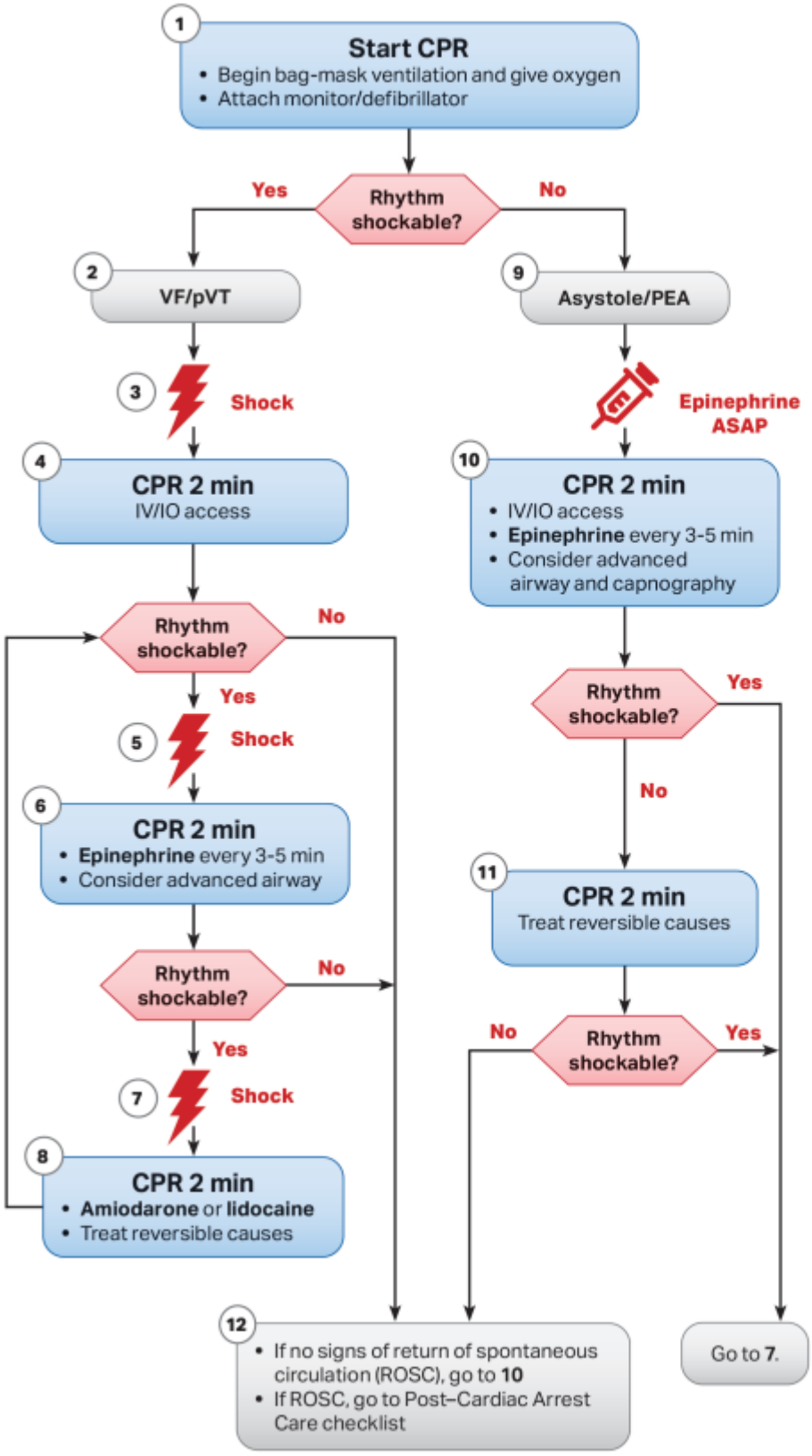
Pediatric Basic Life Support Algorithm for Healthcare Providers—2 or More Rescuers



CARDIAC ARREST – ADVANCED CARDIAC LIFE SUPPORT (Revised 8/27/2021)

EMT-I and Paramedic

Figure 11. Pediatric Cardiac Arrest Algorithm.



CPR Quality

- Push hard (≥⅓ of anteroposterior diameter of chest) and fast (100-120/min) and allow complete chest recoil
- Minimize interruptions in compressions
- Change compressor every 2 minutes, or sooner if fatigued
- If no advanced airway, 15:2 compression-ventilation ratio
- If advanced airway, provide continuous compressions and give a breath every 2-3 seconds

Shock Energy for Defibrillation

- First shock 2 J/kg
- Second shock 4 J/kg
- Subsequent shocks ≥4 J/kg, maximum 10 J/kg or adult dose

Drug Therapy

- **Epinephrine IV/IO dose:** 0.01 mg/kg (0.1 mL/kg of the 0.1 mg/mL concentration). Max dose 1 mg. Repeat every 3-5 minutes. If no IV/IO access, may give endotracheal dose: 0.1 mg/kg (0.1 mL/kg of the 1 mg/mL concentration).
- **Amiodarone IV/IO dose:** 5 mg/kg bolus during cardiac arrest. May repeat up to 3 total doses for refractory VF/pulseless VT
  or
  Lidocaine IV/IO dose: Initial: 1 mg/kg loading dose

Advanced Airway

- Endotracheal intubation or supraglottic advanced airway
- Waveform capnography or capnometry to confirm and monitor ET tube placement

Reversible Causes

- **H**ypovolemia
- **H**ypoxia
- **H**ydrogen ion (acidosis)
- **H**ypoglycemia
- **H**ypo-/hyperkalemia
- **H**ypothermia
- **T**ension pneumothorax
- **T**amponade, cardiac
- **T**oxins
- **T**hrombosis, pulmonary
- **T**hrombosis, coronary

CARDIAC ARREST – SPECIAL SITUATIONS (Revised 10/1/2020)

ALL LEVELS

- **Follow cardiac arrest algorithm with these consideration**

Cardiac Arrest in Suspected Narcotic – Benzodiazepine – Beta Blocker – Calcium Channel Blocker Overdose – Tricyclic Antidepressant Overdose

ALL LEVELS

- Consider consultation with medical control or PMD
- No additional considerations
-

CARDIAC ARREST IN HYPOTHERMIA-DROWNING (Revised 10/1/2020)

EMR

- Remove wet clothing and passively warm patient

EMT skills with PMD approval and competency training

- Obtain IV access
- Consider administration of warmed IV fluids

EMT-I and Paramedic

- May use Epinephrine and Vasopressin in severe hypothermia (<87° F)
- Avoid Amiodarone and Lidocaine in severe hypothermia (<87° F)

CARDIAC ARREST IN TRAUMA

ALL LEVELS

- If resuscitation attempted follow appropriate cardiac arrest protocol

CARDIAC ARREST – RETURN OF SPONTANEOUS CIRCULATION (Revised 10/1/2020)

ALL LEVELS
- Pediatric routine assessment and care

EMR
- Keep AED attached to patient
- Assist ventilations
- If gag reflex returns removal oral airway
- Suction as needed
- Consider obtaining Diagnostic ECG
- Consider ALS

EMT
- Initiate transport

EMT skills with PMD approval and competency training
- Consider advance airway if not already in place during cardiac arrest
- Consider obtaining a blood glucose reading
- Consider IV access

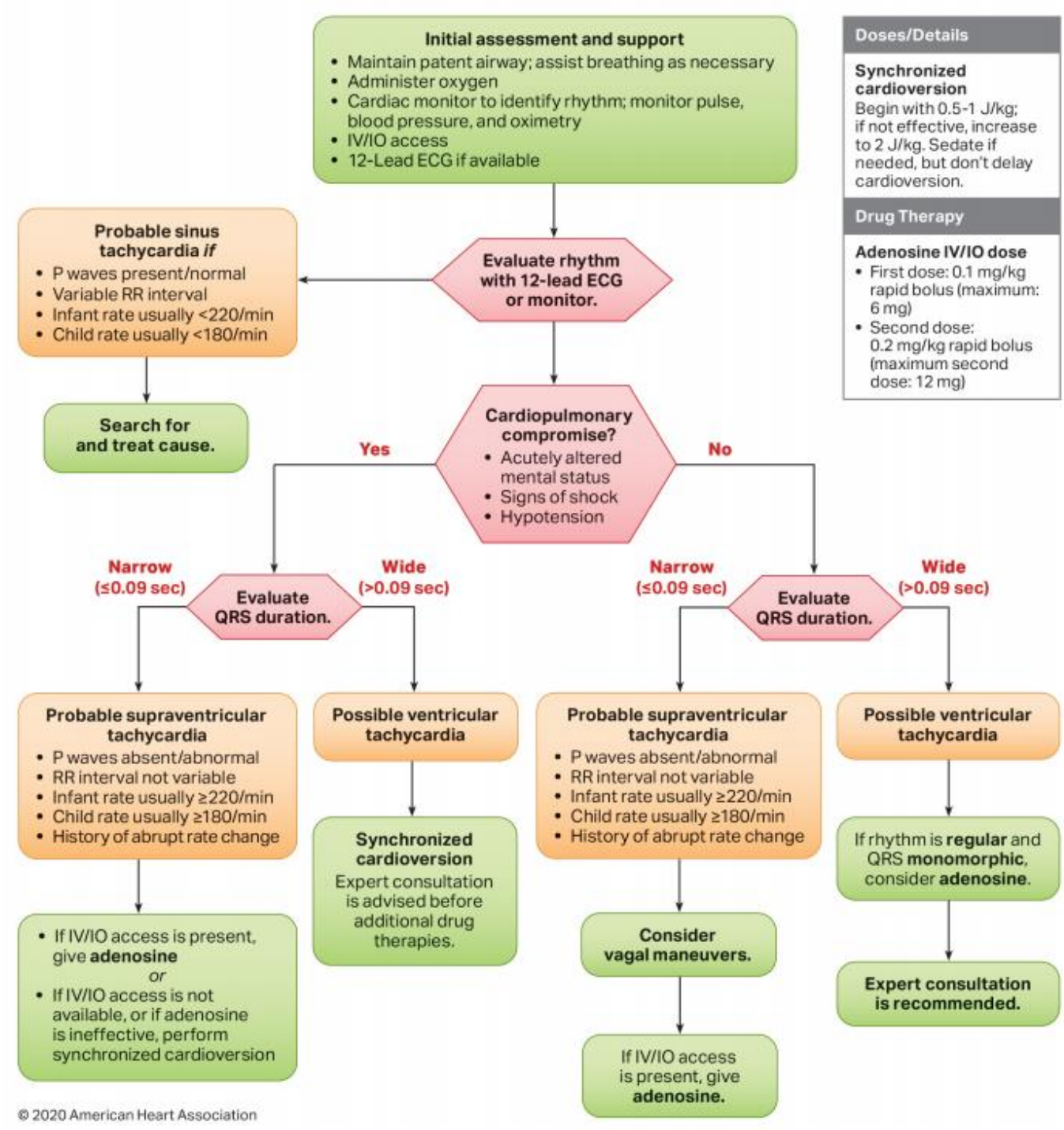
AEMT
- Consider IV or IO access

EMT-I
- Consider intubation if not already in place during cardiac arrest
- Initiate cardiac monitoring
- Treat cardiac dysrhythmias
- Adjust ventilations (rate, tidal volume, fiO2) to maintain these goals
  - O2 saturation 94% or better
  - EtCO2 35 to 45 mmHg

Paramedic
- Consider vasopressor agent for sustained hypotension
- If patient intubated
  - Consider sedative agent
  - **OR** consider sedative agent first then a non-depolarizing paralytic

EMT-I and Paramedic

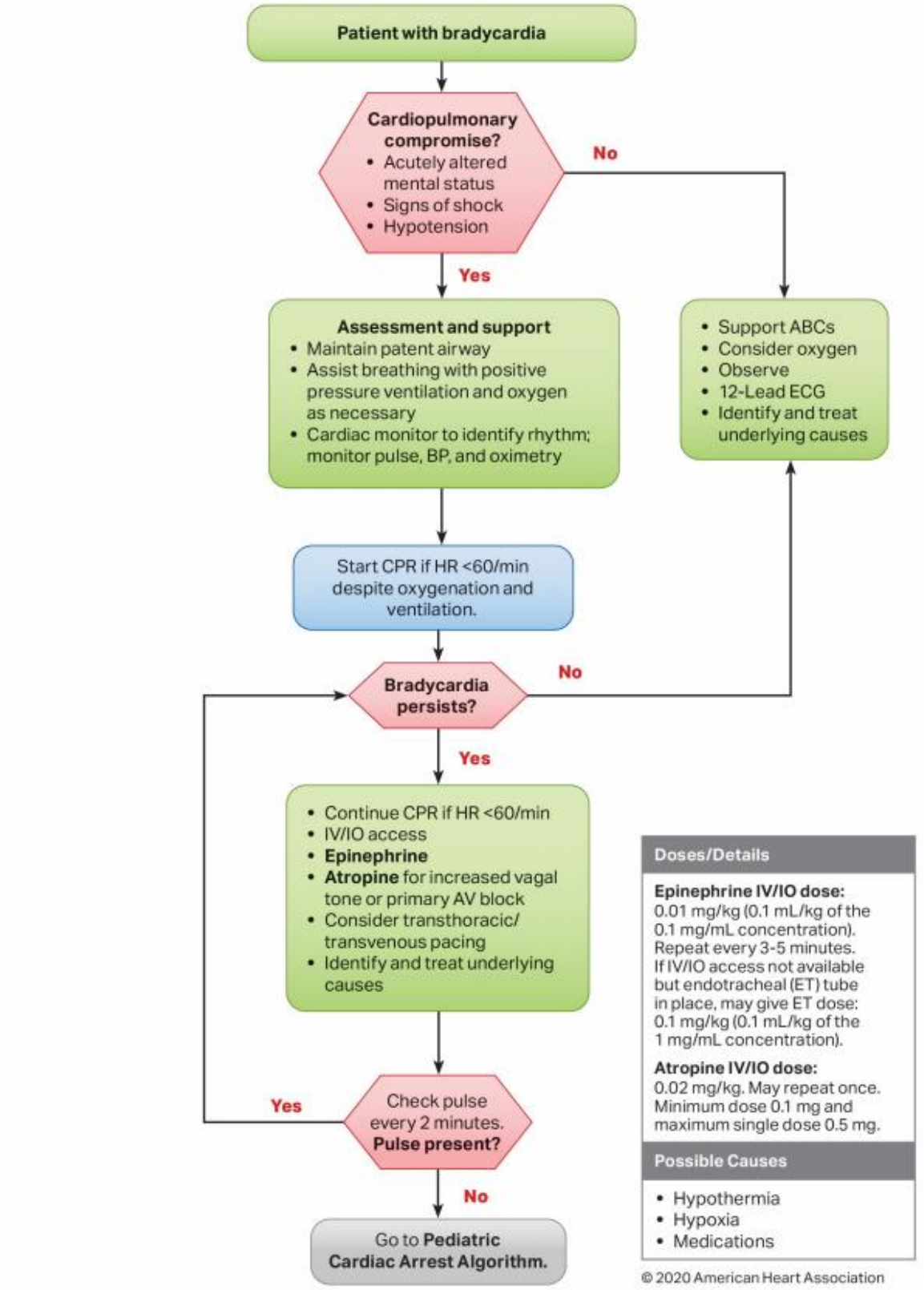
Figure 13. Pediatric Tachycardia With a Pulse Algorithm.



◆ **EMT-I Must Have Completed PALS to Perform** Synchronized cardioversion

EMT-I and Paramedic

Figure 12. Pediatric Bradycardia With a Pulse Algorithm.



DECREASED LEVEL OF CONSCIOUSNESS – DECREASED MENTAL STATUS (Revised 10/1/2020)

ALL LEVELS

- Pediatric routine assessment and care
- Consider 0.1mg/kg to max of 4mg Naloxone
    - IM Auto-Injector/INTRANASAL for suspected or known narcotic overdose, or;
    - IM/IV/IO/INTRANASAL for AEMT and above

EMR

- Consider oral airway and assisted ventilations
- Administer oxygen
- Utilize a non-invasive stroke scale
- Obtain onset time
- Assess for medical or traumatic cause and utilize additional protocols as needed
- Consider ALS

EMT

- Consider nasal airway in older children
- Consider oxygen and adjust delivery device and LPM flow to achieve 94% or better O2 saturation
- Initiate transport

EMT skills with PMD approval and competency training

- Consider IV access
- Obtain blood glucose reading-if abnormal go to appropriate protocol

EMT skills with PMD approval and competency training or AEMT

- Consider advanced airway for persistent decreased mental status

EMT-I

- Consider Intubation for persistent decreased mental status

Paramedic

- Consider RSI

EPIGLOTTITIS (Revised 5/7/2024)

ALL LEVELS

- Pediatric routine assessment and care

EMR

- Allow patient to assume a position where he/she can maintain own airway
- If patient loses airway attempt BVM ventilations
- Administer oxygen by blow by or oxygen delivery mask humidified if possible
- Calm patient
- Consider ALS

EMT

- Consider oxygen and adjust delivery device and LPM flow to achieve 94% or better O2 saturation
- Initiate transport

EMT skills with PMD approval and competency training and AEMT

- Defer attempts at advanced airway
- Defer IV unless patient loses airway

EMT-I

- Initiate cardiac monitoring

Paramedic

- Consider cricothyroidotomy

HYPOGLYCEMIA – INSULIN SHOCK (Revised 7/1/2023)

ALL LEVELS

- Pediatric routine assessment and care

EMR

- If no trauma position patient to protect airway
- Consider oxygen
- Assess for stroke
- IF PATIENT CAN FOLLOW SIMPLE COMMANDS AND PROTECT OWN AIRWAY
  - Consider for children old enough to drink from glass having patient drink juice, non-diet pop or milk
- Consider ALS

EMT

- Consider oxygen and adjust delivery device and LPM flow to achieve 94 % or better O2 saturation
- IF PATIENT CAN PROTECT OWN AIRWAY
  - Consider oral glucose gel
    - Infants rub small amounts of oral glucose gel along gums
    - Children 7.5 to 15 grams oral glucose gel
- Initiate transport

EMT skills with PMD approval and competency training

- Consider advanced airway for persistent decrease mental status
- Obtain blood glucose reading
- Consider IV access
- Consider **Dextrose 10%** IV
  - Infant to age 1 year - 5 ml/kg to a max 6 grams
  - 1 year to age onset puberty - 5 ml/kg to a max 6 grams
- Recheck blood glucose every 15 minutes

AEMT

- Consider IO access when:
  - Blood glucose level indicates hypoglycemia
  - Patient symptomatic
  - And IV access cannot be obtained
- Consider Dextrose
  - Infant to age 1 year:
    - 5 ml/kg to a max 6 grams **Dextrose 10%**
    - 4 ml/kg to a max 6 grams **Dextrose 12.5%**
  - 1 year to onset puberty:
    - 5 ml/kg to a max 6 grams **Dextrose 10%**
    - 4 ml/kg to a max 6 grams **Dextrose 12.5%**
    - 2 ml/kg to a max 6 grams **Dextrose 25%**
  - Recheck blood glucose every 15 minutes
- Alternate treatments
  - If patient can protect own airway
    - Consider oral glucose see EMT above
  - Defer IO and IV and administer 0.5mg under 25kg to 1mg over 25kg glucagon IM or INTRANASAL
    - If Glucagon fails to full resolve hypoglycemia, **See Dextrose Treatment Above**

EMT-I and Paramedic

- Consider intubation for persistent decrease mental status after treatment with Dextrose or Glucagon
- Assess for other causes of decreased mental status
- Consider cardiac monitoring

HYPERGLYCEMIA – DIABETIC COMA (Revised 10/1/2020)

ALL LEVELS

- Pediatric routine assessment and care

EMR

- If no trauma position patient to protect airway
- Consider oxygen
- Assess for stroke
- Consider ALS

EMT

- Consider oxygen and adjust delivery device and LPM flow to achieve 94% or better O2 saturation
- Initiate transport

EMT skills with PMD approval and competency training

- Consider advanced airway for persistent decrease mental status
- Obtain blood glucose reading
- Consider IV access
  - Consider 20ml/kg fluid bolus for dehydration and shock

AEMT

- Consider IO access when IV access cannot be obtained
- **OR** blood glucose 400 or greater
- **OR** dehydration and/or shock

EMT-I

- Consider intubation for persistent decrease mental status
- Consider cardiac monitoring

Paramedic

- Assess for DKA

NAUSEA – VOMITING – DIARRHEA (Revised 10/1/2020)

ALL LEVELS

- Pediatric routine assessment and care

EMR

- Consider oxygen
- Be prepared for suctioning
- Assess for cause of nausea
- Assess for dehydration
- Consider ALS

EMT

- Consider oxygen and adjust delivery device and LPM flow to achieve 94% or better O2 saturation
- Initiate transport

EMT skills with PMD approval and competency training and AEMT

- Consider IV access for sign and symptoms of dehydration
- Consider 20ml/kg fluid bolus

AEMT

- Consider IO access for sign and symptoms of dehydration with decreased mental status
- Consider Zofran (AEMT and Paramedic only)

EMT-I

- Consider cardiac monitoring

Paramedic

- Consider antiemetic

NON-TRAUMATIC NOSE BLEED (Revised 5/7/2024)

ALL LEVELS

- Pediatric routine assessment and care

EMR

- Consider oxygen by oxygen delivery mask or blow by – humidified if possible
- Position patient
  - Sitting upright
  - Head in neutral position
  - Avoid head tilt position
  - If upright not possible consider lateral position
- Pinch nares together
- Direction to patient
  - Spit blood/clot out
  - Try not to swallow blood
  - Do not rub – blow nose or sniff
- Suction as needed
- Consider ALS

EMT

- Consider oxygen and adjust delivery device and LPM flow to achieve 94% or better O2 saturation
- Initiate transport

EMT skills with PMD approval and competency training

- Consider IV access for sign and symptoms of shock

AEMT

- Consider IO access for signs and symptoms of shock AND if IV cannot be obtained

EMT-I

- Consider cardiac monitoring

RESPIRATORY ARREST (Revised 10/1/2020)

ALL LEVELS

- Pediatric routine assessment and care

EMR

- Open airway
  - Trauma suspected use jaw thrust method
  - Non-traumatic use head tilt-chin lift method
- Consider oral airway
- Begin ventilations with bag-valve-mask or mouth to mask device attached to Oxygen
  - Infants 1 and under – 30 ventilations/min
  - Child 1 to 8 years – 24 ventilations/min
  - Child over age 8 to onset of puberty – 15 ventilation/min
- Suction as needed
- Consider cause use additional protocols if needed
- Consider ALS

EMT

- Monitor oxygen saturation adjust ventilation/minute to achieve 94% or better O2 saturation
- Initiate transport

EMT skills with PMD approval and competency training

- Consider IV access
- Consider advanced airway
- Obtain blood glucose reading

AEMT

- Consider IO access if IV cannot be obtained
- Consider cause use additional protocols if needed

EMT-I

- Consider intubation for persistent decrease mental status
- Adjust ventilation (rate/tidal volume/fiO2) to maintain
  - Oxygen saturation 94% or better
  - EtCO2 of 35 to 45 mmHg
- Initiate cardiac monitoring
- Consider cause use additional protocols if needed

Paramedic

- Consider cause use additional protocols if needed

RESPIRATORY DISTRESS – ASTHMA (Revised 09/22/2022)

ALL LEVELS

- Pediatric routine assessment and care

EMR

- Administer oxygen
- Consider assisted ventilations
- Suction as needed
- Consider ALS

EMT

- Administer oxygen and adjust delivery device and LPM flow to achieve 94% or better O2 saturation
- Consider assisting patient with his/her prescribed metered dose inhaler
  - Administer prescribed number of puffs repeat two times every 5-10 minutes if distress continues
  - Consult medical control, PMD, or patient's physician for additional doses
- Consider assisting patient with his/her prescribed epinephrine auto-injector for Status Asthmaticus* **(See below)**
  - Consult medical control, PMD, or patient's physician for additional doses
- Initiate transport

EMT skills with PMD approval and competency training

- Consider advanced airway for persistent decrease mental status
- Consider IV access
- Consider 2.5mg in 3 ml Albuterol nebulizer treatment
  - May repeat two times if symptoms do not improve or patient's condition deteriorates
- Consider 0.5 – 2.5 mg per 3 ml (0.5 mg ipratropium bromide/3 mg albuterol sulfate) nebulizer DuoNeb
- If nebulizer treatments fail to improve distress
  - Patient 30kg and under
    - Consider 0.15mg (pediatric) epinephrine auto injector or IM injection for Status Asthmaticus* **(See below)**
  - Patient over 30kg
    - Consider 0.3mg (adult) epinephrine auto injector or IM injection for Status Asthmaticus* **(See Below)**

AEMT

- Consider IO access if IV cannot be obtained
- If Albuterol nebulizer treatments fail to improve distress
  - Consider 0.01mg/kg (0.01ml/kg) epinephrine 1mg/ml (1:1000) IM for Status Asthmaticus* **(See Below)**

EMT-I

- Consider intubation for persistent decrease mental status
- Consider cardiac monitoring
- If first line bronchodilators nebulizer treatments fail to improve distress or patient deteriorates
  - Consider 0.01mg/kg (0.01ml/kg) epinephrine 1mg/ml (1:1000) IM
- Consider 2mg/kg to max 125mg Methylprednisolone IV/IO

Paramedic

- If first line pharmaceutical interventions have minimal or no effect
  - Consider 25 mg/kg to max 2 grams Magnesium Sulfate infused over 10 minutes
  - **OR** consider 0.5 to 0.75 ml of a 2.5% racemic epinephrine nebulizer treatment
  - **OR** consider 3 to 5 mg 1mg/ml (1:1000) epinephrine nebulizer treatment
- Consider RSI with inline nebulized bronchodilator

***Status Asthmaticus Means – sustained asthma not relieved by Oxygen, meter dose inhaler, or nebulizer treatment**

RESPIRATORY DISTRESS – CROUP (Revised 07/16/2021)

ALL LEVELS

- Pediatric routine assessment and care

EMR

- Administer oxygen
- Consider assisted ventilations
- Suction as needed
- Consider ALS

EMT

- Administer oxygen and adjust delivery device and LPM flow to achieve 94% or better O2 saturation
- Consider assisting patient with his/her prescribed metered dose inhaler
  - Administer prescribed number of puffs
- Initiate transport

EMT skills with PMD approval and competency training

- Consider advanced airway for persistent decrease mental status
- Consider IV access
- Consider 2.5mg in 3 ml Albuterol nebulizer treatment
  - Repeat two times if symptoms do not improve OR patient's condition deteriorates
- Consider 0.5 – 2.5 mg per 3 ml (0.5 mg ipratropium bromide/3 mg albuterol sulfate) nebulizer DuoNeb

AEMT

- Consider IO access if IV cannot be obtained

EMT-I

- Consider intubation for persistent decrease mental status
- Consider cardiac monitoring

Paramedic

- May consider racemic epinephrine or epinephrine 1mg/ml (1:1000) nebulized as a first line therapy
- Consider 0.5 to 0.75 ml of a 2.5% racemic epinephrine nebulizer treatment
- **OR** consider 1mg/ml (1:1000) epinephrine nebulizer treatment
  - Age 4 and under 0.5ml/kg to max of 2.5ml in 3ml ns nebulized
  - Age 5 and older 0.5ml/kg to max of 5ml in 3 ml ns nebulized

RESPIRATORY DISTRESS – SPONTANEOUS PNEUMOTHORAX (Revised 10/1/2020)

ALL LEVELS

- Pediatric routine assessment and care

EMR

- Administer oxygen
- Consider assisted ventilations
- Suction as needed
- Assess for trauma
- Consider ALS

EMT

- Administer oxygen and adjust delivery device and LPM flow to achieve 94% or better O2 saturation
- Initiate transport

EMT skills with PMD approval and competency training

- Consider advanced airway for persistent decrease mental status
- Consider IV access

AEMT

- Consider IO access if IV cannot be obtained

EMT-I

- Consider needle decompression for signs and symptoms of tension pneumothorax
- Initiate cardiac monitoring

Paramedic

- Consider RSI

RESPIRATORY INFECTIONS (Revised 07/16/2021)

ALL LEVELS

- Pediatric routine assessment and care

EMR

- Administer oxygen
- Consider assisted ventilations
- Suction as needed
- Consider ALS

EMT

- Consider administer oxygen and adjust delivery device and LPM flow to achieve 94% or better O2 saturation
- Consider assisting patient with his/her prescribed metered dose inhaler for sign and symptoms of distress
  - Administer prescribed number of puffs repeat two times every 5-10 minutes if distress continues
  - Consult medical control, PMD, or patient's physician for additional doses
- Consider obtaining a body temperature
- Assess for dehydration
- Initiate transport

EMT skills with PMD approval and competency training

- Consider advanced airway for persistent decrease mental status
- Consider 2.5mg in 3 ml Albuterol nebulizer treatment
  - Repeat two times if symptoms do not improve or patient's condition deteriorates
- Consider 0.5 – 2.5 mg per 3 ml (0.5 mg ipratropium bromide/3 mg albuterol sulfate) nebulizer DuoNeb
- Consider IV access
  - Administer 20ml/kg bolus for dehydration – reassess

AEMT

- Consider IO access if IV cannot be obtained

EMT-I

- Consider intubation for persistent decrease mental status
- Consider cardiac monitoring

Paramedic

- As Alternate for albuterol in suspected RSV
  - Consider 0.5 to 0.75 ml of a 2.5% racemic epinephrine nebulizer treatment
  - **OR** consider 3 to 5 mg 1mg/ml (1:1000) epinephrine nebulizer treatment
- If albuterol does not improve symptoms **or** patient's condition deteriorates
  - Consider 0.5 to 0.75 ml of a 2.5% racemic epinephrine nebulizer treatment
  - **OR** consider 3 to 5 mg 1mg/ml (1:1000) epinephrine nebulizer treatment
- Consider RSI with inline nebulized bronchodilator

SEIZURE AND POSTICTAL PERIOD (Revised 10/1/2020)

ALL LEVELS

- Pediatric routine assessment and care

EMR

- Active seizure
  - Administer oxygen (blow by acceptable during seizure)
  - Protect patient – pads around patient
  - Do not restrain patient
  - Do not insert anything orally
- Postictal period
  - Consider oxygen
  - Consider assisted ventilations and oral airway for persistent decreased mental status
  - Suction as needed
- Assess for trauma and stroke
- Consider ALS

EMT

- Consider nasal airway for persistent decreased mental status in older children
- Administer oxygen and adjust delivery device and LPM flow to achieve 94% or better O2 saturation
- Initiate transport

EMT skills with PMD approval and competency training

- Consider advanced airway for persistent decrease mental status
- Consider obtaining blood glucose
- Consider IV access

AEMT

- Consider IO access
  - If IV cannot be obtained
  - Seizures reoccur
- Consider benzodiazepine for repeat or continued seizures (AEMT and Paramedic only)

EMT-I

- Consider intubation for persistent decrease mental status
- Consider cardiac monitoring
- Consider 0.04 to 0.2 mg/kg max single dose Diazepam IV/IO/rectal
  - May repeat if needed to maximum of 10mg

TOXINS – AUTO-INJECTOR ANTIDOTE KITS (Revised 9/22/2022)

NERVE AGENT – ORGANOPHOSPHATE EXPOSURE

ALL LEVELS

- Pediatric routine assessment and care

EMR

- May administer auto injector antidote kits to a fellow responder or patients in mass numbers when higher level ECP are overwhelmed.

EMT-I and Paramedic

- May administer the auto injector antidote kits

Pediatric Auto-Injector Antidote Kit Dosing Chart

Severity	Mild Symptoms	Moderate Symptoms	Severe Symptoms
Signs And Symptoms	Pinpoint pupils (miosis) Excessive sweating Tearing (lacrimation) Drooling (salivation) Runny nose Mild chest tightness Mild shortness of breath	Severe chest tightness Wheezing Profuse airway secretions Respiratory distress Vomiting, abdominal cramps Diarrhea Muscle weakness	Cyanosis Seizures Coma Flaccid paralysis Respiratory failure Apnea
Treatment	**Evacuate to a Safe Area**	**Do Not Delay**	
	Administer One Each – Atropine and Pralidoxime (Mark I) **OR** One – Atropine/Pralidoxime (DouDote)	**Administer** 3 – 7 years old – One Each – Atropine and Pralidoxime (Mark I) **OR** One - Atropine/Pralidoxime (DouDote) 8 – 12 years old – Two Each – Atropine and Pralidoxime (Mark I) **OR** Two – Atropine/Pralidoxime (DouDote) 12 and over use adult dose	

TOXINS – INHALED (Revised 10/1/2020)

ALL LEVELS

- Pediatric routine assessment and care

EMR

- Administer oxygen
- Consider assisted ventilations
- Assess for trauma
- Suction as needed
- Consider ALS

EMT

- Assess CO level by non-invasive monitor
  - If elevated begin high flow oxygen
  - If within normal values administer oxygen and adjust delivery device and LPM flow to achieve 94% or better O2 saturation
- Consider assisting patient with his/her prescribed metered dose inhaler
  - Administer prescribed number of puffs repeat two times every 5-10 minutes if distress continues
  - Consult medical control, PMD, or patient's physician for additional doses
- Initiate transport

EMT skills with PMD approval and competency training

- Consider advanced airway for persistent decrease mental status
- Consider 2.5mg in 3ml Albuterol nebulizer treatment
  - Repeat two times if symptoms do not improve or patient's condition deteriorates
- Consider IV access

AEMT

- Consider IO access if IV cannot be obtained

EMT-I

- Consider intubation for persistent decrease mental status
- Consider bronchodilator
- Initiate cardiac monitoring

Paramedic

- Consider RSI with inline nebulized bronchodilator

TOXINS – OVERDOSE – POISONINGS (Revised 10/1/2020)

ALL LEVELS
- Pediatric routine assessment and care

EMR
- Consider oxygen
- Obtain name of medication/drug
  - **See Next Page for additional information**
- Consider ALS

EMT
- Consider contacting destination facility via radio/phone with name of medication/drug
- Consider contacting poison control
- Initiate transport

EMT skills with PMD approval and competency training
- Consider advanced airway for persistent decrease mental status
- Consider IV access

AEMT
- Consider IO access if IV cannot be obtained

EMT-I
- Consider intubation for persistent decrease mental status
- Consider cardiac monitoring

SPECIAL INSTRUCTIONS FOR SPECFIC OVERDOSES (Revised 10/1/2020)

IF LEVEL NOT LISTED USE THE TOXIN – OVERDOSE PROTOCOL ABOVE

Stimulants – Cocaine – Methamphetamine – Ecstasy

EMR
- Obtain temperature
- If temp over 102°F and an infection is not suspected consider passive cooling

EMT skills with PMD approval and competency training and AEMT
- Consider fluid boluses for elevated temps and signs and symptoms of dehydration

AEMT
- For patients over 1 year old that present awake, alert with severe anxiousness/anxiety and/or hallucinations
  - Consider benzodiazepine (AEMT and Paramedic only)

EMT-I
- For patients over 1 year old that present awake, alert with severe anxiousness/anxiety and/or hallucinations
  - Consider 0.04 to 0.2mg/kg Diazepam IV/IO

Narcotics – Opiates – Barbituates

ALL LEVELS

- Consider 0.1mg/kg to Max of 4mg Naloxone IM Auto-Injector/INTRANASAL for suspected or known narcotic overdose, or IM/IV/IO/INTRANASAL for AEMT and above
    - If symptoms of narcotic overdose reoccur after initial response to Naloxone, re-administer dose

AEMT

- Consider 0.1mg/kg to max of 4mg Naloxone IV/IO/INTRANASAL
- Consider advanced airway if naloxone fails to improve respiratory status

EMT-I and Paramedic

- Consider intubation if naloxone fails to improve respiratory status

Tricyclic Antidepressant

Paramedic

- For patients that present or develop decreased mental status, hypotension and widen QRS
    - Confirmed tricyclic antidepressant overdose/poisoning
    - Consider
        - Age 8 and under 1mEq/kg 4.2% sodium bicarbonate slow IV/IO
        - Over age 8 1mEq/kg 8.4% sodium bicarbonate slow IV/IO
    - Consider vasopressor agent

Calcium Channel Blocker

Paramedic

- For patients that present or develop decreased mental status, and hypotension
    - Contact medical control/poison center for consult on calcium chloride
    - **OR** calcium gluconate
    - Consider vasopressor agent

Organophosphates

EMT-I

- Consider 0.02mg/kg Atropine-minimum single dose 0.1mg max single dose 1mg IV/IO
- May repeat until symptoms improve

Paramedic

- Consider 20 to 50mg/kg to max of 1200mg Pralidoxime IV/IO

SHOCK (Revised 10/1/2020)

ALL LEVELS

- Pediatric routine assessment and care
- Consider pain management **See Pain Management Protocol

EMR

- Administer oxygen
- Assess for trauma
  - Control external hemorrhage
  - Manually stabilize c-spine and extremity deformities
- Assess for dehydration
- Assess for potential of allergic reaction ****go to Allergic Reaction Anaphylaxis Protocol**
- Position supine unless respiratory status do not allow for this
- Conserve body heat
- Consider ALS

EMT

- Administer oxygen and adjust delivery device and LPM flow to achieve 94% or better O2 saturation
- Obtain temperature and if fever consider dehydration/sepsis
- Initiate transport

EMT skills with PMD approval and competency training

- Consider advanced airway for persistent decrease mental status
- Consider IV access
- Consider fluid bolus(es) 20ml/kg then reassess and repeat
  - **EXCEPT Cardiogenic Shock – consider fluid bolus(es) 10 ml/Kg then reassess and repeat**

AEMT

- Consider IO access if IV cannot be obtained
- Consider ondansetron (Zofran) anti-emetic (AEMT and Paramedic only)

EMT-I

- Initiate cardiac monitoring
- Assess for potential of cardiogenic shock

Paramedic

- Assess for type of shock
- General considerations for shock
  - When considering anti-emetic choose an agent with the least cardiac effects
  - When considering pain management choose an agent with least effect on BP
- Shock types and considerations

Hypovolemic	Cardiogenic	Obstructive Shock	Distributive
Consider 20 ml/kg fluid boluses with frequent reassessments	Consider 10 ml/kg fluid bolus(es) Consider vasopressor agent Manage dysrhythmias	Assess for tension pneumothorax – treat with needle decompression Assess for cardiac tamponade – **alert destination facility**	Anaphylaxis – **Go To Allergic Reaction Anaphylaxis Protocol** Neurogenic (spine) shock – consider 20 ml/kg fluid boluses Sepsis – consider 20 ml/kg fluid boluses Consider vasopressor agents

Pediatric Trauma Protocols

TRAUMA CARE HEAD – CHEST – ABDOMEN (Revised 10/1/2020)

ALL LEVELS

- Pediatric routine assessment and care
- Assess for shock and treat
- Consider pain management **See Pain Management Protocol

<table>
<tr><th></th><th>Head/Neck/Spine</th><th>Chest</th><th>Abdomen</th></tr>
<tr><td rowspan="3">EMR</td><td colspan="3">Administer oxygen
Consider assisted ventilations
Consider oral airway
Consider OQRST pneumonic for assessment of pain
Suction as needed
Manually stabilize head and neck
Control external bleeding
Stabilize impaled objects in place
Assess CMS
Consider trauma team – trauma system activation</td></tr>
<tr><td colspan="3">May control external bleeding with the use of hemostatic agents or Junctional Tourniquets with physician medical director approval and direction.</td></tr>
<tr><td>Open Trauma
• *Bandage open wounds
• *Consider occlusive dressing for open neck wounds

Closed Trauma
• * Consider cold pack to areas of edema</td><td>Open chest trauma – sucking chest wound
• *Seal wound with occlusive dressing

Closed chest trauma
• *Consider stabilizing fail sections with bulky dressings</td><td>Open abdominal trauma – eviscerations
• *Do not attempt to replace contents
• *Place contents on top of abdomen
• *Cover with thick moist dressing

Closed abdominal trauma
• *Attempt to localize pain to an abdominal region/quadrant</td></tr>
<tr><td rowspan="2">EMT</td><td>Defer nasal airways</td><td>May consider nasal airway</td><td>May consider nasal airway</td></tr>
<tr><td colspan="3">Consider oxygen and adjust delivery device and LPM flow to achieve 94% or better O2 saturation
For signs and symptoms of ICP AND GCS of 6 and under – consider hyperventilation of patient initiate transport</td></tr>
<tr><td>EMT skills with PMD approval and competency training</td><td colspan="3">Consider advanced airway for persistent decrease mental status
Consider IV access
Assess for shock and administer appropriate fluid boluses</td></tr>
<tr><td>AEMT</td><td colspan="3">Consider IO access as first access route in unstable pediatric patients
assess for shock and administer appropriate fluid boluses
Consider Morphine 2 – 4 mg IV/IO/INTRANASAL</td></tr>
<tr><td>EMT-I</td><td>*Consider cardiac monitoring</td><td>*Initiate cardiac monitoring

Needle decompress patient for sign and symptoms of tension pneumothorax</td><td>*Consider cardiac monitoring</td></tr>
<tr><td>Paramedic</td><td colspan="3">Consider RSI</td></tr>
<tr><td colspan="4">Special consideration for extremity injuries in multi-systems trauma
• *Consider utilizing a full body stabilization device and splint injured extremities to the device and/or patient to allow for rapid scene time and then splint extremities in route to destination
• *Stabilization of suspected pelvic and femur fractures is a high priority</td></tr>
</table>

AMPUTATIONS – EXTREMITY – SOFT TISSUE TRAUMA (Revised 10/1/2020)

ALL LEVELS

- Pediatric routine assessment and care
- Assess for shock and treat
- Consider pain management **See Pain Management Protocol

<table>
<tr><th></th><th>Amputations</th><th>Extremity</th><th>Soft Tissue</th></tr>
<tr><td rowspan="3">EMR</td><td colspan="3">Administer oxygen
Consider assisted ventilations
Consider oral airway
Consider OPQRST pneumonic for assessment of pain
Suction as needed
Manually stabilize head and neck
Control external bleeding
Stabilize impaled objects in place
Assess CMS
Consider trauma team activation</td></tr>
<tr><td colspan="3">May control external bleeding with the use of hemostatic agents or Junctional Tourniquets with physician medical director approval and direction.</td></tr>
<tr><td>• *Wrap amputated part in dressing and keep cool
• *Do not place tissue directly on ice</td><td>• *Manually stabilize painful and/or deformed extremity
• *Apply cold pack</td><td>• *Return avulsion type flaps to anatomic position if possible.
• *Bandage open wounds
• Consider removing impaled objects through the cheek into the mouth
• *For eye injuries – cover both eyes</td></tr>
<tr><td>EMT</td><td colspan="3">Consider oxygen and adjust delivery device and LPM flow
to achieve 94% or better O2 saturation
Initiate transport</td></tr>
<tr><td>EMT skills with PMD approval and competency training</td><td colspan="3">Consider advanced airway for persistent decrease mental status
Consider IV access
Assess for shock and administer 20ml/kg fluid boluses (max single bolus 500ml)</td></tr>
<tr><td>AEMT</td><td colspan="3">Consider IO access as first access route in unstable pediatric patients
Assess for shock and administer appropriate fluid boluses
Consider Morphine 0.05 to 0.2 mg/kg IV/IO/INTRANASAL</td></tr>
<tr><td>EMT-I</td><td colspan="3">*Consider Cardiac Monitoring</td></tr>
<tr><td>Paramedic</td><td colspan="3">Consider RSI
Consider pain management
Consider reduction of deformed fractures or dislocations ONLY if there is loss of signs of circulation, loss of sensation distal to the deformity, or if it is necessary in order to otherwise care for and transport the patient
*for stable patient’s consider on scene pain management to ease pain of movement/splinting
Defer insertion of NG and OG tube in any patient with gastric bypass or gastric banding
Consider 100 mg Thiamine IV/IO for adolescent patients with gastric bypass or gastric banding</td></tr>
<tr><td colspan="4">Special Consideration for Extremity Injuries in Multi-Systems Trauma
• *Consider utilizing a full body stabilization device and splint injured extremities to the device and/or patient to allow for rapid scene time and then splint extremities in-route to destination
• *Stabilization of suspected pelvic and femur fractures is a high priority</td></tr>
</table>

BITES AND ENVENOMATION (Revised 10/1/2020)

ALL LEVELS

- Pediatric routine assessment and care
- Assess for shock and treat
- Consider pain management **See Pain Management Protocol

EMR

- Consider oxygen
- Consider OPQRST for assessment of pain
- Control any external bleeding
- Consider manual stabilization of affected extremity
- Human bites and animal bites
  - Bandage wound
- Snake bite
  - Attempt to identify breed of snake
  - Slow venous return
- Insect bites
  - Remove stinger/venom sac
- Spider bites
  - Consider cold pack
- Assess for allergic reaction **go to Allergic Reaction – Anaphylaxis Protocol**
- Consider ALS

EMT

- Consider oxygen and adjust delivery device and LPM flow to achieve 94% or better O2 saturation
- Initiate transport

EMT skills with PMD approval and competency training

- Consider IV access
  - **Minor bites without associated sign and symptoms IV should be deferred

AEMT

- Consider IV access for pain management
- Consider IO access if IV cannot be obtained
- Consider 0.05 to 0.2mg/kg to max 4mg Morphine IV/IO/INTRANASAL

EMT-I

- Consider cardiac monitoring

Paramedic

- Consider pain management

BURNS (Revised 10/1/2020)

ALL LEVELS

- Pediatric routine assessment and care
- Assess for shock and treat
- Consider pain management **See Pain Management Protocol

EMR

- Administer oxygen
- Consider assisted ventilations
- Consider oral airway
- Consider OPQRST for assessment of pain
- Consider manually stabilize head/neck

Burn Type and Treatment Chart

<table>
<tr><th>Thermal Burns</th><th>Electrical Burns</th><th>Radiation Burns</th><th>Chemical Burns</th></tr>
<tr><td colspan="4">THINK SAFETY
Remember Scene Safety And Appropriate PPE</td></tr>
<tr><td rowspan="3">Stop burning process</td><td rowspan="3">Verify the electrical source is de-energized</td><td rowspan="3">Patient and radiation source need to be separated</td><td>Brush dry chemicals from skin flush with water</td></tr>
<tr><td>Wet chemicals – flush with water</td></tr>
<tr><td>Flush eyes continuously</td></tr>
<tr><td colspan="4">Do Not Apply Any Ointments or Creams</td></tr>
<tr><td>Do not intentionally rupture blisters</td><td>Assess for entrance and exit wounds</td><td>Decontaminate patient prior to transport</td><td>Decontaminate patient prior to transport</td></tr>
<tr><td colspan="3">Cover burns/wounds with dry dressings</td><td>Wrap patient with dry sheet</td></tr>
</table>

- Consider trauma system activation
- Consider ALS

EMT

- Defer nasal airway in facial burns and inhalation of super-heated air
- Administer oxygen and adjust delivery device and LPM flow to achieve 94% or better O2 saturation
- Estimate body surface area burned and extend of burn
- Initiate transport

EMT skills with PMD approval and competency training

- Consider advanced airway for persistent decrease mental status
- Consider IV access

AEMT

- Consider IO access if IV cannot be obtained
- Consider 0.05 to 0.2mg/kg to max Morphine IV/IO/INTRANASAL

Pediatric Modified Parkland Formula for Fluid Resuscitation in Thermal Burn Patients

3 ml **X** Body Surface Area Burned **X** Patient Weight in Kg = Total Fluid Over 24 Hours Half Given In 1st Eight Hours

EMT-I

- Consider intubation for persistent decrease mental status
- Initiate cardiac monitor for all electrical burns – consider for all other burns

Paramedic

- Consider RSI for burns to airway – inhaled superheated gases – inhaled chemicals

CRUSH INJURY (Revised 10/1/2020)

All Levels

- Routine assessment and care
- Assess for shock and treat
- Consider pain management **See Pain Management Protocol

EMR

- Administer oxygen
- Manually stabilize head/neck
- Consider oral airway
- Consider assisted ventilations
- Consider OPQRST for assessment of pain
- Control external bleeding
  - Control external bleeding with direct pressure, pressure bandage, pressure points and/or tourniquet
  - Control external bleeding with the use of Junctional Tourniquets with physician medical director approval and direction.
- Consider trauma system activation
- Consider ALS

EMT

- Consider nasal airway
- Administer oxygen and adjust delivery device and LPM flow to achieve 94% or better O2 saturation
- Initiate transport once freed

EMT skills with PMD approval and competency training

- Consider advanced airway for persistent decrease mental status
- Pre – release
  - Consider two IV access points
  - Administer fluid 20ml/kg bolus(es) to maintain BP within 5 to 10 points of normal for age
- Release – during process to free patient
  - Administer fluid 20ml/kg bolus(es) to maintain BP within 5 to 10 points of normal for age
- Post release
  - Administer fluid 20ml/kg bolus(es) to maintain BP within 5 to 10 points of normal for age

AEMT

- Single IO access if unable to obtain IO access
- Consider 0.05 to 0.2 mg/kg to 4 mg max Morphine if BP stabilizes with normal systolic range for patient's Age

EMT-I

- Consider intubation for persistent decrease mental status
- Initiate cardiac monitoring

Paramedic

- Consider RSI
- Consider consult with medical control for entrapment over 60 minutes
  - 1meg/kg sodium bicarbonate
- Consider Diagnostic ECG and evaluate for tall spiked T waves indicating hyperkalemia
  - Consider continuous albuterol nebulizer treatments age 1 and under total dose 2.5mg
  - Consider continuous albuterol nebulizer treatments age 1 to adolescent total dose 5mg
  - Consider continuous albuterol nebulizer treatments adolescent total dose 15mg
- Consider administration of TXA **See TXA Administration protocol Pg 145

ENVIRONMENTAL TRAUMA – EXPOSURE TO HEAT AND COLD (Revised 10/1/2020)

ALL LEVELS

- Pediatric routine assessment and care
- Assess for shock and treat
- Consider pain management **See Pain Management Protocol

EMR

- Administer oxygen
- Manually stabilize head/neck
- Consider assisted ventilations
- Consider OPQRST for assessment of pain
- Exposure to cold – hypothermia
  - Gently move patient to warm area if no spinal injury suspected
  - Remove wet clothing
  - Frozen/ near frozen extremities
    - Expose to warm surroundings
    - Consider dry dressing to pad
  - Body wide hypothermia
    - Passively warm patients with warm packs and blankets
- Exposure to heat
  - Gently move patient to cool area if no spinal injury suspected
  - Remove excessive clothing
  - Normal mental status and perspiration intact
    - Passive cool patient with fanning and cool dressing
  - Decrease mental status and/or no perspiration
    - Aggressive cooling with wet sheet, fanning and col packs
- Consider trauma system activation
- Consider ALS

EMT

- Consider nasal airway
- Administer oxygen and adjust delivery device and LPM flow to achieve 94% or better O2 saturation
- Initiate transport

EMT skills with PMD approval and competency training

- Consider advanced airway for persistent decrease mental status
- Consider IV access

AEMT

- Consider IO access if IV cannot be obtained

EMT-I

- Consider intubation for persistent decrease mental status
- Initiate cardiac monitoring

Paramedic

- Consider RSI
- When passive warming frozen extremities consider pain management

CHILD ABUSE (Revised 10/1/2020)

ALL LEVELS

- Routine assessment and care
- Assess for shock and treat
- Document
  - Factually injuries
  - Patient statements
- Report suspicions to destination facility and law enforcement
- Consider pain management **See Pain Management Protocol

EMR

- Consider oxygen
- Consider OPQRST for assessment of pain
- Manage open wounds
- Stabilize impaled objects in place
- Consider trauma system activation
- If possible have EMS provider of same sex as patient provide assessment and treatment
- Consider ALS

EMT

- Consider oxygen and adjust delivery device and LPM flow to achieve 94% or better O2 saturation
- Initiate transport

EMT skills with PMD approval and competency training

- Consider IV access
- Consider advanced airway for persistent decrease in mental status

AEMT

- Consider IO access if IV cannot be obtained
- Consider 0.05 to 0.2mg/kg to max Morphine IV/IO/INTRANASAL

EMT-I

- Consider cardiac monitoring

Paramedic

- Consider pain management

Specialty Medical Treatments

BLOOD AND BLOOD PRODUCTS (Revised 12/7/2012)

EMR, EMT, AEMT, and EMT-I

- Not approved for this protocol

Paramedic

- Field administration – emergency administration due to a delay in transport
  - Must have medical control approval
  - Must have type O negative blood
  - **Or** in cases of extreme entrapment have type and matched blood delivered to scene

- Inter-facility administration
  - Obtain order for transport
  - Obtain blood – blood product

- Blood – blood product administration
  - Obtain order
  - Obtain consent for blood-blood product administration
  - Obtain blood-blood product verify type and assignment to patient
  - Utilize blood Y with filter administration set
  - Set up administration with one port to non-medicated crystalloid solution and other port to blood
  - Flush administration set with non-medicated crystalloid solution
  - Obtain baseline vitals including temperature
  - Ensure a patent IV line size 18 or larger
  - Attach administration set and start flow of non-medicated crystalloid solution to verify IV is patent
  - Stop non-medicated crystalloid solution begin blood
  - Set rate
  - Monitor vital signs every 15 minutes until 30 minutes after blood completed
  - If patient develops transfusion reaction
    - Stop blood
    - Flush IV site
    - Consider 25 to 50mg diphenhydramine
  - When blood complete flush administration set with non-medicated crystalloid solution

PAIN MANAGEMENT (Revised 10/1/2020)

ALL LEVELS

- Routine assessment and care

EMR

- Consider applying cold pack to painful/deformed extremity

EMT skills with PMD approval and competency training

- Consider

EMT Pain Management Procedure

Assess and Monitor
• Vital Signs
  ○ Pulse, BP, Respiratory Rate
  ○ Pulse Oximetry
  ○ Consider
  ▪ IV Access
• Pain Level

Oxygenation • Deliver oxygen to maintain O2 saturations of 94% to 99%

Medication Administration
• Acetaminophen (Tylenol) – PO EMT and above
  ○ **Oral (PO) Dosage**
  ▪ **12 and older:** Dose: 325-650 mg PO q 4-6 hr prn; Max: 1 g/4h and 4 g/day from all sources
  ▪ **Neonates:** 10-15 mg/kg PO q 6-8 hr prn; Max: 60 mg/kg/day from all sources
  ▪ **Infants/Children:** 10-15 mg/kg PO q 4-6 hr prn; Max: 75 mg/kg/day up to 1 g/4h and 4 g/day from all sources
• **I**buprofen (Motrin)
  ○ Adult: 400 mg PO q4-6h prn Max: 2400 mg/day
  ○ Pediatric:
  ▪ **6 mo-11:** Dose: 5-10 mg/kg PO q6-8h prn; Max: 40 mg/kg/day
  ▪ **12 and older:** Dose: 400 mg PO q4-6h prn; Max: 2400 mg/day

Reassess
• Vital Signs
  ○ Pulse, BP, Respiratory Rate
  ○ Pulse oximetry
• Pain Level

Goal – Reduction of Pain Not Necessarily Elimination of Pain

AEMT and EMT-I

- Consider

AEMT and EMT-I Pain Management Procedure

Assess and Monitor
- Vital Signs
  - Pulse, BP, Respiratory Rate
  - Pulse Oximetry
  - Consider
    - Electronic EtCO2 and Cardiac Monitor
- Pain Level

Preparation
- Evaluate patient for potential of difficult airway
- Have intubation equipment and supplies available
- Have alternate non-visualized advanced airway available
- Have suction available
- Have naloxone available

Oxygenation
- Deliver oxygen to maintain O2 saturations of 94% to 99%

Medication Administration
- Morphine
  - Adult: 2 – 4mg IV/IO/ IM or INTRANASAL
  - Pediatric: 0.05 – 0.2mg/kg to Max 2 mg IV/IO/ IM/INTRANASAL
- Fentanyl (AEMT only)
  - Adult: 25-100 mcg IV/IO/IM or INTRANASAL
  - Pediatric: 1.0-2.0 mcg/kg IV/IO/IM or INTRANASAL
- Acetaminophen (Tylenol) – IV EMT-I and Paramedic only
  PO EMT and above
  - **Adult:**
    - **<50 kg:** 12.5 mg/kg IV q 4 hr OR 15 mg/kg IV q 6 hr; not to exceed 750 mg/dose or 3.75 g/day
    - **≥50 kg:** 650 mg IV q 4 hr OR 1000 mg IV q 6 hr; not to exceed 4 g/day
    - 325-1000 mg PO q 4-6 hr prn] Max: 1 g/4h and 4 g/day from all sources
  - **Pediatric:**
    IV Dosage
    - **<2 years:** Safety and efficacy not established
    - **2-12 years:** 12.5 mg/kg IV q4hr OR 15 mg/kg IV q6hr; not to exceed 75 mg/kg/day
    - **≥13 years**
      <50 kg:12.5 mg/kg IV q 4 hr OR 15 mg/kg IV q 6 hr; not to exceed 750 mg/dose or 3.75 g/day
      ≥50 kg: 650 mg IV q 4 hr OR 1000 mg IV q 6; not to exceed 4 g/day

    Oral (PO) Dosage
    - Dose: 325-650 mg PO q 4-6 hr prn; Max: 1 g/4h and 4 g/day from all sources
    - **Neonates:** 10-15 mg/kg PO q 6-8 hr prn; Max: 60 mg/kg/day from all sources
    - **Infants/Children:** 10-15 mg/kg PO q 4-6 hr prn; Max: 75 mg/kg/day up to 1 g/4h and 4 g/day from all sources
    - **12 and older:** 325-650 mg PO q 4-6 hr prn; Max: 1 g/4h and 4 g/day from all sources
- Administer a Benzodiazepine ***See Approved Sedative Chart below** (AEMT only)
- **I**buprofen (Motrin)
  - Adult: 400 mg PO q4-6h prn Max: 2400 mg/day
  - Pediatric:
    - **6 mo-11:** Dose: 5-10 mg/kg PO q6-8h prn; Max: 40 mg/kg/day
    - **12 and older:** Dose: 400 mg PO q4-6h prn; Max: 2400 mg/day
- Consider ondansetron (Zofran) anti-emetic (AEMT and Paramedic only)

Reassess
- Vital Signs
  - Pulse, BP, Respiratory Rate
  - Pulse oximetry
  - Consider
    - Electronic EtCO2 and Cardiac Monitor
- Pain level

Re- Dose for desired effect
- Titrate Morphine
  - Adult: 2mg IV/IO/IM/INTRANASAL
  - Pediatric: 0.05 – 0.2 mg/kg to Max 2mg IV/IO/IM/INTRANASAL

Reassess and Re-Dose

Goal – Reduction of Pain Not Necessarily Elimination of Pain

Paramedic

The Paramedic may consider minimal to moderate sedation in conjunction with an analgesic to manage the patient's pain OR analgesic only to manage the pain's pain. THE PARAMEDIC IS EXPECTED TO RECEIVE TRAINING ON THE MEDICATIONS CARRIED BY THE SERVICE.

Minimal sedation means the patient responds normally to verbal commands. Cognitive function and coordination may be impaired, but respiratory and cardiovascular functions are unaffected.

Moderate sedation means the patient responds purposefully to verbal commands alone or when accompanied by light touch. Protective airway reflexes and adequate ventilation are maintained without intervention. Cardiovascular function remains stable.

Sedation and Analgesic Option Procedure	Analgesic Only Option Procedure

Assess and Monitor
• Vital Signs
  ○ Pulse, BP, Respiratory Rate
  ○ Pulse Oximetry
  ○ Electronic EtCO2
  ○ Cardiac Rhythm
• Pain Level
	Assess and Monitor
	• Vital Signs
	  ○ Pulse, BP, Respiratory Rate
	  ○ Pulse Oximetry
	  ○ Consider
	  ▪ Electronic EtCO2 and Cardiac Monitor
	• Pain Level

Preparation • Evaluate patient for potential of difficult airway • Have intubation equipment and supplies available • Have alternate non-visualized advanced airway available • Have suction available • Have naloxone available	Preparation • Evaluate patient for potential of difficult airway • Have intubation equipment and supplies available • Have alternate non-visualized advanced airway available • Have suction available • Have naloxone available
Oxygenation • Deliver oxygen to maintain O2 saturations of 94% to 99%	Oxygenation • Deliver oxygen to maintain O2 saturations of 94% to 99%

Medication Administration
• Administer Sedative ***See Approved Sedative Chart**
• Administer Analgesic ***See Approved Analgesic Chart**
• Consider Anti-Emetic
  ○ ***Preferred***
  ▪ Ondansetron (Zofran)
  ▪ Metoclopramide (Reglan)
  ○ ***Acceptable But Monitor for EPR and Cardiac Effects***
  ▪ Promethazine (Phenergan)
  ▪ Prochlorperazine (Compazine)
	Medication Administration
	• Administer Analgesic ***See Approved Analgesic Chart**
	• Consider Anti-Emetic
	  ○ ***Preferred***
	  ▪ Ondansetron (Zofran)
	  ▪ Metoclopramide (Reglan)
	  ○ ***Acceptable But Monitor for EPR and Cardiac Effects***
	  ▪ Promethazine (Phenergan)
	  ▪ Prochlorperazine (Compazine)

Reassess
• Vital Signs
  ○ Pulse, BP, respiratory rate
  ○ Pulse Oximetry
  ○ EtCO2
  ○ Cardiac rhythm
• Adjust Oxygen delivery as needed
• Pain Level
	Reassess
	• Vital Signs
	  ○ Pulse, BP, respiratory rate
	  ○ Pulse Oximetry
	  ○ Consider
	  ▪ Electronic EtCO2 and cardiac monitor
	• Pain Level

Re-Dose for desired effect • Titrate sedative • Titrate analgesic	Re-Dose for desired effect • Titrate analgesic
Reassess and Re-Dose	Reassess and Re-Dose
Goal • Obtain minimal to moderate sedation level using the least amount of medication • Reduction of pain	Goal • Reduction of pain not necessarily elimination of pain

APPROVED SEDATIVE CHART

****Use lowest dose in the elderly or patients with impaired hepatic and or renal function**

Medication Name Generic (Brand Name)	Adult Dose	Pediatric Dose *Maximum Does Not To Exceed Adult Dose	Special Information
Benzodiazepine – Most Class Preferred Class			
Diazepam (Valium)	2.0- 4.0mg IV/IO/Rectal May repeat to maintain sedation	0.04 -0.2 mg/kg IV/IO/Rectal (6 Mo to 12 years) May repeat to maintain sedation	Reversal Agent – Flumazenil (Romazicon) Use with caution as rapid reversal may lead to seizures especially in patient with history of seizure disorder
Lorazepam (Ativan)	0.5 - 1.0mg IV/IO May repeat to maintain sedation ***Approved to be given by INTRANASAL but due to viscosity of may be an ineffective method of administration**	0.05 mg/kg (6 Mo to 12 years) May repeat to maintain sedation IV/IO	
Midazolam (Versed)	1.0- 2.0mg IV/IO/IM/INTRANASAL May repeat to maintain sedation	0.1 mg/kg (6 Months and Older) May repeat to maintain sedation	
Carboxylated Imidazole Derivative Class – Most Preferred Alternative to Benzodiazepine Class for Adult Sedation Acceptable Alternative to Benzodiazepine Class for Certain Pediatric Patients			
Etomidate	0.1 – 0.15 mg/kg IV/IO 0.05 mg/kg every 3 to 5 minutes to maintain sedation	0.1 – 0.2 mg/kg IV/IO 0.05 mg/kg every 3 to 5 minutes to maintain sedation	Avoid if patient 10 years old or younger May cause adrenal suppression
NMDA Receptor Antagonist Class – Most Preferred Alternative to Benzodiazepine Class for Pediatric Sedation Acceptable Alternative to Benzodiazepine Class for Adult Sedation			
Ketamine	1.5 – 2.0mg/kg IV/IO/IM as loading dose if needed 0.25 – 0.5 mg/kg every 5 to 10 minutes to maintain sedation	For Patient's Over 6 Months Old 2.0 – 4.0 mg/kg IM 1.0 – 2.0 mg/kg IV/IO as loading dose if needed 0.25 – 0.5 mg/kg every 5 to 10 minutes to maintain sedation	Consider Atropine for increased secretions 0.02 mg/kg with a minimal dose of 0.1 mg and a maximum of 0.5 mg for Pediatric 0.5mg Single Dose for Adults
Phenothiazine Class Least Desirable Alternative – Reserved To Incidents When No Other Alternatives Are Available			
Prochlorperazine (Compazine)	5mg IV/IO May Repeat Once	Not Approved May cause dystonic reactions	Use Lowest possible dose to prevent extra pyramidal reactions For EPR consider Diphenhydramine (Benadryl) 12.5 to25mg Peds 25 to50mg Adults
Promethazine (Phenergan)	25 mg IV/IO May Repeat Once	Not Approved May cause dystonic reactions	

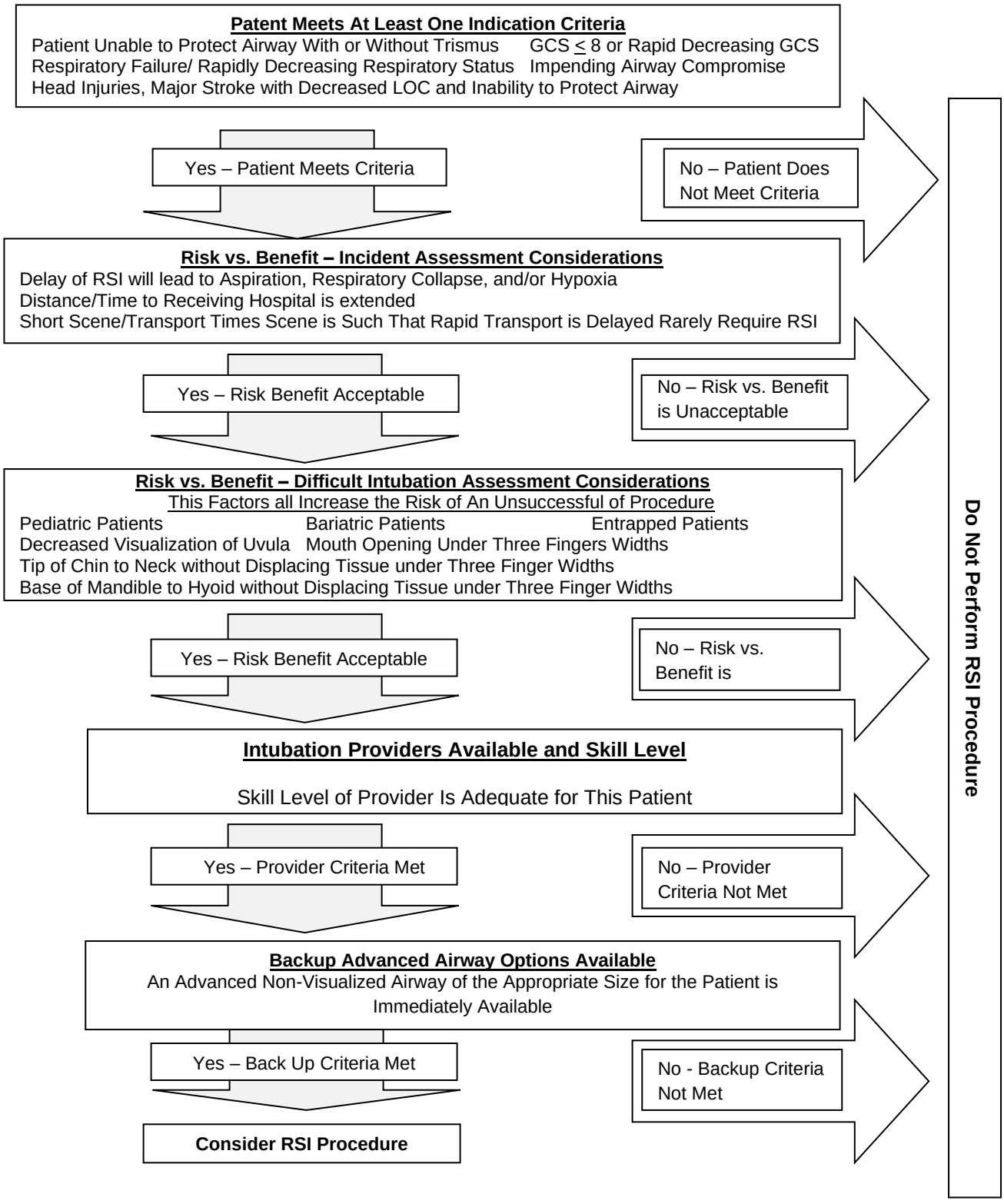
APPROVED ANALGESIA CHART

Medication Name Generic (Brand Name)	Adult Dose	Pediatric Dose *Maximum Does Not To Exceed Adult Dose	Special Information
Opioid Class			
Morphine	2 – 4 mg IV/IO/IM/INTRANASAL	0.05 – 0.2mg/kg IV/IO/IM/INTRANASAL	Reversal Agent – Nalxone (Narcan)
Fentanyl	25 to 100 mcg IV/IO/IM/INTRANASAL	1.0 – 2.0 mcg/kg IV/IO/IM/INTRANASAL	
Hydromorphone (Dilaudid)	0.2 – 0.6 mg IV/IO	0.03 to0.08mg/kg IV/IO Over 6 Months	
Nalbuphine (Nubain)	10 to 20mg IV/IO	0.05 to 0.1mg/kg IV/IO	
Stadol	0.5mg to 2mg IV/IO	Not Approved Under the Age 18	
Opioid ClassLeast Desirable Alternative – But Acceptable			
Meperidine (Demerol)	50 – 100mg IV/IO/IM	1mg/kg IV/IO/IM	Reversal Agent – Nalxone (Narcan)
NSAID Class			
Ketorolac (Toradol)	15 to 30mg IV/IM *Preferred treatment for suspected Kidney Stone as a single medication or in conjunction with an opioid class medication	0.5mg/kg to maximum dose of 30mg	Defer in suspected Stroke, GI Bleeding, or other indications of internal bleeding and external bleeding not easily controlled with direct pressure
Ibuprofen (Motrin)	400 mg PO q4-6h prn Max: 2400 mg/day	**6 mo-11:** Dose: 5-10 mg/kg PO q6-8h prn; Max: 40 mg/kg/day **12 and older:** Dose: 400 mg PO q4-6h prn; Max: 2400 mg/day	
Analgesic Class			
Acetaminophen (Tylenol) **IV - EMT-I & Paramedic**	**<50 kg:** 12.5 mg/kg IV q 4 hr OR 15 mg/kg IV q 6 hr; not to exceed 750 mg/dose or 3.75 g/day **≥50 kg:** 650 mg IV q 4 hr OR 1000 mg IV q 6 hr; not to exceed 4 g/day Infuse IV over at least 15 minutes (also see Pain Management Protocol)	**<2 years:** Safety and efficacy not established **2-12 years:** 12.5 mg/kg IV q4hr OR 15 mg/kg IV q6hr; not to exceed 75 mg/kg/day **≥13 years** **<50 kg:** 12.5 mg/kg IV q 4 hr OR 15 mg/kg IV q 6 hr; not to exceed 750 mg/dose or 3.75 g/day **≥50 kg:** 650 mg IV q 4 hr OR 1000 mg IV q 6 hr; not to exceed 4 g/day	Indicated for mild-to-moderate pain and moderate-to-severe pain with adjunctive opioid analgesics; also indicated for reduction of fever injectable solution ·10mg/mL
Acetaminophen (Tylenol)	325-1000 mg PO q 4-6 hr prn] Max: 1 g/4h and 4 g/day from all sources	**Neonates:** Dose: 10-15 mg/kg PO q 6-8 hr prn; Max: 60 mg/kg/day from all sources **Infants/Children:** Dose: 10-15 mg/kg PO q 4-6 hr prn; Max: 75 mg/kg/day up to 1 g/4h and 4 g/day from all sources **12 and older:** Dose: 325-650 mg PO q 4-6 hr prn; Max: 1 g/4h and 4 g/day from all sources	

Routes of Administration: IV – Intravenous IO – Intraosseous IM – Intramuscular INTRANASAL – Mucosal Atomization Device

Paramedic Only

RSI Decision Making Algorithm



The **Paramedic** may consider RSI for patients of sufficient size and/or age in which the **Paramedic** has immediately available to a correctly sized advanced non-visualized airway to be used in event the intubation procedure fails.

Rapid Sequence Intubation Procedure
Criteria For Procedure • GCS ≤ 8 • Patient unable to protect airway with or without trismus • Respiratory failure/ rapidly decreasing respiratory status • Head injuries, major Stroke with decreased LOC and inability to protect airway • Impending airway compromise – such as airway burns, edema, trauma to larynx

Assess and Monitor
• For difficult airway – intubation
• Risk vs. Benefit of procedure
• Monitor patient's vital signs
  ○ Pulse, BP, Respiratory Rate
  ○ Pulse Oximetry, EtCO2, Cardiac Rhythm

Prepare • Intubation equipment and select tube size • Alternate correctly sized non-visualized advanced airway available   ○ If alternate advanced airway is not available – DO NOT attempt procedure • Surgical or needle cricothyrotomy equipment available • Suction available • Establish IV or IO access • Consider anti-emetic
Oxygenation • Pre – Oxygenate with 100% FiO2 for 2-3 minutes by BVM   ○ Consider cricoid pressure – Sellick's Maneuver • **OR** Pre-oxygenate with 100% FiO2 for 5 minutes by oxygen delivery mask

Pre-sedation/induction medication considerations
• For signs and symptoms/ high index of suspicion of increased ICP
  ○ Consider lidocaine 1.0-1.5mg/kg
• For pediatric patients
  ○ Consider atropine 0.01 to 0.02mg/kg to a maximum of 0.5mg (minimum dose 0.1mg)
• When using ketamine as sedative/induction agent
  ○ Consider atropine 0.01 to 0.02mg/kg to a maximum of 0.5mg for pediatric patients
  ○ Consider atropine 0.5 mg for adult patients

Administer Sedation/Induction Agent – **MUST HAVE SEDATION/INDUCTION MEDICATION ON BOARD PRIOR TO PARALYTIC AGENT** • Administer Sedative/Induction Agent – **See Chart**

Administer paralytic agent
• Administer succinylcholine
  ○ 1.5 mg/kg IV/IO – adult
  ○ 2.0 mg/kg IV/IO – small children
• May consider Rocuronium 0.6 – 1.2mg/kg when
  ○ Succinylcholine is contra-indicated
  ○ Succinylcholine is unavailable
  ○ Or PMD has authorized Rocuronium as primary agent

Assess • For jaw relaxation and apnea • Decreased resistance to BVM ventilations
Intubation • Perform oral intubation • If not successful in 15 seconds perform BVM ventilation and reattempt • If unsuccessful after 3 attempts use alternate advanced airway

Confirm placement
- Visualized tube pass through vocal cords
- Observe chest rise and fall
- Auscultate for lung sounds – no epigastric sounds
- Secondary devices
    - Free air pull/inflate on esophageal detector device (EDD)
    - Positive EtCO2

Ventilate and secure tube
- Ventilate patient at appropriate rate and depth
    - Goals – O2 Sat 94 to 99% and EtCO2 35 to 45
    - Consider use of PEEP and PIP if available
- Secure tube with commercial device or other method
- Place rigid c-collar even if no trauma to assist in maintaining neutral position
- Consider soft restraints to patient's arms to prevent unplanned extubation

Reassess
- Vital Signs
- Adjust rate and depth of ventilations as needed
    - Goals – O2 Sat 94 to 99% and EtCO2 35 to 45
    - Consider Use of PEEP and PIP If Available
- Tube placement after each patient move

Administer paralytic
- If succinylcholine used as initial paralytic agent
    - Consider vecuronium 0.1mg/kg initial dose and maintain at 0.01 to0.05mg/kg;
    - **Or** consider rocuronium 0.6 – 1.2 mg/kg initail dose and maintain at 0.1 – 0.2 mg/kg;
    - **Or** consider pancuronium 0.04 – 0.1 mg/kg
- If rocuronium used as initial paralytic agent
    - Consider rocuronium 0.6 – 1.2 mg/kg initail dose and maintain at 0.1 – 0.2 mg/kg;
    - **Or** consider vecuronium 0.1mg/kg initial dose and maintain at 0.01 to0.05mg/kg;
    - **Or** consider pancuronium 0.04 - 0.1 mg/kg

Reassess and maintain
- Reassess vitals
- Titrate to maintain sedation ****It is unethical to chemically paralyze a patient without sedation**
- Consider pain management **See chart**
- Consider bronchodilator medication for bronchospasms/exacerbation of COPD/anaphylaxis
- Re-dose non-depolarizing paralytic

Approved Rapid Sequence Intubation (RSI)
Sedative/Induction Agents Chart

Medication Name Generic (Brand Name)	Adult Dose **DOSE FOR RSI	Pediatric Dose *Maximum Dose Not To Exceed Adult Dose	Special Information
Benzodiazepine Class			
Diazepam (Valium)	5 to 10mg IV/IO May repeat 2 to 4mg IV/IO to maintain sedation	0.04 – 0.2 mg/kg IV./IO (6 Mo to 12 years) May repeat to maintain sedation	Reversal Agent – Flumazenil (Romazicon) Use with caution as rapid reverse may lead to seizures especially in patient with history of seizures
Lorazepam (Ativan)	2.0 – 4.0 mg IV/IO May repeat 1 to 2mg to maintain sedation	0.1 mg/kg to max of 4 mg May repeat ½ initial dose to maintain sedation	
Midazolam (Versed) ***Most Preferred of this Class***	2.0mg – 6mg IV/IO/IM May repeat 2mg to maintain sedation	0.2 to 0.3mg/kg (6 Mo and Older) May repeat ½ initial dose to maintain sedation	
Carboxylated Imidazole Derivative Class – Most Preferred Alternative to Benzodiazepine Class for Adult Sedative/Induction Acceptable Alternative to Benzodiazepine Class for Pediatric Sedative/ Induction			
Etomidate	0.3 mg/kg IV/IO May Repeat 0.1 -0.15 mg/kg to maintain sedation		Avoid if patients 10 years old or younger
NMDA Receptor Antagonist Class – Acceptable Alternative to Benzodiazepine Class for Adult and Pediatric Sedative/Induction			
Ketamine	1.5 – 2 mg/kg IV/IO 0.25 – 0.5 mg/kg every 5 to 10 minutes to maintain sedation	For Patient's Over 6 Months Old 2.0 – 4.0 mg/kg IV/IO 0.25 – 0.5 mg/kg every 5 to 10 minutes to maintain sedation	To Prevent Hypersalivation Consider administration of Atropine 0.02 mg/kg with a minimal dose of 0.1 mg and a maximum of 0.5 mg for Pediatric 0.5mg Single Dose for Adults
General Anesthesia/ Sedative/Hypnotic Class – Acceptable Alternative to Benzodiazepine Class			
Propofol	1 – 2 mg/kg IV/IO 0.05mg – 0.1mg/kg/min infusion to maintain sedation	1 – 2 mg/kg IV/IO 0.05 – 0.1mg/kg/min infusion to maintain sedation	May cause hypotension – Avoid in hypotensive patients or patients with a high risk of developing hypotension
Barbiturate Class – Acceptable Alternative to Benzodiazepine Class When One of The Above Alternative Are Not Available			
Methohexital (Brevital)	1 – 1.5 mg/kg IV/IO – 1% Solution 0.5 mg/kg every 4-7 minutes to maintain sedation	6.6 to 10 mg/kg IM 5% Solution 25mg/Kg Rectal 1% Solution Over 1 Month of Age Consider another agent to maintain sedation	
Phenothiazine Class – Least Desirable Alternative – Reserved To Incidents When No Other Alternative Are Available			
Prochlorperazine (Compazine)	5 – 10mg IV/IO May Repeat Once	Not Approved	Use lowest possible dose to prevent extrapyramidal reactions For EPR consider Diphenhydramine (Benadryl) 12.5 to 25mg Peds 25 to 50mg Adults
Promethazine (Phenergan)	25 – 50mg IV/IO May Repeat Once	0.5 – 1.0 mg/kg to max of 25 mg IV/IO Single Dose Only	

Approved Neuromuscular Blocking Agents Chart

Medication Name Generic (Brand Name)	Dosage (Paralytic)	Dosage (Defasciculating)	Onset	Duration
Depolarizing Class				
Succinylcholine(Anectine)	RSI: 1 to 2 mg/kg		30 to 60 seconds	4 to 6 minutes
Non-Depolarizing Class				
Vecuronium (Norcuron)	RSI: 0.1 mg/kg M: 0.01 – .05 mg/kg	0.01 mg/kg	2.5 to 5 minutes	25 – 40 minutes
Pancuronium (Pavulon)	RSI :0.04 – 0.1 mg/kg M: 0.01 mg/kg		3 minutes	30 – 45 minutes
Rocuronium (Zemuron)	RSI: 0.6 – 1.2 mg/kg M: 0.1 – 0.2 mg/kg		1 – 3 minutes	30 minutes

RSI = Rapid Sequence Intubation M = Maintenance dose

Approved Pain Management Chart for RSI

Medication Name Generic (Brand Name)	Adult Dose	Pediatric Dose	Special Information
Opioid Class			
Morphine	2 – 4 mg IV/IO	0.05 – 0.2mg/kg IV/IO	Reversal Agent – Naloxone (Narcan)
Fentanyl	25 to 100 mcg IV/IO	1.0 – 2.0mcg/kg IV/IO	
Hydromorphone (Dilaudid)	0.2 – 0.6 mg IV/IO	0.03 to 0.08mg/kg IV/IO Over 6 Months	
Nalbuphine (Nubain)	10 to 20mg IV/IO	0.05 to 0.1mg/kg IV/IO	
Opioid Class – Least Desirable Alternative – But Acceptable			
Meperidine (Demerol)	50 – 100mg IV/IO/IM	1mg/kg IV/IO/IM	Reversal Agent – Naloxone (Narcan)

SEPSIS ALERT PROTOCOL (Revised 6/7/2019)

Pre-hospital Sepsis Alert Protocol

History
- Age (common in elderly and very young)
- Presence and duration of fever
- Previously documented infection or illness (UTI, pneumonia, meningitis, encephalitis, cellulitis, abscess, etc.)
- Recent surgery or invasive procedure
- Immunocompromised (transplant, HIV, diabetes, cancer)
- Bedridden or immobile patients
- Prosthetic or indwelling devices
- Immunization status
- Recent Hospitalization

Sign and Symptoms
- Warm, flushed, sweaty
- Chills/ Rigors
- Delayed cap refill
- Mental status changes
- Decreased urine output

Associated symptoms
- Myalgias, cough, chest pain, headache, dysuria, abdominal pain, rash

Other Possible Causes
- Cardiogenic shock
- Hypovolemic shock
- Dehydration
- Hyperthyroidism
- Medication/Drug interaction
- Non-septic infection
- Allergic reaction/anaphylaxis
- Toxicological emergency
- Heat stroke
- Stroke/Myocardial infarction

Routine Assessment and Care Protocol

Consider Appropriate PPE and /or indicated infection control measures

SEPSIS SCREEN:
Obvious or suspected source of infection **AND** any of these SIRS criteria:
SBP < 90 mmHg
Heart rate > 90/min
Respiratory Rate >20
GCS < 15
Temperature ≥ 100.4°F or < 96.0°F

Pediatrics SIRS Criteria
Temperature
Same as Adult
AND
Heart Rate
1 month – 1 year > 180
2-5 year > 140
6 -12 years > 130
13-18 years > 120

Sepsis Screen Positive?

YES

NO

Exit to age appropriate condition appropriate Protocol(s)

If within scope of practice
Normal saline bolus IV/IO
Adult: 500 mL
Repeat as needed, Max 2 L
Peds: 20 mL/kg
Repeat as needed, Max 60 mL/kg
Reassess SIRS criteria and re-examine after initial bolus. Repeat bolus as long as any SIRS criteria present, unless concern for fluid overload. (see pearls)

If SBP < 90 or age appropriate hypotension after max bolus, begin Norepinephrine.

Adult: Norepinephrine IV/IO
(via infusion pump)
1-10mcg/min
Titrate to SBP > 90
Peds: norepinephrine IV/IO
0.05 -2 mcg/kg/min
Titrate to age appropriate BP:
SBP ≥ 70 + 2X age

Monitor ETCO2. Is the ETCO2 < 26 on at least two consecutive measurements 5 minutes apart or positive SIRS criteria?

YES

SEPSIS ALERT
Notify receiving facility of possible sepsis.

NO

Notify Destination per usual procedures or Contact Medical Control as needed

PEARLS
- Early recognition of Sepsis allows for attentive care and early administration of antibiotics.
- Aggressive IV fluid therapy is the most important prehospital treatment for sepsis. Suspected septic patients should receive repeated fluid boluses while being checked frequently for sign of pulmonary edema, especially patients with known history of CHF or ESRD on dialysis. STOP fluid infusion in the setting of pulmonary edema.
- Septic patients are especially susceptible to traumatic lung injury and ARDS. If artificial ventilation is necessary avoid ventilating with excessive tidal volumes. If CPAP is utilized, airway pressure should be limited to 5cm H_2O.
- Attempt to identify source of infection (skin, respiratory, etc.) and relay previous treatments and related history to ED.
- Elevated serum lactate levels are a useful marker of hypoperfusion in sepsis and often become elevated prior to the onset of hypotension. End Tidal CO_2 levels are correlated with lactate levels.
- Disseminated Intravascular Coagulation (DIC) is an ominous, late state manifestation of sepsis characterized by frank, extensive bruising, bleeding from multiple sites and finally tissue death.
- Norepinephrine is preferred drug for septic shock. Alternative options may include: Epinephrine, Dopamine, Vasopressin.

THORACOSTOMY (Revised 5/7/2024)

Paramedic Only:

Finger Thoracostomy only approved for Paramedic level if the following criteria are met:

- Paramedic has received appropriate documented education and training for finger thoracostomy.
- Paramedic has demonstrated competency for finger thoracostomy.
- PMD approves finger thoracostomy for the individual Paramedic provider.
- Mandatory Q&A is conducted each call for service the procedure is attempted.
- Yearly demonstrated competency documented for each provider.

Tube Thoracostomy only approved for Paramedic level if the following criteria are met:

- Paramedic has received appropriate documented education and training for finger thoracostomy.
- Paramedic has demonstrated competency for finger thoracostomy.
- PMD approves finger thoracostomy for the individual Paramedic provider.
- Mandatory Q&A is conducted each call for service the procedure is attempted.
- Yearly demonstrated competency documented for each provider.
- Only attempted for interfacility transports.
- Only administered as a sterile procedure.

TRACHEOSTOMY EMS PROTOCOLS (Revised 3/9/2022)

General Principle:
If ventilation adequate; O2 applied to tracheostomy via blow by.

Maintain open airway by placing patient in the “sniffing” position.

If vital signs have not improved after initial oxygen, re-evaluate oxygen delivery and adjust accordingly.

If not ventilating adequately: assist with BVM and 100% O2. Bag valve to trach, Bag-valve-mask to trach stoma, Bag-valve-mask to nose and mouth with occlusive dressing over trach stoma.

If pulse oximetry is used, adjust oxygen delivery devices to an oxygen saturation of 90% or above if possible.

EMR			
	Scene Safety		
	BSI	Safety First	
	Level of Conscious	Alert, verbal, pain, or unresponsive	
	Approach	In calm manner. DO NOT Excite/Scare the patient	
	Airway	**Trach Clear**	**Trach Obstructed**
		Maintain airway. If necessary, assist patient/caregiver with suctioning trach as needed.	Assist patient/caregiver with suctioning trach up to 3 times. If unable to clear trach, remove it.
	Breathing	Administer oxygen	Administer oxygen
	Consider	Assisting patient/caregiver ventilations with Bag-valve-trach	Assisting ventilations with BVM. Place an occlusive dressing over stoma site.
	Circulation	Vital signs, skin color/temp	Vital signs, skin color/temp
	Assess	Conduct a Simple Patient Assessment	Conduct a Simple Patient Assessment
EMT			
	Transport	Non-emergent transport if patient stable	Emergent

	Assess	Conduct Basic Patient Assessment	Conduct Basic Patient Assessment
	Consider		Assist patient/caregiver with replacement of trach.
	Consider	ALS Intercept	ALS Intercept
EMT skills with PMD approval and competency training / EMT-I			
	Consider		If unable to replace trach, consider placing an ETT in trach stoma and provide bag-valve-ETT ventilations or insert an advanced airway and place an occlusive dressing over trach stoma. Suction
	IV	Consider establish Peripheral IV Access. Do not delay transport.	Establish Peripheral IV Access. Do not delay transport.
	Access	Perform Advanced Physical Assessment	Perform Advanced Physical Assessment
	IV		IO Access in lieu of IV access
	Cardiac Monitor	Attach Cardiac Monitor, Interpret ECG	Attach Cardiac Monitor, Interpret ECG
PARAMEDIC	Access	Perform Comprehensive Assessment	Perform Comprehensive Assessment
	Consider		Rapid Sequence Intubation (RSI) *see RSI Protocol. Use occlusive dressing to cover stoma site.
	Consider	CPAP via trach	CPAP

TXA ADMINISTRATION (Revised 1/2/2020)

Paramedic:

TXA Administration Procedure

Criteria For Procedure
• Consider TXA for trauma patients if:
  ○ The patient is being transported to a trauma center that supports administration of TXA
  ○ Multi-system trauma with evidence of active hemorrhage
  ○ Major pelvic fracture with evidence of active hemorrhage
  ○ Solid organ injuries with evidence of active hemorrhage
  ○ Traumatic amputations
  ○ Severe hemorrhagic shock with systolic blood pressure (SBP) below 90 mmHg
  ○ Heart rate above 110 beats per minute
  ○ Age >15 years (or local trauma definition of the age of an adult trauma patient)
  ○ Duration since the time of initial injury is less than 180 minutes (3 hours), prefer < 60 minutes

Criteria to Exclude Procedure • Time from initial traumatic insult > 180 minutes or unknown time of injury • Patients who have contraindication to antifibrinolytic therapy agents
Prepare • Review inclusion and exclusion criteria above and if the patient remains hemodynamically unstable with evidence of non-compressible hemorrhage • Consider consulting Medical Control for those patients who may benefit from this medication including impending hemodynamic instability.

Administration
• Administer Tranexamic Acid (TXA)
  ○ Loading dose
  ▪ 1 g/100 mL NS over 10 minutes IV bolus
  ○ Maintenance dose
  ▪ 1 g/500 mL NS infusing at 60 mL/hr IV for total infusion of 8 hours
• During initial report to receiving facility AND at transition of care, report of time of injury, time of TXA loading dose, and time of maintenance infusion start, if started

WOUND CARE TOURNIQUET (Revised 10/1/2020)

ALL LEVELS

Clinical Indications:

- Life-threatening extremity hemorrhage that cannot be controlled by any other means.
- Serious or life threatening extremity hemorrhage and tactical considerations prevent the use of standard hemorrhage control techniques.

Contrindications:

- Non-extremity hemorrhage
- Proximal extremity location where tourniquet application is not practical

Procedure:

- Place tourniquet proximal to wound
- Tighten per manufacturer instructions until hemorrhage stops and/or distal pulses in affected extremity disappear.
- Secure tourniquet per manufacturer instructions
- Note time of tourniquet application and communicate this to receiving care providers.
- Dress wounds per standard wound care protocol.

If one tourniquet is not sufficient or not functional to control hemorrhage, consider the application of a second tourniquet more proximal to the first.

Special Situations

ELECTRONIC CONTROL DEVICES (TASER) (Revised 10/1/2020)

Electronic Control Devices (Taser) is a device that uses an electrical shock to render an individual incapable for a short time to continue physical activity.

Electronic Control Devices may use probes that only have to be placed against the skin or devices in which probes are discharged and impaled into the skin.

ALL LEVELS

- Routine assessment and care

EMR

- Consider oxygen
- Assess for trauma
  - Consider manual stabilization of head/neck
  - Consider manual stabilization of painful/deformed extremities
  - Care for open wounds
- For impaled probes in breast face/neck or genitals
  - Stabilize in place
- For impaled probes not in breast face/neck or genitals'
  - Place finger on each side of probe
  - Pull probe straight outward
  - Control bleeding and bandage
- Consider ALS

EMT

- Consider oxygen and adjust delivery device and LPM flow to achieve 94% or better O2 saturation
- Initiate transport

EMT skills with PMD approval and competency training and AEMT

- No additional guidance in absence of other signs and symptoms

EMT-I and Paramedic

- Consider cardiac monitoring

REQUESTS TO MEDICALLY CLEAR A PATIENT (Revised 10/1/2020)

The ECP may be approached by law enforcement to medically clear a patient so the officer may transport a patient to a facility other than a hospital.

The ECP may be approached at a sports event standby to medically clear a patient for return to play.

ALL LEVELS

- May not medically clear a patient
- When confronted with these situations the ECP
  - Should encourage the patient to seek evaluation at the hospital
  - Conduct an appropriate assessment and care
  - May obtain a refusal – **See refusal guide lines**

EMS STUDENT PRACTICE GUIDELINES (Revised 10/1/2020)

An EMS student enrolled in an approved training agency EMS course defined in titled 172 NAC 13 may perform the practices and procedures of the level of licensure for the EMS course the student is enrolled in.

Student Status means the status when the approved training agency releases the student to begin field clinical hours. Student status ends when the student is terminated from the course by the training agency (Examples; student fails, expelled, drops out, exceeds the time allowed for course completion) OR receives a Certificate of Completion from the training agency.

Supervision of the EMS Student means that a student must be supervised by a licensed ECP at the same level or higher level of the course the EMS student is enrolled in.

Student Guidelines:
EMR/EMT/AEMT/Paramedic Students may under field supervision perform the Practices and Procedures of an EMR as defined in Nebraska Emergency Medical Services Practice Act.

EMS TEMPORARY LICENSEE PRACTICE GUIDELINES (Revised 10/1/2020)

Field Experience:
Time in an emergency medical service course when a student is directly supervised while operating with an emergency medical service, hospital, health clinic, or physician's office that provides care to a perceived individual need for medical care and proceeds from observation to providing care commensurate with the student's training.

Direct Supervision:
The visual monitoring, providing of verbal direction, and overseeing patient care that is being provided by a student.

Practice Under A Temporary License:
An individual with a temporary license must be under direct supervision by the same or higher level of out-of-hospital emergency care provider, licensed healthcare practitioner, or under the direction of a registered nurse, when performing practices or procedures at the level permitted by the temporary license.

Temporary Licensee Examination Failure:
Any temporary license will expire immediately if the licensee has failed examination as defined in the Nebraska Emergency Medical Practices Act 38-1217.

EXTRA PAIR OF HANDS CONCEPT (Revised 10/1/2020)

The Nebraska Board of Emergency Medical Services issued this guideline for emergency care providers (ECP) when using assistive personnel as their "extra-pair of hands". The purpose of this guideline is to give direction to the ECP when he/she deems it necessary to request assistance from other individuals in rendering emergency care.

An assistive person means a firefighter, law enforcement officer, ambulance driver or any other available person who is requested to provide assistance in an emergency and who is **not** licensed/certified as an ECP or other health care provider.

When such assistance is needed, an ECP may use this extra pair of hands if the:

- Assistive person is physically present and in the same proximity or visual field as the ECP;
- ECP instructs and directs the activity that the assistive person is to perform;
- Ultimate responsibility for assessment, care, and treatment remains with the ECP;
- Activity provided by the assistive person does not require such person to exercise knowledge of the nature or to the degree required to initiate, modify or discontinue the emergency care; and
- Activity provided by the assistive person does not require such person to assess the condition of the patient.

Examples of activities an assistive person may perform include but are not limited to:

- Assisting with lifting a patient;
- Holding an IV bag;
- Spiking an IV bag;
- Assist with CPR;
- Applying pressure to a wound;
- Placing straps on transport boards and cots;
- Pumping up a vacuum splint-air splints;
- Assisting with log rolling;
- Holding emesis basin; and
- Obtaining equipment.

When an ECP uses an "extra pair of hands", he/she must remember:

- The ECP is accountable for the emergency treatment provided;
- The ECP cannot delegate to the assistive person the performance of any skills that requires EMS certification;
- The ultimate responsibility for identification of emergency care must remain with the ECP; and
- No task may be given to an assistive person that will cause injury or harm to the patient.

EMR Assisting AEMT, EMT-I or Paramedic

A licensed EMR or EMT may assist the AEMT, EMT-I or Paramedic with patient care and perform care within the practices and procedures of the EMR or EMT including any PMD authorized skills.

The EMR may assist the AEMT, EMT-I or Paramedic under direction with;

- Spiking an IV Bag;
- Retrieving medications, and other ALS supplies from box/bags/cabinets;
- Witness the waste of controlled medications; and
- The ultimate responsibility any assisted procedure remains with the AEMT, EMT-I or Paramedic

INTER-FACILITY TRANSPORTS (Revised 9/22/2022)

ALL LEVELS

- Routine assessment and care adult or pediatric

EMR

- May Assist the EMT, AEMT, EMT-I, or Paramedic during inter-facility transport

EMT

- Obtain patient report from sending facility staff and confirm the following;
  - Reason for transport and destination facility
  - Any patient orders for care during transport
  - Patient orders do not exceed the ECP's scope of practice
- Consider oxygen and adjust delivery device and LPM flow to achieve 94% or better O2 saturation
- May monitor but not establish
  - Urinary catheters
  - Gastric tubes
- Provide monitoring as appropriate to level of licensure and patient conditions
  - Consider vitals
    - Once for baseline at initiation of transport
    - Every 30 to 60 minutes for stable patients
    - Every 5 to 15 minutes for unstable patients
    - Once at or near the end of transport
- **See appropriate protocol for patients that develop additional complaint or have changes**

EMT skills with PMD approval and competency training

- Monitor IV non-medicated crystalloid solution, D5, or D10 at ordered rate
  - Including by IV pump
- Monitor and continue previously started antibiotics **on a pump only** with appropriate training on the operation of the IV pump and must be able to treat an anaphylactic reaction.
- Monitor and continue previously started Total Parenteral Nutrition (TPN) **on a pump only** with appropriate training on the operation of the IV pump and must be able to treat an anaphylactic reaction.
- Maintain and monitor only central and PICC line running crystalloid solutions **on a pump only** with appropriate training on the operation of the IV pump and must be able to treat an anaphylactic reaction.
- Maintain and monitor only central and PICC line running previously started antibiotics **on a pump only** with appropriate training on the operation of the IV pump and must be able to treat an anaphylactic reaction.

AEMT

- Monitor and continue previously started antibiotics **on a pump only** (AEMT and Paramedic only)
- Monitor and continue previously started IV fluids containing electrolytes **on a pump only** (AEMT and Paramedic only)
- Consider ondansetron (Zofran) or (Reglan) anti-emetic (AEMT and Paramedic only)

EMT-I

- Consider cardiac monitoring

Paramedic

- Consider anti-emetic
- Monitor and adjust ventilator settings as needed
- Administer ordered medications by ordered route unless contraindicated
- Monitor and adjust medication infusions as needed examples (not all inclusive)
  - Adjust nitroglycerin infusion to maintain chest pain/pressure control AND blood pressure
  - Adjust vasopressor agents to maintain blood pressure
  - Generally anti-coagulants/anti-platelets will not need adjustment
- Monitor and re-dose sedation, pain management and paralytic agents
- Administer and/or monitor blood/blood products

RESTRAINT (Revised 12/7/2012)

EMR

- Non-combative patients
  - Calm and reassure patient
  - Give clear explanations and directions
- Combative patients
  - Contact law enforcement
  - Consider physically restraining patient
    - Supine
    - Physically restrain one arm above head
      - If injury or limited range of motion restrain arm at patient's side
    - Physically restrain second arm at side
    - Physically restrain each leg just above knee
    - Consider use of commercially available spit hood

EMT, AEMT and Paramedic

- Combative patients
  - Restrain patient
    - Supine on to transport or stabilization device
    - Use self-adhering bandage or commercial restraint device
      - Restrain one arm above head
        - If injury or limited range of motion restrain at patient's side
      - Restrain second arm at side
    - Restrain with a minimum of three straps
      - One across upper chest
      - One across waist
      - One across lower thigh just above knees
    - Consider use of commercially available spit hood
  - Handcuffs are only to be applied by law enforcement and generally should be avoided

ALL LEVELS – DO NOT

- Restrain patient prone
- "Hog tie" patient and place prone
- Place gauze or tape over or in mouth
- "Sandwich" patient between stabilization devices

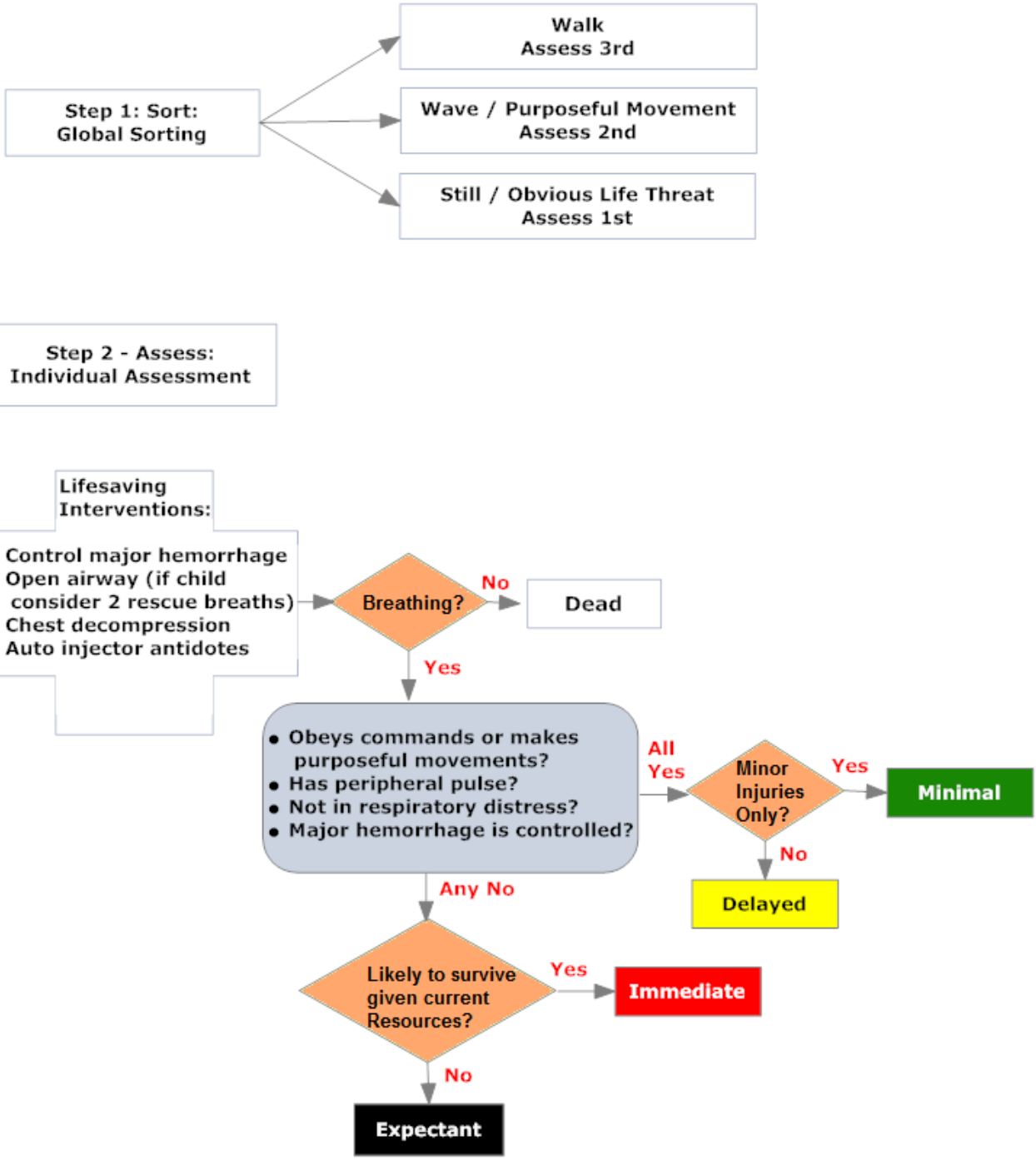
TRIAGE (Revised 10/1/2020)

SALT TRIAGE (Revised 10/1/2020)

The SALT Triage method is the adopted triage method for multiple patient incidents.
Triage Colors:

- Green/Minor – Walking type wounded requiring little or no care
- Yellow/Delayed – Unable to ambulate and require care
- Red/Immediate – Unable to ambulate and require immediate care
- Black – Patient without a pulse or injuries incompatible with life

No LEVEL may perform a procedure that is not within their scope of practice.



Medication Formulary (Revised 5/7/2024)

Nebraska EMS Medication Formulary Sorted By Class												
Class	Medication Name	Other Name	Antidote	EMR	EMT	AEMT	EMT-I	Paramedic	Special Information	Adult Dose	Pediatric Dose Maximum Dose Not to Exceed Adult Dose	Route(s)
Analgesic	Fentanyl		Naloxone			X		X		25 to 100 mcg	1.0 to 2.0 mcg/kg	IV/IO/IM/INTRANASAL
	Hydromorphone	Dilaudid	Naloxone					X		0.2 to 0.6 mg	ONLY 0.01 mg/kg	IV/IO/IM/INTRANASAL
	Morphine		Naloxone			X	X	X		2 – 4 mg May Repeat	0.05 to 0.2 mg/kg May Repeat	IV/IO/IM/INTRANASAL
	Nalbuphine	Nubain	Naloxone					X		10 to 20 mg	0.05 to0.1 mg/kg	IV/IO
	Stadol		Naloxone					X		0.5 to 2 mg	Not Approved Under Age 18	IV/IO
	Ketorolac	Toradol				X		X		15 to 30mg	0.5mg/kg	IV/IO/IM
Anti-Arrhythmic	Adenosine						X	X		6 mg May Repeat at 12 mg	0.1 mg/kg May Repeat at 0.2 mg/kg	IV
	Amiodarone						X	X		150 mg - Stable Wide Complex Tach	EMT-I May Not Give for Stable Wide Complex Tach	IV/IO
										300 mg -V-Fib /V-Tach May Repeat at 150mg	5mg/kg - V-Fib/V-Tach May Repeat at same dose to Max 15 mg/kg	
	Amiodarone Infusion							X		1mg/min Infusion	Seek Medical Control /PMD Consult	IV/IO
	Atropine						X	X		0.5 mg - Symptomatic Bradycardia May repeat to Max 3mg	0.02 mg/kg Minimum Dose 0.1 mg May Repeat Once	IV/IO
										In Suspected Organophosphate Poisoning May use repeated doses Until Symptoms Improve	In Suspected Organophosphate Poisoning May use repeated doses Until Symptoms Improve	
	Diltiazem	Cardizem						X		0.25 mg/kg Over 2 Minutes May Repeat Once After 15 Minutes 0.35 mg/kg Over 2 Minutes - Consult Medical Control, PMD, Or Transport Orders for Infusion	Not Approved	IV/IO
	Lidocaine 2%						X	X		1 to 1.5 mg/kg -V-Fib /V-Tach May Repeat at 1/2 Initial Dose to Max 3mg/kg	1.0 mg/kg -V-Fib /V-Tach May Repeat at 1/2 Initial Dose to Max 3mg/kg	IV/IO
	Lidocaine 2%						X*	X		1 to 4 mg/min Infusion	20 - 50 mcg/min Infusion	IV/IO *EMT-I Must Have ACLS Training
	Metoprolol	Lopressor						X		5 mg IV. May be repeated every 5 minutes for a total of three (3) doses.	Not approved	IV

Nebraska EMS Medication Formulary Sorted By Class												
Class	Medication Name	Other Name	Antidote	EMR	EMT	AEMT	EMT-I	Paramedic	Special Information	Adult Dose	Pediatric Dose Maximum Dose Not to Exceed Adult Dose	Route(s)
	Procainamide Infusion							X		20 - 50 mg/min to Maximum of 17mg/kg STOP If QRS Widens >50%	Seek Medical Control /PMD Consult	IV/IO
	Sotalol							X		1.5mg/kg IV/IO over 5 minutes	Not Approved	IV/IO
	Verapamil							X		2.5 to 5 mg over 2 minutes - Consult Medical Control, PMD, Or Transport Orders for Infusion	Not Approved	IV/IO
Antidote	Naloxone	Narcan		X	X	X	X	X	If symptoms of narcotic overdose reoccur after initial response to Naloxone, re-administer dose	0.4 to 4 mg Max Dose 4 mg May repeat dose for recurrence of opioid overdose symptoms as needed	0.1 mg/kg May repeat dose for recurrence of opioid overdose symptoms as needed	INTRANASAL/auto injector only EMR & EMT IV/IO/INTRANASAL AEMT and above
	Pralidoxime	2-Pam						X		600 to 1200 mg Over 5 Minutes OR as an Infusion Over 15-30 Minutes	20-50 mg/kg Max 1200mg Over 15 to 30 Minutes After 15 Minutes May Consider 10 – 20 mg/kg/hr infusion	IV/IO
	Flumazenil	Romazicon				X	X	X	Antidote for Benzodiazepine. May cause seizures in patients dependent on benzos, including cyclic antidepressant overdose.	0.2 mg May repeat with 0.3 mg May repeat again with 0.5 mg If patient does not respond after 5 mg total dose, it is likely not a benzo overdose.	0.01 mg/kg 0.2 mg max 0.2 mg single dose May repeat every minute, as needed. Max total dose 1 mg	IV/IO
	Atropine - Pralidoxime Separate Auto Injectors	2-Pam		*	*	*	X	X	Mark I	Mild Symptoms – One Each Moderate Symptoms – Two Each Severe Symptoms – Three Each	Mild Symptoms One Each (All Ages) Moderate and Severe Symptoms Age 3 to 7 years – One Each Age 8 – 12 years – Two Each Over 12 years – Use Adult Dosing	Auto-Injector
	Atropine-Pralidoxime Auto-Injector	DouDote		*	*	*	X	X	DouDote Kit	Mild Symptoms – One	Mild Symptoms One (All Ages) Moderate and Severe Symptoms	Auto-Injector

Nebraska EMS Medication Formulary Sorted By Class												
Class	Medication Name	Other Name	Antidote	EMR	EMT	AEMT	EMT-I	Paramedic	Special Information	Adult Dose	Pediatric Dose Maximum Dose Not to Exceed Adult Dose	Route(s)
										Moderate Symptoms – Two	Age 3 to 7 years – One	
										Severe Symptoms – Three	Age 8 – 12 years – Two	
											Over 12 years – Use Adult Dosing	
	Hydroxocobalamin	Cyanokit	Cyanokit					X	Cyanokit	5g in 200mL NS over 15minutes	Physician Order Only	IV/IO
Anti-Emetic	Metoclopramide	Reglan				X		X	Preferred Anti-Emetic Agents	5-10 mg May Repeat every 6-8 hours	Not Approved	PO/IV/IM
Anti-Emetic	Ondansetron	Zofran				X		X		4 to 8 mg May Repeat	Under 40kg 0.1 mg/kg Over 40kg 4.0 mg	IV/IO/ODT
Anti-Emetic - Sedative	Prochlorperazine	Compazine						X	Anti-Emetic	5 mg – Nausea – May Repeat Once	Not Approved	IV/IO **Use With Caution in Patient's with Suspected AMI
									Least Desirable Class for Sedation	5 mg – Sedative – May Repeat Once Reserved to Incidents When No Other Alternative is Available		
										5 to 10 mg Induction – May Repeat Once Reserved to Incidents When No Other Alternative is Available		
	Promethazine	Phenergan						X	Anti-Emetic	12.5 to 25 mg May Repeat Once	Not Approved	IV/IO **Use With Caution in Patient's with Suspected AMI
									Least Desirable Class For Sedation	25 mg – Sedative – May Repeat Once Reserved to Incidents When No Other Alternative is Available		
										25 to 50mg – Induction – May Repeat Once – Reserved to Incidents When No Other Alternative is Available		
Antifibrinolytic	Tranexamic Acid	TXA						X	See TXA Protocol	Loading dose 1 g/100 mL NS over 10 minutes IV bolus	Physician Order Only	IV
										Maintenance dose 1 g/500 mL NS infusing at 60 mL/hr IV for total infusion of 8 hours		
Antihistamine	Diphenhydramine	Benadryl				X	X	X		25 to 50 mg	1 to 2mg/kg	IV/IO/IM/PO
Anti-Hyp	Trandate	Labetalol						X		10-20 mg slow IV push (over 2 minutes)	Bolus Dose of 0.2 to 1 mg/kg (over 2 minutes)	

Nebraska EMS Medication Formulary Sorted By Class												
Class	Medication Name	Other Name	Antidote	EMR	EMT	AEMT	EMT-I	Paramedic	Special Information	Adult Dose	Pediatric Dose Maximum Dose Not to Exceed Adult Dose	Route(s)
										May repeat every 10 minutes with additional doses of 40 mg then 80 mg to a maximum of 300 mg	May repeat every 10 minutes to a maximum of 40 mg or continuous infusion of 0.25 to 3 mg/kg/h	IV (Continuous infusion must be administered by mechanical infusion pump)
	Apresoline	Hydralazine						X		5 mg IV. May repeat 5-10 mg IV every 20 minutes to a total dose of 40 mg.	Not Approved	IV/IO
	Cardene	Nicardipine						X		2.5 mg/hr IV continuous infusion. Increase by 2.5 mg/hr every 5-15 minutes to maximum of 15 mg/hr	Efficacy in patients under age 18 has not been established	IV (Continuous infusion must be administered by mechanical infusion pump)
Anti-Psych	Haloperidol	Haldol						X		2.5 to 5 mg	Not Approved	IV/IO/IM
Benzodiazepine	Diazepam	Valium	Flumazenil (Romazicon)			X	X	X		2 to 4 mg Seizure May Repeat 2 to 4 mg Sedation May Repeat 5 to 10 mg Induction (Paramedic) May Repeat 2-4 mg to Maintain Sedation	 0.04 to 0.2 mg/kg May Repeat 1/2 Initial Dose to Maintain Sedation	IV/IO/Rectal/INTRANASAL **Pediatric Dose are for Ages 6 Months and Older
	Lorazepam	Ativan	Flumazenil (Romazicon)			X		X		2 to 4 mg Seizures May Repeat 0.5 to 1mg Sedation May Repeat 2 to 4 mg Induction May Repeat 1 to 2 mg to Maintain Sedation	0.05 mg /kg - Seizures May Repeat 0.05 mg /kg - Sedation May Repeat 0.1 mg/kg – Induction May Repeat 1/2 Initial Dose to Maintain Sedation	IV/IO/INTRANASAL **Pediatric Dose are for Ages 6 Months and Older
	Midazolam	Versed	Flumazenil (Romazicon)			X		X	Preferred Agent for RSI Sedation	2 to 4 mg Seizures May Repeat	0.1mg/kg - seizures may repeat 0.1 mg/kg	IV/IO/IM/INTRANASAL **Pediatric Dose are for Ages 6 Months and Older

Nebraska EMS Medication Formulary Sorted By Class												
Class	Medication Name	Other Name	Antidote	EMR	EMT	AEMT	EMT-I	Paramedic	Special Information	Adult Dose	Pediatric Dose Maximum Dose Not to Exceed Adult Dose	Route(s)
										1 to 2 mg Sedation May Repeat	0.1 mg/kg - Sedation	
											0.2 mg/kg may repeat	
										2 to 6 mg Induction	0.2 to 0.3 mg/kg - Induction May Repeat 1/2 Initial Dose to Maintain Sedation	
										May Repeat 2mg to maintain sedation		
Bronchodiliator	Albuterol	Proventil			*	X	X	X	Preferred Agent	2.5 mg Unit Dose May Repeat	2.5 mg Unit Dose May Repeat	Nebulized
Bronchodiliator	Albuterol For Hyperkalemia						X	X		For Hyperkalemia Confirmed By Diagnostic ECG with Tall Spiked T waves 15mg (6 ea. Unit Dose) Nebulized	Physician Order Only	Nebulized
Bronchodiliator	Albuterol/ Ipratropium	DuoNeb			*	X	X	X		0.5 – 2.5 mg per 3 ml (0.5 mg ipratropium bromide/3 mg albuterol sulfate) Dose May Repeat	0.5 – 2.5 mg per 3 ml (0.5 mg ipratropium bromide/3 mg albuterol sulfate) Dose May Repeat	Nebulized
Bronchodilator	Ipratropium	Atrovent					X	X		0.5 mg Unit Dose	125 to 250 mcg 1/4 to 1/2 Unit Dose	Nebulized
Bronchodilator	Epinephrine 1:1000 Nebulized						X	X	Alternate for Racemic Epinephrine	3 to 5 mg Diluted in1 to 3 ML NS	Age 4 and under 0.5ml/kg to Max 2.5ml	Nebulized
											Age 5 and Older 0.5ml/kg to Max 5ml	
Bronchodilator	Metaproterenol 5%	Alupent						X		10 to 15 mg in 3 ml NS	Age Under 2 – 0.1 ml in 3 ml NS	Nebulized
											Age 2 to 9 – 0.2 ml in 3 ml NS	
											Age Over 9 – Use Adult Dose	
Bronchodilator	Epinephrine - Racemic Epinephrine 2.5%							X	Consider As A First Line Agent For Pediatric RSV and Croup	0.5 to 0.75 ml in 3 ml NS	0 -20 kg – 0.25 ml in 3 ml NS	Nebulized
											20 to 40kg – 0.5 ml in 3 ml NS	
											Over 40kg 0.5 to 0.75 ml in 3 ml NS	
Bronchodilator	Terbutaline						X	X		0.25 mg	0.05 to 0.01mg/kg	SubQ
											(5 to 10 mcg/kg)	
Bronchodilator	Aminophylline							X	Second Line Therapy For Exacerbations of COPD	5mg/kg added to 50 to 250 NS infused over 20 to 30 minutes	Not Approved	IV/IO

Nebraska EMS Medication Formulary Sorted By Class												
Class	Medication Name	Other Name	Antidote	EMR	EMT	AEMT	EMT-I	Paramedic	Special Information	Adult Dose	Pediatric Dose Maximum Dose Not to Exceed Adult Dose	Route(s)
	Levosalbutamol	Xopenex						X		0.63 mg	Age 6-11 - 0.31 mg Age >12 - 0.63 mg	Nebulized
Diuretic	Furosemide	Lasix					X	X		20 to 80 mg	Physician Order Only	IV/IO Slowly
Electrolyte	Calcium Chloride 10%							X		Known Calcium Channel Blocker Overdose 5ml (500mg) over 2-5 Mins Avoid In Mixed Ods OR Situations Where Calcium Channel Blocker OD Can Not be Confirmed	Physician Order Only	IV/IO
										Cardiac Arrest Due to Hyperkalemia (tall Spiked T Waves) 5 to 10ml (500 to 1000mg) Over 2-5 Mins	Physician Order Only	
Electrolyte	Calcium Gluconate 10%							X		Known Calcium Channel Blocker Overdose 15ml over 2-5 Mins Avoid In Mixed Ods OR Situations Where Calcium Channel Blocker OD Can Not be Confirmed	Physician Order Only	IV/IO
										Cardiac Arrest Due to Hyperkalemia (tall Spiked T Waves) 15 to 30ml Over 2-5 Mins	Physician Order Only	
Electrolyte	Magnesium Sulfate							X		Torsades 1 to 2 Grams	Physician Order Only	IV/IO
										Pre-Eclampsia 1 to 2 Grams	N/A	
										Eclampsia 2 to 4 Grams	N/A	
										Bronchospasm 1 to 2 Grams over 10 Mins	25 to 50mg/kg over 10 Minutes	
	Sodium Bicarb 4.2%							X		See Sodium Bicarb 8.4%	Age 8 and Under 1mEq/kg 4.2%	IV/IO
	Sodium Bicarb 8.4%							X		50 m Eq 8.4%	Over Age 8 1mEq/kg 8.4%	IV/IO

Nebraska EMS Medication Formulary Sorted By Class												
Class	Medication Name	Other Name	Antidote	EMR	EMT	AEMT	EMT-I	Paramedic	Special Information	Adult Dose	Pediatric Dose Maximum Dose Not to Exceed Adult Dose	Route(s)
Glucocorticoid	Decadron	Dexamethasone						X		0.6 mg/kg Max Dose: 10 mg		IV/IO
Glucose Agent	Dextrose 10%					X	X	X		125-250 ml	Infant to 8 years – 5 ml/kg to max of 6 grams	IV/IO
	Dextrose 12.5%					X	X	X		100-200 ml	Age 0 to Puberty – 4ml/kg max 6 Grams	IV/IO
	Dextrose 25%					X	X	X		50-100 ml	Age 1 to Puberty – 2ml/kg Max 6 grams Age 8 to Onset Puberty 1ml/kg to Max 25 grams	IV/IO
	Dextrose 50%					X	X	X		25-50 ml		IV/IO
	Glucagon				*	X	X	X		1-3 mg	*Not approved for EMT Under 25 kg – 0.5 mg 25kg and Over – 1 mg	SubQ/IM/INTRANASAL Note: Intranasal/IM/auto-injector only for EMT
Oxygen	Oxygen – All Devices							X		As required Per Device / Patient Needs	As required Per Device /Patient Needs	
	Oxygen – BVM			X	X	X	X	X		10 – 15 LPM	10 – 15 LPM	
	Oxygen – Nasal Cannula			X	X	X	X	X		1 to 6 LPM	1/4 to 6 LPM	
	Oxygen – High Flow Nasal Cannula				X	X	X	X	Consider oxygen supply usage, freezing of oxygen lines, provider competency	20 to 60 LPM Only to maintain not initiate		
	Oxygen – oxygen delivery mask			X	X	X	X	X		Flow By % Required Per Patient – Venturi / OxyMask 10 to 15 LPM – non-rebreather mask	Flow By % Required Per Patient – Venturi / OxyMask 10 to 15 LPM – non-rebreather mask	Note: Oxygen delivery masks may have minimum or maximum flow rate requirements listed by the manufacturer. Always administer within manufacturer recommended ranges.
Depolarizing	Succinylcholine	Anectine						X		RSI: 1 to 2 mg/kg Once Only	RSI: 1 to 2 mg/kg Once Only	IV/IO

Nebraska EMS Medication Formulary Sorted By Class												
Class	Medication Name	Other Name	Antidote	EMR	EMT	AEMT	EMT-I	Paramedic	Special Information	Adult Dose	Pediatric Dose Maximum Dose Not to Exceed Adult Dose	Route(s)
Non-Polarizing Paralytic	Pancuronium	Pavulon						X		RSI: 0.04 to 0.1 mg/kg Maintain: 0.01 mg/kg	RSI: 0.04 to 0.1 mg/kg Maintain: 0.01 mg/kg	IV/IO
	Rocuronium	Zemuron						X		RSI: 0.6 to 1.2 mg/kg Maintain: 0.1 to 0.2 mg/kg	RSI: 0.6 to 1.2 mg/kg Maintain: 0.1 to 0.2 mg/kg	IV/IO
	Vecuronium	Norcuron						X		RSI: 0.1 mg/kg Maintain: 0.01 to 0.05 mg/kg	RSI: 0.1 mg/kg Maintain: 0.01 to 0.05 mg/kg	IV/IO
Sedative	Etomidate							X		Induction: 0.3 mg/kg Maintain: 0.1 to 0.15 mg/kg	Above 10 Years Old Induction: 0.3 mg/kg Maintain: 0.1 to 0.15 mg/kg	IV/IO
	Ketamine	Ketalar						X		1.5 to 2 mg/kg sedation and induction 0.25 to 0.5 mg every 5 to 10 minutes to maintain sedation.	Age 6 months and older: • 1-2 mg/kg IV or IO for sedation and induction • up to 4mg/kg IM for sedation 0.25 to 0.5 mg/kg every 5 to 10 minutes to maintain sedation.	IV/IO/IM
	Methohexital	Brevital						X		1 to 1.5 mg/kg **IV/IO** of 1% Solution for Induction 0.5mg/kg every 4 to 7 Mins to Maintain Sedation **Approved for RSI and for sedation.	Age 1 Month and Older 25mg/kg Rectal (1% Solution) 6.6 to 10 mg/kg **IM** (5% Solution) Consider Another Agent to Maintain Sedation	IV/IO/IM
	Propofol							X		1 to 2 mg/kg IV/IO Induction	1 to 2 mg/kg IV/IO Induction	

Nebraska EMS Medication Formulary Sorted By Class												
Class	Medication Name	Other Name	Antidote	EMR	EMT	AEMT	EMT-I	Paramedic	Special Information	Adult Dose	Pediatric Dose Maximum Dose Not to Exceed Adult Dose	Route(s)
										0.05 to 0.1 mg/kg/min Infusion to maintain Sedation Must Be On a Pump	0.05 to 0.1 mg/kg/min Infusion to maintain Sedation Must Be On a Pump	**Approved for RSI and NOT for Pain Mgt And Sedation
Steroid	Methylprednisolone	Solu-Medrol					X	X		125 to 250mg	2 mg/kg to Max of 125Mg	IV/IO
	Decadron	Dexamethasone						X		0.6 mg/kg Max Dose: 10 mg		IV/IO
Sympathomimetic	Epinephrine - 0.15mg Auto-Injector	EpiPen Jr		*	*	X	X	X		Adults Use 0.30 mg Epinephrine Auto Injector	30 kg and Under Use 0.15 mg Epinephrine Auto Injector	SubQ
	Epinephrine - 0.3mg Auto-Injector	EpiPen		*	*	X	X	X		Adults Use 0.30 mg Epinephrine Auto Injector	Over 30 kg Use 0.30 mg Epinephrine Auto Injector	SubQ
	Epinephrine 1:10,000						X	X		1 mg Cardiac Arrest	0.01 mg/kg Cardiac Arrest	IV/IO and ET in Cardiac Arrest
	Epinephrine 1:1000				*	X	X	X		0.3 mg	0.01 mg/kg OR for EMT <= 30 kg 0.15 mg > 30 kg 0.30 mg	IM
Vasodilator	Nitroglycerin				*	X	X	X	EMT may assist pt to use their own nitro OR; May administer service provided nitro if: • Have a systolic BP of 110 mmHg or greater • An IV established • ECG transmitted to facility	0.4 mg Every 5 mins for Chest Pain. Total dose 3 for EMT, AEMT, and EMT-I as long as BP remains >110 mmHg systolic. Paramedics may give additional doses 0.4 mg every 5 mins for Chest Pain. Paramedics may give additional doses for CHF in distress with systolic BP 180 and greater – 3 each 0.4 mg *, 140 to 180 – 2 each .04 mg*, 100 to 140 – 1 each 0.4 mg* (Must have IV/IO Access). Nitroglycerin may be mixed in	Not Approved	SL IV/IO Paramedic Only

Nebraska EMS Medication Formulary Sorted By Class												
Class	**Medication Name**	**Other Name**	**Antidote**	**EMR**	**EMT**	**AEMT**	**EMT-I**	**Paramedic**	**Special Information**	**Adult Dose**	**Pediatric Dose** **Maximum Dose Not to Exceed Adult Dose**	**Route(s)**
									• Receiving facility provider directs EMT to administer	D5W or NS begin nitroglycerin drip at 5 mcg/min. Increase drip by 5 mcg/min at 5 min intervals if chest pain persists and systolic BP remains above 100mmHg.		
Vasopressor	Dobutamine							X		2 to 20 mcg/kg/min	2 to 20 mcg/kg/min	IV/IO
	Dopamine							X		2 to 20 mcg/kg/min	2 to 20 mcg/kg/min	IV/IO
	Norepinephrine	Levophed						X		8-12 mcg/min IV. Maintenance infusion of 2-20 mcg/min to obtain adequate perfusion, usual dose 2-4 mcg/min. Maximum 30 mcg/min	0.1-2 mcg/kg/min IV. Start: 0.05-0.1 mcg/kg/min IV titrate to effect. Maximum 2 mcg/kg/min	IV (Continuous infusion must be administered by mechanical infusion pump)
Vitamin	Thiamine							X		100 mg IV/IO	100mg For Adolescent Patient with Gastric Bypass or Gastric Banding And Trauma – Otherwise by Physician Order	IV/IO
Pain/Fever Reducer	Aspirin		*	X	X	X	X	X		4 Each – 81mg Chewed and Swallowed	Not Approved	PO
	Ibuprofen	Motrin			X	X	X	X		400 mg PO q4-6h prn Max: 2400 mg/day	**6 mo-11:** Dose: 5-10 mg/kg PO q6-8h prn; Max: 40 mg/kg/day **12 and older:** Dose: 400 mg PO q4-6h prn; Max: 2400 mg/day	PO
	Acetaminophen	Tylenol			X	X	X	X		325-1000 mg PO q 4-6 hr prn] Max: 1 g/4h and 4 g/day from all sources	**Neonates:** Dose: 10-15 mg/kg PO q 6-8 hr prn; Max: 60 mg/kg/day from all sources **Infants/Children:** Dose: 10-15 mg/kg PO q 4-6 hr prn; Max: 75 mg/kg/day up to 1 g/4h and 4 g/day from all sources **12 and older:**	PO

Nebraska EMS Medication Formulary Sorted By Class												
Class	**Medication Name**	**Other Name**	**Antidote**	**EMR**	**EMT**	**AEMT**	**EMT-I**	**Paramedic**	**Special Information**	**Adult Dose**	**Pediatric Dose** **Maximum Dose Not to** **Exceed Adult Dose**	**Route(s)**
											Dose: 325-650 mg PO q 4-6 hr prn; Max: 1 g/4h and 4 g/day from all sources	
	Acetaminophen	Tylenol					X	X	Indicated for mild-to-moderate pain and moderate-to-severe pain with adjunctive opioid analgesics; also indicated for reduction of fever	**<50 kg:** 12.5 mg/kg IV q 4 hr OR 15 mg/kg IV q 6 hr; not to exceed 750 mg/dose or 3.75 g/day **≥50 kg:** 650 mg IV q 4 hr OR 1000 mg IV q 6 hr; not to exceed 4 g/day Infuse IV over at least 15 minutes (also see Administration)	**2-12 years:** 12.5 mg/kg IV q4hr OR 15 mg/kg IV q6hr; not to exceed 75 mg/kg/day **≥13 years** **<50 kg:**12.5 mg/kg IV q 4 hr OR 15 mg/kg IV q 6 hr; not to exceed 750 mg/dose or 3.75 g/day **≥50 kg:** 650 mg IV q 4 hr OR 1000 mg IV q 6 hr; not to exceed 4 g/day	IV
P2Y12 Platelet Inhibitor	Plavix	Clopidogrel					X*	X		300 mg Loading Dose Patients Age ≤ 75 75 mg for Patients >75	Not Approved	PO
***Special Situations And/or Additional Training and PMD Approval Required**												

Recent Updates

Protocol Updated	Date Updated	Brief Description	Page Number
Thoracostomy	5/7/2024	Added section for finger thoracostomy and tube thoracostomy.	144
Oxygen Delivery Devices	5/7/2024	Updated throughout removing non-rebreather and replacing with oxygen delivery mask.	16, 40, 42, 45, 52, 90, 107, 111, 139, 164
Protocol Design and Directions for Use	5/7/2024	Added section, EMR skills with PMD approval and competency training, to add automatic blood pressure, use of mechanical CPR device, and use pulse oximeter device.	7
Adult Routine Assessment and Care	5/7/2024	Added EMR skills of automatic blood pressure and use of pulse oximeter device with training and PMD approval.	16
Adult Cardiac Arrest – AED and CPR	5/7/2024	Added EMR skills with PMD approval and competency training section with “Consider mechanical CPR device”.	26
Pediatric Routine Assessment and Care	5/7/2024	Added EMR skills of automatic blood pressure and use of pulse oximeter device with training and PMD approval.	90
Pediatric Cardiac Arrest – AED and CPR	5/7/2024	Added EMR skills with PMD approval and competency training section with “Consider mechanical CPR device”.	99
Ketamine Pediatric Dosing in Formulary	5/7/2024	Updated for clarification of pediatric Ketamine dosing.	164
Propofol Pediatric Dosing in Formulary	5/7/2024	Updated for clarification of pediatric Propofol dosing.	164
Hypoglycemia	7/2023	Added Dextrose 10% to adult and pediatric hypoglycemia protocols	46, 108
ECGs	9/22/2022	Removed 12 lead ECG throughout and replaced with ECG as to not limit to a 12 lead when a 15 lead or 18 lead ECG may be indicated.	
Inter-Facility Transports	9/22/2022	Added that EMTs with PMD approval and competency training can monitor and continue previously started Total Parenteral Nutrition (TPN) on a pump only with appropriate training on the operation of the IV pump and must be able to treat an anaphylactic reaction.	153
Toxins – Auto-injector Antidote Kits	9/22/2022	Changed EMR and AEMT to only EMR, allowing EMR and above to administer auto-injector antidote kits to a fellow responder or patients in mass numbers when higher level emergency care providers are overwhelmed	60, 118
Pediatric Allergic Reaction, Respiratory Distress – Asthma, and Formulary	9/22/2022	Fixed formulary to reflect the EMT dosing for pediatrics listed in the protocol. Added OR IM injection in protocol for epinephrine 1:1000 administration.	97, 113, 165

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