BRISTOL ● FORAKER ● GOSHEN CITY● HARRISON TOWNSHIP JEFFERSON TOWNSHIP
● MIDDLEBURY TOWNSHIP ● NEW PARIS ● OSOLO EMS

BAUGO TOWNSHIP ● CLEVELAND TOWNSHIP ● CONCORD TOWNSHIP
ELKHART CITY ● NAPPANEE ● OSOLO TOWNSHIP FD ● WAKARUSA

Goshen Hospital

Elkhart General

ELKHART COUNTY EMS

EMS PATIENT CARE GUIDELINES

VER. 2026.02.01

EMR

EMT

ADVANCE

PARAMEDIC

KEY POINTS/CONSIDERATIONS

TABLE OF CONTENTS

Introduction from the EMS Medical Director and EMS Coordinators

Goshen Hospital and Elkhart General Hospital are proud to put forth these evidence-based guidelines for all affiliated Elkhart County Emergency Medical Service providers. The Protocol Committee Research Team, most recent American Heart Association Guidelines, other regional protocols, relevant medical research, and input from our individual field providers have developed these after an extensive review. These evidence-based guidelines for medical care are designed to improve patient outcomes, while decreasing any potential risk to the patient as well as maximizing the interventions appropriate for each level of care.

The color-coded format of the Guidelines is anticipated to be a tremendous success. This will allow all EMS professionals to easily follow the potential interventions and treatment available for each specific patient complaint.

EMR

- Emergency Medical Responder, EMT, Advanced, Paramedic Guidelines

FIRST RESPONDER STOP

EMT

- EMT, Advanced, Paramedic Guidelines

EMT STOP

ADVANCE

- Advanced, Paramedic Guidelines

ADVANCE STOP

PARAMEDIC

- Paramedic Guidelines

KEY POINTS / CONSIDERATIONS

- Additional points specific to patients that fall within the guidelines.

These guidelines are designed to serve the community as a whole and include all levels of field providers. As taught in every EMT class, BLS should be done before ALS, and advanced providers are responsible for all appropriate basic interventions. All provider levels are highlighted, with level appropriate care below, while the corresponding guideline **STOP** line is clearly delineated.

These guidelines continue the standard of evidence-based care that serves all of the citizens of Elkhart County. Several sections contain very important changes from previous guideline versions:

- The following may be used as Intranasal drugs throughout the guidelines with appropriate delivery device:
    - Narcan
    - Versed
    - Glucagon
    - Fentanyl
- 2025 AHA Guidelines incorporated throughout
- Procainamide added for Wide Complex Tachycardia
- Xopenex may be substituted for Albuterol if needed.

Goshen Hospital and Elkhart General Hospital Protocol Committees will continue to evaluate current EMS and Medical literature to update the guidelines to optimize the outcomes of our patients. In addition, we will continue to perform QI audits of patient care to develop training programs that will improve care as a whole throughout the region. We hope that these guidelines make your job easier and assist you in the care of your patients.

Guideline signatures of approval dated this 02 day of Feb 2026.

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Adult Medical Emergencies

Cardiac Arrest Field Termination of Resuscitation

EMR

EMT

ADVANCE

- Resuscitative efforts for patients in cardiac arrest should NOT be initiated if:
  - Patient presents with:
    - Significant dependent lividity
    - Rigor mortis
    - Decomposition
    - Injuries incompatible with life, i.e.: decapitation
  - Family presents a signed Out of Hospital Do Not Resuscitate (DNR)
  - Family presents a signed Physician Orders for Scope of Treatment (POST)
  - Healthcare facility staff presents DNR/POST order appropriate to that facility
  - Family in agreement to not resuscitate patient even without DNR/POST form
- For all other patients in cardiac arrest: the EMS provider MUST start BLS care (including defibrillation) while awaiting the arrival of a paramedic unit

EMR / EMT / ADVANCE STOP

PARAMEDIC

- Consider termination of resuscitation **ONLY** if patient meets **ALL** criteria:
  - **Completed protocol appropriate for presenting rhythm with NO response to interventions**
  - Non-hypothermic
  - Older than 18 years old, unless obvious SIDS/SUIDS with lividity and rigor mortis
  - No toxin or drug ingestion
  - No communication failure with family
  - Scene is appropriate for termination order
- Consider “2-minute warning” to give family time to prepare for termination
- If appropriateness of resuscitation is questionable, consult MEDICAL CONTROL for assistance

KEY POINTS / CONSIDERATIONS

- Most patients who suffer non-traumatic cardiac arrest should receive Advanced Cardiac Life Support (ACLS) care at the scene
- Most patients without a return of spontaneous circulation (ROSC) should not be transported
- Decisions regarding the transport of patients in cardiac arrest – including decisions regarding discontinuation of resuscitative efforts – should be made in consult with MEDICAL CONTROL
- Consider transport if cardiac rhythm changes to a perfusing rhythm
- Health care facilities may have DNR forms appropriate to the level of facility. If identified by the facility staff as correct, these forms should be honored.
- If family states that they do not want or would like to cease resuscitative efforts and all are in agreement crew can stop efforts without a DNR or POST. Please see the State Hierarchy tree on page 123.

Cardiac Arrest PEA / Asystole

EMR

- Recognize
- CPR and AED
- Check for DNR
- Check glucose
- Follow current BLS guidelines: 2-minute cycles of high-quality CPR at rate 100-120 bpm
- Ventilation using BVM with high flow O2 and approved airway adjuncts

EMR STOP

EMT

- Secure airway with a medically approved non-visualized airway
- 12 lead EKG and transmit if ROSC

EMT STOP

ADVANCE

- Vascular access IV/IO
- **Epinephrine** 1:10,000 dose 1 mg IV/IO; repeat every 3-5 minutes. Limit 3 doses*.
- Consider **NS** 500 mL bolus IV wide open
- Consider **Dextrose** 25 g IV/IO and/or **Narcan** 2 mg IV/IM/IN/IO if indicated

ADVANCE STOP

PARAMEDIC

- Cardiac monitor
- Follow current ACLS guidelines
- Consider and treat reversible causes (H's and T's)
- Place an advance airway as appropriate after **first eight (8) minutes** of CPR
- **Epinephrine 1:10,000** dose 1 mg IV/IO; repeat every 3-5 minutes. Limit 3 doses*.
- Downtime > 20 min AND ETCO2 > 20 mmHg:
  - **Sodium Bicarbonate** 50 mEq bolus IV/IO
- Renal failure, dialysis or suspected hyperkalemia OR wide complex PEA:
  - **Calcium Chloride** 1 g IV/IO
  - **Sodium Bicarbonate** 50 mEq bolus IV/IO

KEY POINTS / CONSIDERATIONS

- IO access: consider early and may be established as initial access for patients in cardiac arrest
- Do not delay CPR/defibrillation **> 10 seconds** for IV/IO access, drug delivery or advanced airway
- Consider and treat H's and T's: Refer to APPENDIX: Treatment of H's and T's
    - Hypoxia, Hypovolemia, Hypothermia, Hyper-/Hypokalemia, Hydrogen ions (acidosis)
    - Tension pneumothorax, Tamponade, Toxins and Thrombosis (MI or PE)
- Waveform Capnography/End Tidal CO2
    - Used for assessment of CPR effectiveness, advanced airway placement, and ROSC
- If sufficient personnel, intubation may be performed with limited interruption of CPR
- **Epinephrine**: Give as soon as possible – ROSC reduced by 4% for every 1-minute delay
- Consider OG tube placement after ROSC.
- * Limit EPI to 3 mg but if clinician feels repeat doses needed may give additional doses not to exceed 7 doses as poor neuro outcome results
- Optional substitution for **Epinephine 1:10,000** 1 mg
    - **Epinephrine 1:1000** 1 mg may be diluted with 9 mL of **NS**
- Refer to CARDIAC ARREST: ROSC/CARDIAC ARREST: Termination of Resuscitation as needed

Cardiac Arrest V-Fib / V-Tach

EMR

- Recognize
- CPR and AED
- Check for DNR
- Follow current BLS guidelines: 2-minute cycles of high-quality CPR at rate 100-120 bpm
- Ventilation using BVM with high flow O2 and approved airway adjuncts
- Check glucose

EMR STOP

EMT

- Secure airway with a medically approved non-visualized airway
- 12 lead EKG and transmit if ROSC

EMT STOP

ADVANCE

- Vascular access IV/IO
- **Epinephrine** 1:10,000 dose 1 mg IV/IO; repeat every 3-5 minutes. Limit to 3 doses*.
- Consider **NS** 500 mL bolus IV wide open
- Consider **Dextrose** 25 g IV/IO and/or **Narcan** 2 mg IV/IM/IN/IO if indicated

ADVANCE STOP

PARAMEDIC

- Cardiac monitor
- Follow current ACLS guidelines
- Consider and treat reversible causes (H's and T's)
- Place an advance airway as appropriate after **first eight (8) minutes** of CPR
- **Epinephrine 1:10,000** dose 1 mg IV/IO; repeat every 3-5 minutes. Limit to 3 doses*
- Refractory/persistent VF/VTach – choose ONE:
  - **Amiodarone** (**Cordarone**) 300 mg in 30 mL **NS** bolus IV
    - If no rhythm change in 3-5 min: **Amiodarone** 150 mg in 15 mL **NS** bolus IV
  - **Lidocaine** 1-1.5 mg/kg IV/IO
    - If no rhythm change in 5-10 min: **Lidocaine** 0.5-0.75 mg/kg IV/IO (MAX 3 mg/kg)
- Refractory/persistent VF/VTach – Downtime > 20 min AND ETCO2 > 20 mmHg:
  - **Sodium Bicarbonate** 50 mEq bolus IV/IO
- Renal failure, dialysis or suspected hyperkalemia:
  - **Calcium Chloride** 1 g IV/IO
  - **Sodium Bicarbonate** 50 mEq bolus IV/IO
- Torsade's de Pointes: **Magnesium Sulfate** 2 g diluted in 10 mL **NS** bolus IV/IO

KEY POINTS / CONSIDERATIONS

- IO access: consider early and may be established as initial access for patients in cardiac arrest
- Defibrillate at manufacturer's recommended setting
- Do not delay CPR/defibrillation > 10 seconds for IV/IO access, drug delivery or advanced airway
- Consider and treat H's and T's: Refer to APPENDIX: Treatment of H's and T's
    - Hypoxia, Hypovolemia, Hypothermia, Hyper-/Hypokalemia, Hydrogen ions (acidosis)
    - Tension pneumothorax, Tamponade, Toxins and Thrombosis (MI or PE)
- Waveform Capnography/End Tidal CO2
    - Used for assessment of CPR effectiveness, advanced airway placement, and ROSC
- If sufficient personnel, intubation may be performed with limited interruption of CPR
- **Epinephrine**: Give as soon as possible – ROSC reduced by 4% for every 1-minute delay
- **Amiodarone:** fat soluble drug, IV route preferred over IO
- Consider OG tube placement after ROSC
- * Limit EPI to 3 mg but if clinician feels repeat doses needed may give additional doses not to exceed 7 doses as poor neuro outcome results
- Optional substitution for **Epinephine 1:10,000** 1 mg
    - **Epinephrine 1:1000** 1 mg may be diluted with 9 mL of **NS**
- Refer to CARDIAC ARREST: ROSC/CARDIAC ARREST: Termination of Resuscitation as needed

Chest Pain/Acute Coronary Syndrome

EMR

- ABC
- Apply appropriate oxygen therapy with pulse oximetry
- Vital signs
- Have AED ready

EMR STOP

EMT

- 12 lead EKG and transmit within 10 minutes of patient contact
- **Aspirin** 324 mg (4 x 81 mg)
  - May hold aspirin administration if patient has a true allergy to ASA
- SBP > 90 mmHg: Assist patient with their own sublingual **Nitroglycerin** (MAX 3 doses)

EMT STOP

ADVANCE

- Vascular access
  - Prefer IV access prior to administration of **Nitroglycerin**
- **Nitroglycerin** 0.4 mg SL
  - SBP > 90 mmHg: **Nitroglycerin** 0.4 mg SL; repeat every 5 minutes (MAX 3 doses)
    - Hold if SBP < 90 mmHg
- Alternative: **Nitroglycerin** paste 1" to chest
  - **Inform ED Staff of application of nitro paste**
- SBP < 90 mmHg: **NS** 500 mL bolus IV
- Additional IV access as needed while enroute if time allows

ADVANCE STOP

PARAMEDIC

- Cardiac monitor
- 12 lead EKG and transmit within 10 minutes of patient contact if not done
- **Notify MEDICAL CONTROL physician ASAP if STEMI is identified**
  - If ST Elevation in II, III, aVF – check for 1 mm ST Elevation in v4R
    - If present: **WITHHOLD NITROGLYCERIN**
- **Nitroglycerin** 0.4 mg SL
  - SBP > 90 mmHg: **Nitroglycerin** 0.4 mg SL; repeat every 5 minutes (MAX 3 doses)
    - Hold if SBP < 90 mmHg
  - SBP < 90 mmHg: **NS** 500 mL bolus IV
- If chest pain is > 8/10 on pain scale; may give ONE of the following:
  - **Morphine** 2-5 mg IV push x 1 dose
  - **Fentanyl** 25-100 mcg slow IV push x 1 dose
    - Fentanyl 25-100mcg slow IV push x 1 dose

KEY POINTS / CONSIDERATIONS

- Focus on maintaining ABC, pain relief, rapid ID, rapid notification, and rapid transport
- Vitals, including 12-lead EKG should be monitored frequently during transport
- Do not administer **Nitroglycerin** if the patient has taken **Sildenafil** (**Viagra**) or **Vardenafil** (**Levitra**) within the last 6 hours, or **Tadalafil** (**Cialis**) within the last 48 hours
- Consult MEDICAL CONTROL physician for additional doses of **Morphine** or **Fentanyl**
- Consult MEDICAL CONTROL physician for direct transfer to appropriate cardiac facility if needed
- Oxygen should not be applied with saturations greater than 92%

Cardiogenic Shock

EMR

- ABC
- Apply appropriate oxygen therapy with pulse oximetry
- Vital signs
- Place patient supine unless dyspnea is present

EMR STOP

EMT

- 12-Lead ECG and transmit within 5-10 minutes of patient contact

EMT STOP

ADVANCE

- Vascular access with blood draw
- No signs of pulmonary edema: **NS** 500-1000 mL bolus IV

ADVANCE STOP

PARAMEDIC

- Patient remains unstable following fluid bolus
  - May repeat **NS** 500 mL bolus IV
    - Check for signs of pulmonary edema – **DO NOT** give if rales present
  - **Epinephrine** 5-20 mcg IV every 2-5 min
    - **Epinephrine** 1:10,000 (code epi) is 100 mcg/mL
    - Add 1 mL = 100 mcg/0.1 mg of **Epinephrine** 1:10,000 to 9 mL **NS**
    - Results in **Epinephrine** concentration **10 mcg/mL**
    - 5-20 mcg = 0.5-2 mL every 2-5 min
- **Optional**
  - **Dopamine** infusion 5 mcg/kg/min IV infusion (MAX 20 mcg/kg/min)
    - Titrate: increase 5 mcg/kg/min every 3-5 min
  - **Norepinephrine (Levophed)** 2 mcg/min continuous IV infusion (MAX 20 mcg/min) (pump use only)
    - 4 mg in 250 mL **D5W** = 16 mcg/mL
    - 2-20 mcg/min = 0.125-1.25 mL/min
    - Titrate: increase 1-2 mcg/min every 3-5 min
  - **Vasopressin** 0.04 U/min IV infusion (Pump use only)
    - 20 U in 250 mL D5W = 30 mL/hr = 0.5 mL/min
    - 2nd line – add to **norepinephrine** drip
    - Fixed dose

KEY POINTS / CONSIDERATIONS

- UNSTABLE is defined as SBP < 90 mmHg and/or decreased level of consciousness
- Refer to appropriate Dysrhythmia protocol as needed
- Monitor lung sounds: if present, hold/stop fluid bolus

Wide Complex Tachycardia with a Pulse

EMR

- ABC
- Apply appropriate oxygen therapy with pulse oximetry
- Vital signs
- Have AED ready

EMR STOP

EMT

- 12-Lead ECG and transmit within 5-10 minutes of patient contact

EMT STOP

ADVANCE

- Vascular access with blood draw

ADVANCE STOP

PARAMEDIC

- Cardiac Monitor
- **UNSTABLE**
  - Refer to MEDICAL: Procedural Sedation if time allows
  - SYNCHRONIZED cardioversion; repeat to max of 3 times
  - If cardioversion fails, follow drug regimen for STABLE patient
- **STABLE**
  - **Preferred**
    - **Amiodarone** (**Cordarone**) 150 mg in 100 mL **NS** over 10 min (10 mL/min)
      - Repeat if VT recurs
    - Rhythm is converted: **Amiodarone** (**Cordarone**) 1 mg/min IV infusion
  - **Alternative**
    - **Procainamide** 20 mg/min slow IV infusion to MAX 17mg/kg
    - Rhythm is converted: **procainamide** 1-4 mg/min IV infusion
- Renal failure, dialysis or suspected hyperkalemia:
  - **Calcium Chloride** 1 g IV/IO
  - **Sodium Bicarbonate** 50 mEq bolus IV/IO
  - **Albuterol** 10 mg nebulized
- Torsade's de Pointes:
  - **Magnesium Sulfate** 2 g diluted in 10 mL **NS** bolus IV/IO

KEY POINTS / CONSIDERATIONS

- UNSTABLE is defined as ventricular rate > 150 bpm with:
  - Chest pain
  - Dyspnea
  - Altered LOC
  - Pulmonary Edema
  - Hypotension (SBP < 90 mmHg)
- Wide Complex is defined as a QRS complex > 0.12 seconds (3 small boxes)
- Cardioversion should be done at manufacture's recommended settings
- **Amiodarone:** fat soluble drug, IV route preferred over IO
- Consider **Adenosine** ONLY if regular and monomorphic
  - 1st dose 6 mg Rapid IV Push
  - 2nd dose 12 mg Rapid IV Push

Narrow Complex Tachycardia

EMR

- ABC
- Apply appropriate oxygen therapy with pulse oximetry
- Vital signs
- Have AED ready

EMR STOP

EMT

- 12-Lead ECG and transmit within 5-10 minutes of patient contact

EMT STOP

ADVANCE

- Vascular access with blood draw
- **Normal Saline** 500 mL bolus IV
- Valsalva Maneuvers

ADVANCE STOP

PARAMEDIC

- Cardiac monitor
- **UNSTABLE**
  - Refer to MEDICAL: Procedural Sedation if time allows
  - SYNCHRONIZED cardioversion; repeat to max of 3 times
    - If cardioversion fails, follow drug regimen for STABLE patient
- **STABLE**
  - **REGULAR RHYTHM** – ventricular rate 150-220 bpm
    - **Adenosine (Adenocard)** 1st dose: 6 mg rapid IV push
      - Followed by **NS** 20 mL bolus IV
    - **Adenosine (Adenocard)** 2nd dose:12 mg rapid IV push
      - Folowed by **NS** 20 mL bolus IV
      - May repeat in 1-2 minutes
  - **IRREGULAR RHYTHM** (Atrial Flutter/Atrial Fibrillation)
    - Ventricular rate 150 - 220 bpm
      - **Diltiazem (Cardizem)** 0.25 mg/kg slow IV push over 2 min (MAX 20 mg)
    - Ventricular rate < 150 bpm
      - Consult MEDICAL CONTROL physician for order of **Diltiazem (Cardizem)** 0.25 mg/kg slow IV push over 2 min (MAX 20 mg)
    - **Acceptable Alternative**
      - **Amiodarone (Cordarone)** 150 mg in 100 mL **NS** over 10 min (10 mL/min)

- **Consider Wolff-Parkinson-White (WPW) if HR > 220 and of young age**
    - **AVOID Adenosine (Adenocard)** and **Cardizem (Diltiazem HCL)**
    - **PREFERRED**
        - **Amiodarone** (**Cordarone**) 150 mg in 100 mL **NS** over 10 min (10 mL/min)
    - **Acceptable**
        - **Procainamide** 20 mg/min slow IV infusion to MAX 17mg/kg

KEY POINTS / CONSIDERATIONS

- UNSTABLE is defined as ventricular rate > 150 bpm with:
    - Chest pain
    - Dyspnea
    - Altered LOC
    - Pulmonary Edema
    - Hypotension (SBP < 90 mmHg)
- Cardioversion should be done at manufactures recommended settings
- **Amiodarone:** fat soluble drug, IV route preferred over IO

Symptomatic Bradycardia / Heart Block

EMR

- ABC
- Apply appropriate oxygen therapy with pulse oximetry
- Vital signs
- Have AED ready
- Check Glucose

EMR STOP

EMT

- 12-Lead ECG and transmit within 5-10 minutes of patient contact

EMT STOP

ADVANCE

- Vascular access with blood draw
- Consider **NS** 500 mL bolus IV if no signs of pulmonary edema

ADVANCE STOP

PARAMEDIC

- Consider and treat reversible causes (H's & T's)
- Atropine 1 mg IV; repeat every 3-5 minutes to a max of 3mg
- Begin transcutaneous pacing if Atropine is ineffective
  - Refer to Procedural Sedation guideline as needed
- **Hypotensive**
  - A 500cc fluid bolus may be given if no signs of Pulmonary Edema, if dopamine is not available
- Consider immediate pacing for 2nd degree Type II or 3rd degree Heart Blocks
- **Optional** (Pump required)
  - Dopamine infusion of 5mcg/kg/min, titrate to effect, to a max of 20mcg/kg/min
  - Norepinephrine 10mcg/min to start and titrate up or down to effect (max 30mcg)

KEY POINTS / CONSIDERATIONS

- Bradycardia is any rate less than 60 bpm, but symptomatic is generally less than 50 bpm
- Only treat bradycardia if patient is symptomatic
- Use Atropine with caution in ACS
- Symptomatic presentation includes chest pain, dyspnea, altered mental status, pulmonary edema, ischemia, infarction, and/or hypotension (systolic BP less than 90mmHg)

Nausea and/or Vomiting

EMR

- ABC
- Apply appropriate oxygen therapy with pulse oximetry
- Vital signs

EMR STOP

EMT

- 12-Lead ECG and transmit within 5-10 minutes of patient contact

EMT STOP

ADVANCE

- Vascular access with blood draw
- **NS** 500 mL bolus IV
  - If SBP < 90 mmHg, repeat to MAX 2 L
  - Hold if signs of pulmonary edema/CHF
- **Ondansetron (Zofran)** 4 mg IV/IM/PO; may repeat x1 in 10 minutes

ADVANCE STOP

PARAMEDIC

- **Preferred**
  - **Ondansetron (Zofran)** 4 mg IV/IM/PO; may repeat x1 in 10 minutes
- **Acceptable**
  - **Phenergan (Promethazine)** 25mg IM **ONLY**
- **Alternative** – requires cardiac monitor and EKG first with QTc < 500 ms
  - **Droperidol** 0.625 mg IV; may repeat x1 in 5 minutes (MAX 1.25 mg)

KEY POINTS / CONSIDERATIONS

Pain Management

EMR

- ABC
- Apply appropriate oxygen therapy with pulse oximetry
- Vital signs

EMR STOP

EMT

- 12-Lead ECG and transmit within 5-10 minutes of patient contact
- May give oral ibuprofen 10mg/kg max 800mg or Tylenol 15 mg/kg max 1000mg

EMT STOP

ADVANCE

- Vascular access with blood draw

ADVANCE STOP

PARAMEDIC

- Consider **Ketorolac (Toradol)**:
  - **Ketorolac (Toradol)** 30 mg IV/IM
  - Do not give to elderly (>65) or those with renal failure or allergic to NSAIDs
- Opiates: May administer ONE of the following narcotic analgesics
  - **Morphine** 2-5 mg IV/IM; repeat every 5 min (MAX 20 mg)
  - **Dilaudid** 0.5-1 mg IV/IM (MAX 1 mg)
  - **Fentanyl** 25-100 mcg slow IV/IM/IN; repeat every 5 minutes (MAX 200 mcg)
    - Best for patients with hemodynamic instability
- Alternative **Ketamine**: May give IN ADDITION or IN PLACE OF the above
  - **Ketamine** 0.3 mg/kg IV/IM (MAX 30 mg) over 2 min; may repeat x1 in 15 min
- **Ondansetron (Zofran)** 4mg IV/IM/SL ODT if nausea/vomiting

KEY POINTS / CONSIDERATIONS

- Contraindications to pain management protocol:
  - Altered mental status
  - Hypoventilation
  - SBP < 90 mmHg
- Narcotic pain management reserved for patients with:
  - Severe trauma/burns without hemodynamic compromise
  - Suspected isolated extremity injury with severe pain
  - New onset abdominal pain
  - New onset back pain
- Consult MEDICAL CONTROL physician for orders for other painful conditions
- Consult MEDICAL CONTROL for repeat dosing if needed for prolonged transports
- This protocol may **NOT** be used in **conjunction** with the MEDICAL: Procedural Sedation protocol unless MEDICAL CONTROL physician is consulted
- **Fentanyl** or **Ketamine** should be used in place of **Morphine** if low BP/hemodynamic instability

Fever Adult

EMR

- Vital signs

EMR STOP

EMT

ADVANCE

PARAMEDIC

- Fever greater than 100.4 F

  May give one of the following
  - Ibuprofen (Advil/Motrin) 10 mg/kg up to 800mg po
  - Tylenol (Acetaminophen) 15mg/kg up to 1000 mg po

KEY POINTS / CONSIDERATIONS

- ***Do Not*** give ibuprofen to elderly>65yo or to patients with history of allergy to NSAIDS or history of renal failure
- ***Do Not*** give acetaminophen to patients with history of liver failure or those with allergies to medication.
- Neither medication should be given within 6 hours of prior administration.

Patient Agitation/Hyperactive Delirium

EMT

- Call for Law Enforcement
- ABC
- Apply appropriate oxygen therapy
- Vital signs
- Soft restraints or XD Cuffs as needed to maintain patient and provider safety
    - Reassess and remove if able after medicating

EMR/EMT STOP

ADVANCE

- Vascular access with blood draw if possible and safe for the provider

ADVANCE STOP

PARAMEDIC

- Cardiac monitor
- First line Choose ONE:
    - **Midazolam (Versed)** 2-5 mg IV/IM/IN; may repeat every 5 min (MAX 10 mg)
    - **Lorazepam (Ativan)** 1-2 mg IV/IM; may repeat every 5 min (MAX 4 mg)
    - **Diazepam (Valium)** 5 mg IV/IM/IN; repeat every 5 min (MAX 10 mg)
    - **Ketamine** 3 mg/kg IM (MAX 300 mg)
    - **Diphenhydramine (Benadryl)** 25-50 mg IV/IM for synthetic THC
        - PO acceptable for IV/IM/IO shortages
- For severe, acutely psychotic patients – choose ONE, may use in conjunction with above:
    - **Haloperidol (Haldol)** 5 mg IM
        - Not for elderly (>65) or trauma
    - **Droperidol** 2.5 mg IM; may repeat in 5 min x1
        - Do not use > 65 yo without EKG showing QTc < 500 ms
    - **Zyprexa** 10 mg IM
        - Preferred in elderly > 65 yo/dementia
        - Do not mix with benzodiazepines

KEY POINTS / CONSIDERATIONS

- If patient is in police custody and/or in handcuffs, officer must accompany patient to the hospital
    - Handcuff key must be given to EMT/Paramedic and officer must follow ambulance to ED
    - Alternative: Officer may ride in the patient compartment of the ambulance
- Haldol can cause prolongation of QT, which can lead to an arrhythmia and death
    - Use with caution in those with known cardiac conditions
- Patient must NOT be transported in a prone (face-down) position
- This protocol is for patients at risk of causing physical harm to emergency responders, the public and/or themselves
- EMS personnel may only apply “soft restraints” such as towels, or commercially available soft medical restraints. Any other type of restraint must be approved by the medical director.
- Consult MEDICAL CONTROL as needed

Procedural Sedation

EMR

EMT

- ABC
- Apply appropriate oxygen therapy with pulse oximetry
- Vital signs

EMR/EMT STOP

ADVANCE

- Vascular access with blood draw

ADVANCE STOP

PARAMEDIC

- Cardiac Monitor with continuous pulse oximetry
- May use Pain Management Protocol for pain
- Cardioversion administer **ONE** of the following:
  - Versed (Midazolam) 2-5 mg slow IV push; titrate to desired effect (MAX 10 mg)
  - Etomidate (Amidate) 0.1mg/kg IV (MAX 40 mg)
- Transcutaneous pacing
  - Versed (Midazolam) 2-5 mg slow IV push; titrate to desired effect (MAX 10 mg)
- Post Intubation (systolic BP greater than 100 mmHg) administer **ONE** of the following:
  - Versed (Midazolam) 0.05 mg/kg IV; repeat every 5 min (MAX 10 mg)
  - Etomidate (Amidate) 0.1 mg/kg IV (MAX 40 mg)
  - Fentanyl 50-100 mcg slow IV; repeat every 5 min (MAX 200 mcg)
  - Ketamine 1 mg/kg IV q 30 min as needed to sedate
    - Optional carry drug
- CPAP/BIPAP sedation administer **ONE** of the following:
  - Versed (Midazolam) 1-2 mg slow IV push
  - Ativan (Lorazepam) 0.5-1 mg IV diluted in equal amount of Normal Saline slow IV push

KEY POINTS / CONSIDERATIONS

- Consult MEDICAL CONTROL PHYSICIAN for additional pain or nausea medication

Allergic Reaction / Anaphylaxis

EMR

- ABC
- Apply appropriate oxygen therapy with pulse oximetry
- Vital signs
- Place a nasopharyngeal airway if needed

EMR STOP

EMT

- Administer Adult EPI Pen
- May use 1:1000 prefilled syringe or draw up vial 0.3mg
    - DuoNeb (Albuterol 2.5mg + Atrovent 0.5mg in 2.5ml mixed together) via nebulizer: not effective then
        - Albuterol 2.5 mg via nebulizer; repeat once

EMT STOP

ADVANCE

- Vascular access with blood draw
- May give 500-1000ml fluid bolus of Normal Saline as needed
- Severe allergic reaction with stridor **CALL MEDICAL CONTROL**
    - Epinephrine 1:1000 dose of 0.01mg/kg (Max of 0.3mg) IM

ADVANCE STOP

PARAMEDIC

- Cardiac monitor
- **Asymptomatic:**
    - Supportive care
- **Mild symptoms: Urticaria, Itching, Nasal congestion, Water eyes, etc.**
    - Benadryl (Diphenhydramine) 50mg IV or deep IM (PO acceptable)
- **Moderate symptoms: Wheezing, N/V, Diarrhea, Flushing, Swelling, Face, Neck, Tongue**
    - Pepcid (Famotidine) 20mg IV
    - Solu-Medrol (Methylprednisolone) 125mg IV; no IV access IM is acceptable
- **Severe reaction that is not relieved by initial treatment or patient presenting with stridor, hypotension (systolic BP less than 90mmHg), and/or altered Mental status**

- **BLS airway maneuvers fail, attempt less invasive ALS methods than attempt ETI**
  - Cricothyrotomy may be considered only after all other airway interventions have been exhausted
- Administer ONE of the following:
  - Brethine (Terbutaline) 0.3mg SQ
  - **NO significant cardiac history**
    - Epinephrine 1:10,000 dose of 0.01mg/kg to a max of 0.3mg IV; if no other Epinephrine if given

KEY POINTS / CONSIDERATIONS

- If Epinephrine has been administered **YOU MUST CONSULT MEDICAL CONTROL PHYSICIAN** before giving more Epinephrine

Diabetic Emergencies

EMR

- ABC
- Apply appropriate oxygen therapy with pulse oximetry
- Vital signs
- Blood glucose is known or suspected to be low (less than 60 – 80 mg / dl) and the patient is able to shallow on command, give 1 dose of oral glucose

EMR STOP

EMT

- Check glucose
- Glucose < 70 mg/dL and able to swallow on command:
  - **Glucose** 30 g PO x1
- Glucose < 70 mg/dL and unable to swallow
  - **Glucagon (Baqsimi)** 3 mg IN
    - Optional med carry
- Glucose > 400 mg/dL with AMS or pending respiratory compromise:
  - Call for medic assist
- Call for medic assist if:
  - Unable to swallow on command
  - Altered mental status

EMT STOP

ADVANCE

PARAMEDIC

- Vascular access
- Blood glucose level <70 and signs and symptoms of hypoglycemia choose ONE of the following:
  - **Dextrose 50%** 25 g (50 mL) IV; may repeat as needed every 10 minutes
  - **Dextrose 10%** 25 g (250 mL) IV
  - **Dextrose 5%** 7.5 g IV, titrate to effect not to exceed 25 grams
  - Unable to obtain vascular access: **Glucagon** 1 mg IM/SQ
- Blood glucose level above 400 mg / dl
  - Normal Saline 500 – 1000 mL IV bolus

KEY POINTS / CONSIDERATIONS

- If the patient took sugar prior to arrival, ensure that the patient has not taken a sugar substitute
- When First Responders locate possible hypoglycemic patient, inquire whether patient or family has obtained BGL reading
- For patients with history of CHF and signs of volume overload hold fluid bolus
- To make **D25** – Dilute **D50** 1:1 with **NS**
  - Mix 50 mL **D50** with 50 mL **NS =** 25 g/100 mL = 250 mg/mL

Overdose or Toxic Exposure

EMR

- Opiate OD: Naloxone (Narcan) 2mg IN, give 1ml in each nostril for respiratory depression only
- Decontaminate as needed
- ABC, apply appropriate oxygen therapy
    - Place a nasopharyngeal airway if needed with Pulse oximetry
- Vital signs
- Attempt to determine what was taken, when, and how much, if possible bring the containers to the ED
- Blood glucose is known or suspected to be low (less than 60 – 80 mg / dl) and the patient is able to shallow on command, give 1 dose of oral glucose
- Contact Poison Control at 800-222-1222 for additional information and treatment
- Check blood glucose level, normal range 60-80mg/dl. If the level is abnormal, refer to the Diabetic Emergencies guidelines

EMR STOP

EMT

- Acquire and transmit a 12-lead EKG

EMT STOP

ADVANCE

- Vascular access with blood draw
    - Opiate OD: Naloxone (Narcan) 0.5mg IV, IM; repeat to a max of 2 mg for respiratory depression **ONLY**

ADVANCE STOP

PARAMEDIC

- Apply the cardiac monitor
- For symptomatic patients with known:
    - Organophosphate poisoning: Atropine 2-5 mg IV/IO; repeat every 3–5 minutes
    - Dystonic reaction or synth THC: Diphenhydramine (Benadryl) 50 mg IV, IM, PO acceptable
    - Calcium channel blocker OD: Glucagon 1 mg IM, SQ
    - Beta blocker OD: Glucagon 1 mg IM, SQ
    - Tricyclic Antidepressant OD: Sodium Bicarbonate 1 mEq/kg IV
    - Sympathomimetic (cocaine/amphetamines) OD: Midazolam (Versed) 2–5 mg IV, IM, IN

KEY POINTS / CONSIDERATIONS

- Includes patients who are unconscious/unresponsive without suspected trauma or other causes
- Poison control can help guide treatment and in some cases you may not need to transport.
- Use caution with cancer patients, may be on large amounts of narcotics due to chronic pain
- Dystonic reaction is uncontrolled muscle contractions of face, neck, or tongue. Dystonic reactions may result from an allergic reaction to: Phenergan, Compazine, Haldol
- Be prepared to restrain the patient after the administration of Naloxone (Narcan)
- Do not give to intubated patients
- NARCAN should not be given if patient has any advanced airway in place
- Paramedic intercept should be called for any OD
- Signs and symptoms of organophosphate poisoning consider SLUDGE
    - **S**alivation
    - **L**acrimation
    - **U**rination
    - **D**iarrhea
    - **G**astric cramps
    - **E**mesis

Seizures

EMR

- ABC
- Apply appropriate oxygen therapy with pulse oximetry
- Vital signs
- Check blood glucose level, normal range 60-80mg/dl. If the level is abnormal, refer to the Diabetic Emergencies guidelines

EMR STOP

EMT

EMT STOP

ADVANCE

- Vascular access with blood draw

ADVANCE STOP

PARAMEDIC

- Apply the cardiac monitor
- Preferred:
  - Lorazepam (Ativan) 1 – 2 mg IV/IO
    - Dilute in equal amounts of NS and slow IV push; repeat every 5 minutes to a max of 4 mg
  - Midazolam (Versed) 2 mg slow IV/IO push; may repeat in 5 minutes
  - If vascular access cannot be obtained; may give **ONE** of the following:
    - Lorazepam (Ativan) 1 – 2 mg IM/IN; no dilution, repeat every 5 minutes to a max of 4 mg
    - Midazolam (Versed) 5 mg IM/IN
- Acceptable:
  - Diazepam (Valium) 5 mg slow IV/IO push; repeat 2 – 5 minutes to a max of 10 mg
    - If vascular access cannot be obtained, may give Diazepam (Valium) 5 mg slow IM/IN with nasal atomizer
- Alternative if Benzo refractory seizure
  - Ketamine 2 mg/kg IV be prepared to take over airway may repeat q10 mins

KEY POINTS / CONSIDERATIONS

- Protect the patient and the EMS crew from injury during the seizure
- Refer to the eclampsia protocol if patient is pregnant or recently post-partum

Shock / Hypoperfusion

EMR

- ABC
- Apply appropriate oxygen therapy with pulse oximetry
- Vital signs
- Place patient in the supine position unless dyspnea is present
- Cover the patient to maintain body temperature

EMR STOP

EMT

- Acquire and transmit a 12-lead ECG

EMT STOP

ADVANCE

- Vascular access with blood draw
- No pulmonary edema (rales); Normal Saline 500 – 1000 ml bolus IV
- Apply the cardiac monitor
- Obtain an additional vascular access as time permits

ADVANCE STOP

PARAMEDIC

- A second 500 cc bolus of normal saline may be given if no signs of pulmonary edema are present
- Preferred
  - Push-dose EPI 10-20 mcg iv q3-5 min prn pressure support
- Optional if available
  - Dopamine infusion 5 mcg/kg/min, titrated to effect, not to exceed 20 mcg/kg/min
  - Norepinephrine 10mcg/min to start and titrate up or down to effect (max 30mcg) (pump required)

KEY POINTS / CONSIDERATIONS

- Additional fluid bolus can be administered, but the patient needs to reassessed for rales or other signs of pulmonary edema
- **UNSTABLE** is defined as systolic BP less than 90 mmHg and/or decreased level of consciousness
- Monitor for signs/symptoms of pulmonary edema
  - Consider causes of Hypoperfusion including: Anaphylaxis, Toxic ingestions, Cardiac rhythm disturbances, MI, Sepsis, Rupture AAA, Ectopic pregnancy, Trauma, Others
- For push Dose EPI usage you will need to dilute the 1:10000 epi as it is 1mg in 10ml. so: 1ml of the 1:10000 and dilute in 9ml of NS. This will make a 10mcg/ml

Heat / Cold Related Illnesses

EMR

- ABC
- Apply appropriate oxygen therapy with pulse oximetry
- Vital signs
- Remove the heat source or from the cold environment
- If the skin is hot and dry, Cover with wet sheets
- If the skin is cold and wet, cover with dry sheets
- Use air conditioning, fans, or heater as needed
- Consider heat/cold packs under the armpits, in the groin area, and on the neck

EMR STOP

EMT

- Acquire and Transmit a 12-lead ECG

EMT STOP

ADVANCE

PARAMEDIC

- Large bore IV; normal saline 500 – 1000 ml IV bolus
    - Consider warm fluids for cold emergencies

KEY POINTS / CONSIDERATIONS

- Patient may exhibit Altered Mental Status (AMS), dry and/or hot skin, excessive diaphoresis or extremely dry skin
- Remember that certain medications or drugs may produce heat illnesses
- If patient is in cardiac arrest, follow AHA guidelines
- Monitor for signs and symptoms of pulmonary edema

Suspected Stroke

EMR

- ABC
- Apply appropriate oxygen therapy with pulse oximetry
- Vital signs
- ***Determine and document*** the exact time of symptom onset ***and*** last time seen without symptoms by interviewing the patient, family, and bystanders
- If time from last known well time to ED will be less than 4.5 hours **THEN:**
    - **NOTIFY MEDICAL CONTROL PHYSICIAN ASAP** to prepare for possible thrombolytic therapy
    - **CALL CODE STROKE IF LESS THAN 24 HOURS**
- ***Do FAST ED score and document in report***, if the score is 4 or higher; then recommend going to Memorial Hospital for possible thrombectomy*.
- If blood sugar suspected/known to be low refer to Diabetic Emergency Guideline
- Check blood sugar level, normal range 60 – 80 mg/dl. If the level is abnormal, refer to the Diabetic Emergencies Guideline

EMR STOP

EMT

- Acquire and Transmit a 12-lead ECG

EMT STOP

ADVANCE

PARAMEDIC

- Vascular access with blood draw

KEY POINTS / CONSIDERATIONS

- Cincinnati Pre-Hospital Stroke Scale:
    - Have the patient repeat “You cannot teach an old dog new tricks.” Assess for correct use of words, without slurring
    - Have the patient smile, access for facial droop
    - Have the patient close their eyes and hold their arms straight out for 10 seconds, access for arm drift or unequal movement of one side
- The fast ED app may be used to look for possible large vessel occlusion that may warrant thrombectomy. If the score is 4 or higher, then recommend going to Memorial Hospital for possible thrombectomy.
- * Don’t bypass closer hospital if the window for TPA will be lost by going to Memorial.

Epistaxis (Non-Traumatic) ages12 and up

EMR

- ABC
- Apply appropriate oxygen therapy with pulse oximetry
- Vital signs
- Have patient sit forward and blow their nose to remove any small loose clots
- Have the patient hold head forward pinching the nostrils anteriorly or apply a nasal clamp device
- Do not allow the patient to lean head backwards

EMR STOP

EMT

ADVANCE

PARAMEDIC

- Administer 2 sprays of Oxymetazoline (Afrin) in each nostril
- TXA can be atomized into affected Nare or soaked gauze and place intranasally

Acute Asthma and Status Asthmaticus

EMR

- ABC
- Apply appropriate oxygen therapy with pulse oximetry
- Vital signs
- Assist patient with their own meter dose inhalation medications as appropriate

EMR STOP

EMT

- Consider ETCO2 Monitoring
- 12 lead EKG and transmit
- **Albuterol** 2.5 mg nebulized repeat as needed (MAX 3 doses)
  - May add **Atrovent** 0.5 mg (aka **Duo-Neb**) x1 to any dose
- CPAP for moderate-severe distress
- Call for Paramedic intercept if needed or failing treatments

EMT STOP

ADVANCE

- Vascular access with blood draw
- Epinephrine 1:1000 dose 0.3 – 0.5 mg IM
  - If **SEVERE DISTRESS CALL MEDICAL CONTROL PHYSICIAN**

ADVANCE STOP

PARAMEDIC

- **Methylprednisolone (Solu-Medrol)** 125 mg IV/IM
- If SEVERE (Status Asthmaticus):
  - **Magnesium Sulfate** 2 g in 100 mL **D5W** IV over 20 minutes
  - May choose ONE **Epinephrine** option:
    - **Epinephrine** 1:1000 dose 0.3-0.5 mg IM (MAX 2 total doses including Advanced EMT dose)
    - **Epinephrine** 1:1000 dose 0.5 mg mixed with 3 ml normal saline, via nebulizer (or as per package directions)
    - **Epinephrine** 1:10,000 dose 0.5 mg IV
- Consult MEDICAL CONTROL if additional dosing needed or no improvement
- Alternative meds and usage:
  - **Xopenex** 1.25mg nebulized as Alternative to albuterol may repeat x 3
  - **Ketamine** 1mg/kg IV for bronchodilatation and sedation on CPAP, repeat q10min

KEY POINTS / CONSIDERATIONS

- Remember, “All that wheezes is not asthma.” Consider allergic reaction, airway obstruction, Congestive Heart Failure, Pulmonary edema, COPD exacerbation, acute pulmonary hypertension
- Caution in using Epinephrine for patients with history of CAD

Acute Pulmonary Edema

EMR

- ABC
- Apply appropriate oxygen therapy with pulse oximetry
- Vital signs
- Sit patient upright if possible

EMR STOP

EMT

- Acquire and transmit a 12-lead ECG
- Consider starting CPAP for moderate to severe distress

If wheezing present

- DuoNeb (Albuterol 2.5 mg + Atrovent 0.5 mg in 2.5 ml mixed together) via nebulizer once, may repeat Albuterol 2.5 mg once
- Call for Paramedic intercept immediately

EMT STOP

ADVANCE

- Vascular access with blood draw
- Nitroglycerin 0.4 mg; repeat every 3 – 5 minutes if systolic BP remains greater than 90 mmHg

ADVANCE STOP

PARAMEDIC

- Apply the cardiac monitor
- Nitroglycerin 0.4 mg; repeat every 3 – 5 minutes if systolic BP remains greater than 90 mmHg
- Albuterol 2.5 mg: may repeat once if wheezing present

- Alternative meds and usage:
  - **Xopenex** 1.25mg nebulized as Alternative to albuterol may repeat x 3
  - **Ketamine** 1mg/kg IV for bronchodilatation and sedation on CPAP, repeat q10min

KEY POINTS / CONSIDERATIONS

- All patients with rales do not have pulmonary edema ---consider the possibility of pneumonia or COPD exacerbation
- Do not administer nitroglycerin if the patient has taken medications such as:
  - Sildenafil (Viagra) within the last 6 hours
  - Vardenafil (Levitra) within the last 6 hours
  - Tadalafil (Cialis) within the last 48 hours

COPD Exacerbation

EMR

- ABC
- Apply appropriate oxygen therapy with pulse oximetry
- Vital signs
- Assist patient with their own meter dose inhalation medications as appropriate

EMR STOP

EMT

- Consider ETCO2 Monitoring
- 12 lead EKG and transmit
- **Albuterol** 2.5 mg nebulized repeat as needed (MAX 3 doses)
    - May add **Atrovent** 0.5 mg (aka **Duo-Neb**) x1 to any dose
- CPAP for moderate-severe distress
- Call for Paramedic intercept immediately

EMT STOP

ADVANCE

- Vascular access with blood draw

ADVANCE STOP

PARAMEDIC

- Cardiac monitor
- **Albuterol** 2.5 mg nebulized repeat as needed (MAX 3 additional doses)
    - May add **Atrovent** 0.5 mg (aka **Duo-Neb**) x1 to any dose if not given
- **Methylprednisolone (Solu-Medrol)** 125 mg IV/IM
    - Please start early as it takes time for the drug to reach full potential
- Alternative meds and usage:
    - **Xopenex** 1.25mg nebulized as Alternative to albuterol may repeat x 3
    - **Ketamine** 1mg/kg IV for bronchodilatation and sedation on CPAP, repeat q10min

Medication Facilitated Intubation

PARAMEDIC

- INDICATIONS:
  - Standing orders for **definitive airway control**
  - Sedative medication with or without neuromuscular blockade
- PREOXYGENATE/SETUP:
  - O2 100% NRB if respiratory effort
  - BVM O2 100%
  - Cardiac Monitor
  - Pulse Ox
  - ETCO2
- SEDATION/INDUCTION:
  - **Etomidate (Amidate)** 0.3 mg/kg rapid IV push (MAX 40 mg)
  - **Ketamine** 2 mg/kg IV (MAX 400 mg)
- PARALYTIC:
  - **Succinylcholine** 1.5 mg/kg IV (MAX 200 mg)
    - Onset: 1 min
    - Duration: 5-8 min
  - **Rocuronium** 1 mg/kg IV
    - Onset: 1-2 min
    - Duration: 22-67 min
    - **Prolonged paralysis: will require sedation after intubation**
- INTUBATE:
  - 2 attempts max
  - If intubation fails:
    - Manage airway and ventilate
    - Consider a medically approved non-visualized airway
    - Consult MEDICAL CONTROL if **unable to ventilate**
      - Cricothyrotomy as a LAST RESORT
      - Try all other interventions first
  - ETCO2 confirmation
    - Waveform and quantitative analysis
  - Secure ETT
- VENTILATE
  - Rate 8-12 breaths/min
  - Tidal Volume 6 cc/kg (ideal body weight)
  - PEEP 5 cmHg
    - Titrate to keep SpO2 > 94%
    - Can lower BP
- POST INTUBATION:
  - Refer to MEDICAL: Procedural Sedation as needed
  - Document all ETI attempts

KEY POINTS / CONSIDERATIONS

- Caution using **Succinylcholine** in muscular dyscrasias (hyperkalemia)
  - Crush injuries, skeletal muscle myopathy, muscular dystrophy
- Pre-oxygenate!
  - 5 min of NRB gives 5-10 minutes of apneic oxygenation
- **Atropine** 0.5 mg IV for bradycardia

Adult Trauma Emergencies

Trauma Transport Guidelines

EMR

EMT

ADVANCE

PARAMEDIC

- Asses Patient according to the **Field Triage Guidelines of Injured Patients (last page of protocols for field activation criteria)**
- Airway or ventilation concerns that cannot be adequately stabilized by available EMS providers for the anticipated transport time to a level I / II Trauma Center should be transported to the closest appropriate acute care facility
- Patients meeting steps 1 or 2 should be transported to the nearest Level I / II Trauma Center
  - VIA ground transport is less than 45 minutes
  - VIA aeromedical transport if ground transportation time is greater than 45 minutes
- Exceptions in which the patient should be transported via ground to the closest appropriate facility:
  - Air transport time is greater than 45 minutes
  - Weather or local conditions prohibit air travel to the scene or to the closest Level I / II Trauma Center
  - Scene wait time for aeromedical transport provider would exceed time required transporting the Patient to the closest appropriate acute care facility by ground. In this situation, the aeromedical provider may be diverted to the receiving acute care facility.
  - Patients in cardiac arrest at the scene following blunt force trauma, should not be transported via aeromedical transport
  - Patients meeting steps 3 and 4 criteria

KEY POINTS / CONSIDERATIONS

- This is a guideline and is not intended to specifically define every condition in which transport decisions concerning ground transport vs. aeromedical services may be needed. Good clinical judgment should be used at all times.
- Aeromedical can be requested to respond to the scene when:
  - ALS personnel request aeromedical
  - BLS personnel request aeromedical, when ALS is delayed or unavailable.
- EMS arrives they must assess the situation. If it is determined by the most highly trained EMS provider **ON THE SCENE** that aeromedical is not needed, they should be cancelled ASAP.
- **REFER TO THE LANDING ZONE LIST BY THE TOWNSHIP**

Field Triage Guidelines

National Guideline for the Field Triage of Injured Patients

RED CRITERIA
High Risk for Serious Injury

Injury Patterns	Mental Status & Vital Signs
• Penetrating injuries to head, neck, torso, and proximal extremities • Skull deformity, suspected skull fracture • Suspected spinal injury with new motor or sensory loss • Chest wall instability, deformity, or suspected flail chest • Suspected pelvic fracture • Suspected fracture of two or more proximal long bones • Crushed, degloved, mangled, or pulseless extremity • Amputation proximal to wrist or ankle • Active bleeding requiring a tourniquet or wound packing with continuous pressure	**All Patients** • Unable to follow commands (motor GCS < 6) • RR < 10 or > 29 breaths/min • Respiratory distress or need for respiratory support • Room-air pulse oximetry < 90% **Age 0–9 years** • SBP < 70mm Hg + (2 x age years) **Age 10–64 years** • SBP < 90 mmHg or • HR > SBP **Age ≥ 65 years** • SBP < 110 mmHg or • HR > SBP

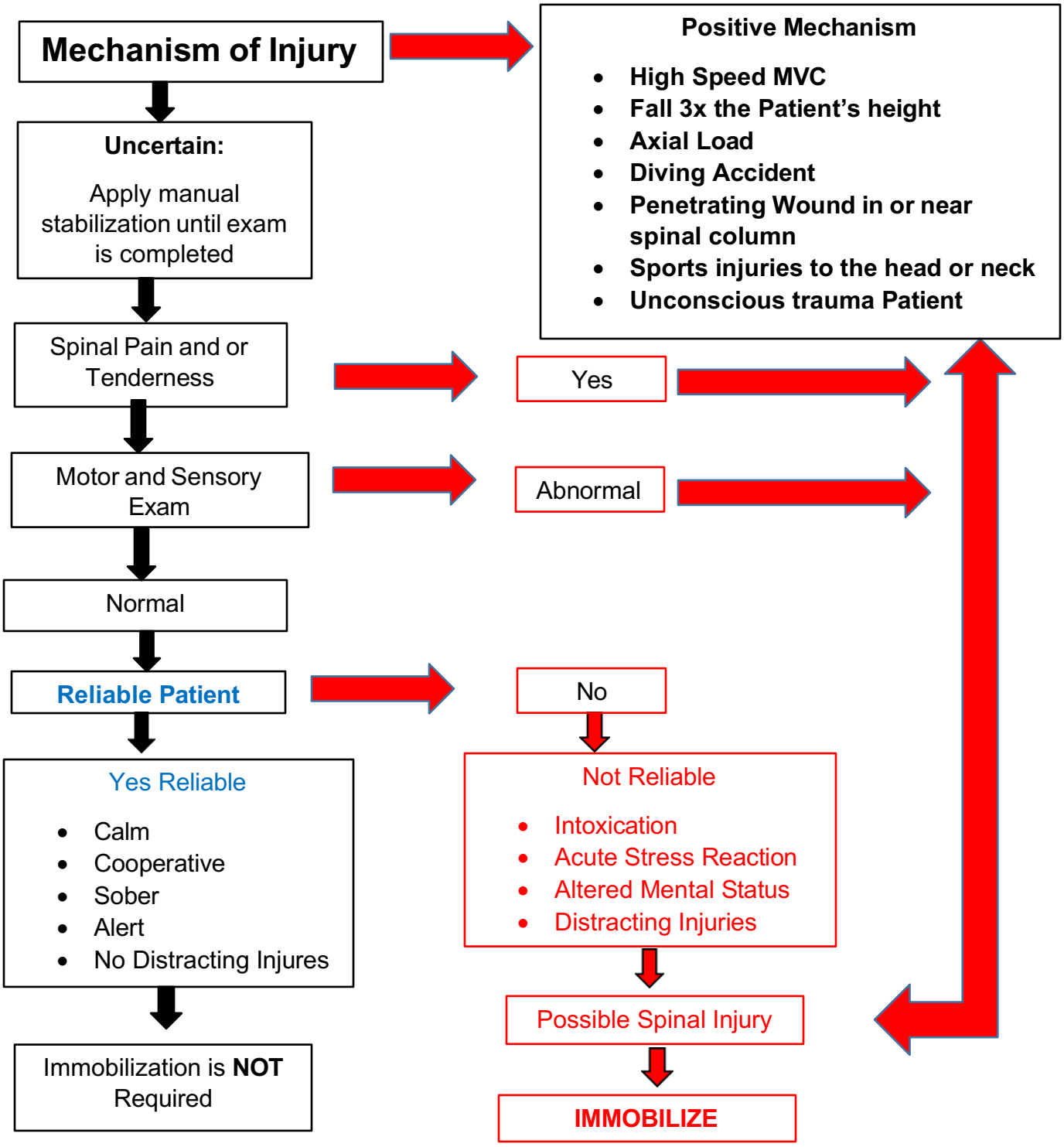
Patients meeting any one of the above RED criteria should be transported to the highest-level trauma center available within the geographic constraints of the regional trauma system

YELLOW CRITERIA
Moderate Risk for Serious Injury

Mechanism of Injury	EMS Judgment
• High-Risk Auto Crash – Partial or complete ejection – Significant intrusion (including roof) • >12 inches occupant site OR • >18 inches any site OR • Need for extrication for entrapped patient – Death in passenger compartment – Child (Age 0–9) unrestrained or in unsecured child safety seat – Vehicle telemetry data consistent with severe injury • Rider separated from transport vehicle with significant impact (eg, motorcycle, ATV, horse, etc.) • Pedestrian/bicycle rider thrown, run over, or with significant impact • Fall from height > 10 feet (all ages)	**Consider risk factors, including:** • Low-level falls in young children (age ≤ 5 years) or older adults (age ≥ 65 years) with significant head impact • Anticoagulant use • Suspicion of child abuse • Special, high-resource healthcare needs • Pregnancy > 20 weeks • Burns in conjunction with trauma • Children should be triaged preferentially to pediatric capable centers **If concerned, take to a trauma center**

Patients meeting any one of the YELLOW CRITERIA WHO DO NOT MEET RED CRITERIA should be preferentially transported to a trauma center, as available within the geographic constraints of the regional trauma system (need not be the highest-level trauma center)

Trauma LSB Flow Chart



Trauma Transport Guidelines C-collar

EMR
EMT
ADVANCE
PARAMEDIC

For any patient that has a suspected neck injury place in c-collar.

Elderly are at increased risk for occult neck fracture especially hyperextension injuries. Always err on the side of caution and place in c-collar

Nexus Criteria

In the NEXUS study, a clinical clearance protocol consisting of five criteria was validated with a 100% sensitivity for the exclusion of cervical spinal injury.
Protocol:

1st - assess signs of intoxication in the patient.
2nd - assess for the presence of focal neurologic deficits.
3rd - assessment for the presence of painful distracting injuries.
4th - assess whether the patient has a normal level of alertness.
5th - presence of posterior midline tenderness to palpation.

If no painful response is elicited and the patient has met all prior criteria, the C-collar can be removed and C-spine imaging is not needed.

Hoffman JR, Mower, WR, Wolfson AB, et al. Validity of a set of clinical criteria to rule out injury to the cervical spine in patients with blunt trauma. N Engl J Med. 2000; 343:94-99.

ENLS enls.neurocriticalcare.org NEUROCRITICAL CARE SOCIETY

Landing Zones

Bristol:

- BRIS1 Raber Golf Course SR 120
- BRIS2 Bristol Elementary School
- BRIS3 York Elementary School, SR 120 and CR 35
- BRIS4 RV Hall of Fame CR 17 and Executive Drive

Clinton Township

- MILL1 Rock Run Church, CR 38 and CR 33
- MILL2 Woodlawn Christian School, CR 34 and CR 37
- MILL3 Clinton Christian School, CR 35 and SR 4
- MILL4 Amish School ball field, CR 30 and CR 37

Concord Township

- CONC1 Concord High School
- CONC2 Concord East Side Elementary School
- CONC3 Farmers Market, SR 19 and CR 26

Goshen Fire Department

- GOSH1 Goshen Airport
- GOSH2 Grace Community Church, CR 36 and CR 21
- GOSH3 Elkhart County Fair Grounds – Farthest east parking lot
- GOSH4 Brenneman Missionary Church, SR 15 and Goshen City limits
- GOSH5 Goshen Evangelical Church, CR 17 and CR 28

Foraker

- FORK1 Union Center Church, 70535 CR 11
- FORK2 Salem Mennonite Church, 23984 CR 46
- FORK3 Eagle Transport Group, 22153 CR 142
- FORK4 Old Brethren Christian School, 68064 CR 11

Jefferson Township

- JEFF1 Kropf Manufacturing, SR 15 and CR 20
- JEFF2 Marshland, US 20 and CR 27
- JEFF3 Crossroads Church, CR 18 and CR 17

Harrison Township

- HARR1 Mount Moriah Worship Center, CR 30 between CR 15 and CR 13
- HARR2 Hoover Feed Service, 23591 SR 119 Goshen
- HARR3 Harrison Fire Department Station #2, CR 40 and CR 9
- HARR4 Harrison Christian School, 64784 CR 11 Goshen

Middlebury Township

- MIDD1 Essenhaus Maintenance Building, entrance to covered bridge
- MIDD2 Griner Church, SR 13 and CR 20
- MIDD3 Living Stones Fellowship, SR 13 and CR 4
- MIDD4 York Elementary School, SR 120 and CR 35

Osolo

- OSOL1 Elkhart Airport
- OSOL2 Osolo EMS, 25600 CR 4
- OSOL3 RV Hall of Fame, CR 17 and Executive Drive

Baugo Township

- BAUG1 Baugo Fire Station, 57955 CR 3
- BAUG2 Mishawaka Pilots Club, 29580 CR 20

Elkhart

- ELKH1 NIBCO Soccer Fields, 700 Riverview Ave
- ELKH2 Northside Middle School, 300 Lawrence
- ELKH3 Elkhart Airport, 1211 CR 6

Nappanee

- NAPP1 Nappanee Airport, 41 D 44' 21" N and 85 D 56' 18" W, 24751 US 6
- NAPP2 Northwood High School, 41 D 28' 48" N 86 D 00' 90" W, 2101 N Main St
- NAPP3 West Park 41 D 28' 48" N and 86 D 00' 24" N, 500 N Nappanee St

Wakarusa

- WAKA1 Northwood Middle School, 207 N Elkhart
- WAKA2 Olive Mennonite Church Cemetery, 61081 CR 3
- WAKA3 Twin Oaks Church, 28591 CR 44

New Paris

- NEWP1 New Paris Elementary School, 18665 CR 46
- NEWP2 Bethany Church, 19003 US 6
- NEWP3 Goshen Municipal Airport – GSH, 17229 Co Rd 42

All landing zones in your area should be reviewed every 6 months to make sure area has not become unsafe and still meets all landing zone requirement.

100'x 100' area flat and free of debris
Avoid trees and buildings. Make sure, if business, they are ok with landing there
Avoid guidewires and powerlines as these are not visible from the air to crew

Burns

EMR

- Stop the burning, remove clothing, jewelry, Etc.
- ABC
- Apply appropriate oxygen therapy with pulse oximetry
- Vital signs
- Consult MEDICAL CONTROL PHYSICIAN for direct transport to a Burn Center via aeromedical transport service if needed
- Use dry sterile dressing or appropriate specialized burn dressing
- Avoid wetting the patient due to the danger of hypothermia
- Burns to the eye requires copious irrigation with Normal Saline – **DO NOT DELAY**

EMR STOP

EMT

- Acquire and Transmit a 12-lead ECG
- May give oral pain meds (refer to pain management protocol)

EMT STOP

ADVANCE

- Vascular access at two (2) sites with blood draw; Normal Saline 500 – 1000 mL bolus as needed

ADVANCE STOP

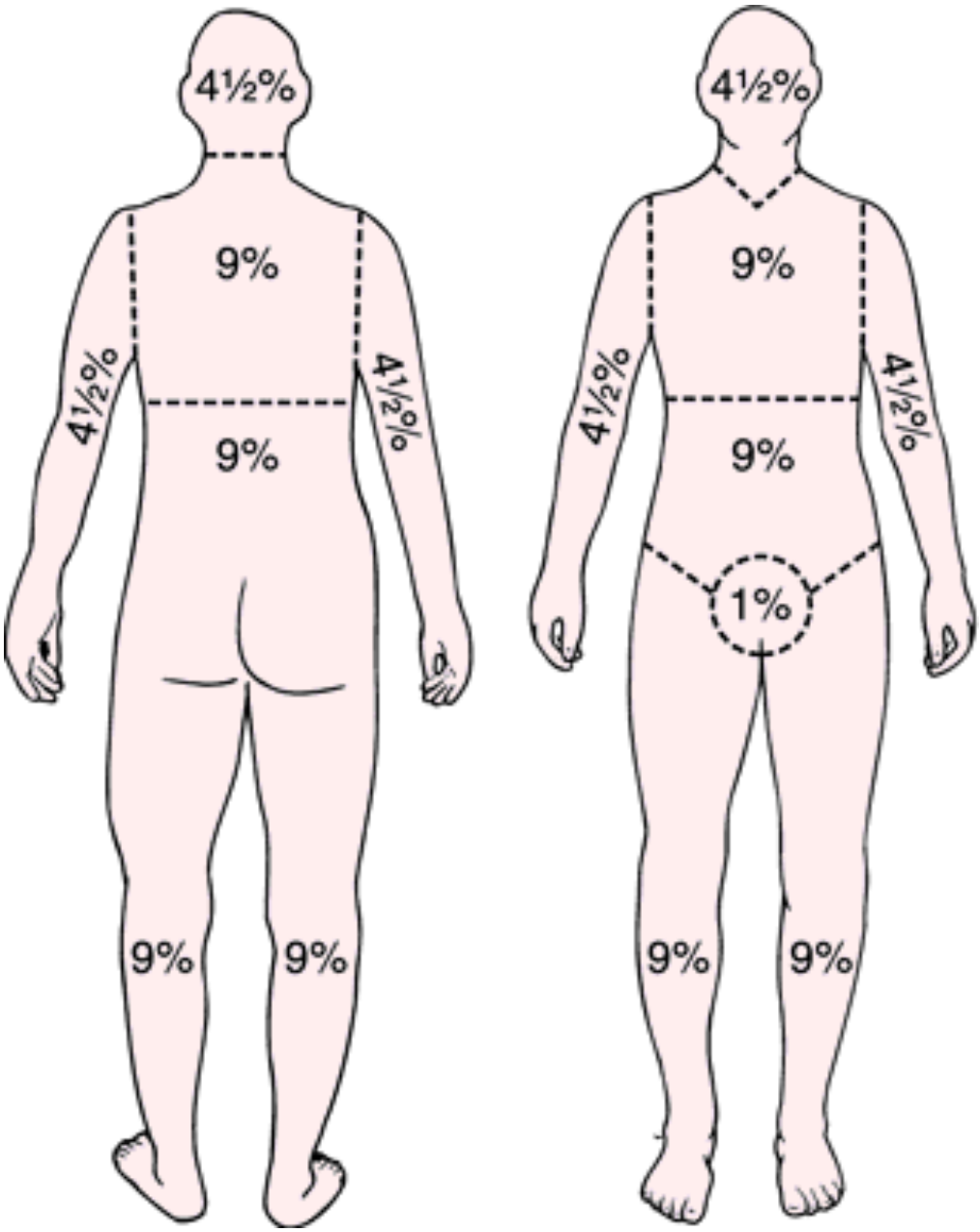
PARAMEDIC

- Apply the cardiac monitor
- Patient has signs of airway involvement, be prepared to intubate
- Refer to Pain Management Protocol as needed
- May start the Parkland Formula if time allows

KEY POINTS / CONSIDERATIONS

- Be alert for other injuries including cardiac dysrhythmias
- Be alert for smoke inhalation
- Assure 100% oxygen (Oxygen saturation readings may be falsely elevated
- If hazardous materials are involved, notify the destination hospital **IMMEDIATELY** to allow for decontamination
- When considering total area of a burn, DO NOT count first-degree burns
- Burns are only to be dressed with simple sterile dressings
- Consider Cyanide Toxicity and Carbon Monoxide Poisoning
- Parkland Formula, 4 mL X %BSA X weight in KG; Half is given in the first 8 hrs

Burn Rule of Nines



Chest Trauma

EMR

- ABC
- Apply appropriate oxygen therapy with pulse oximetry
- Vital signs
- If sucking chest wound, cover with an occlusive dressing; If dyspnea increases release the dressing momentarily during exhalation

EMR STOP

EMT

- Acquire and Transmit a 12-lead ECG
- Refer to General Pain Management Protocol as needed

EMT STOP

ADVANCE

- Vascular access with blood draw
- Refer to Hypoperfusion / Hypovolemia Protocol for fluid administration

ADVANCE STOP

PARAMEDIC

- Apply the cardiac monitor
- Needle decompression if patient has signs and symptoms consistent with **Tension Pneumothorax AND Hemodynamic Compromise**
  - Needle decompression
  - Prepare (14 ga catheter or larger, alcohol prep / Betadine)
  - Locate 5th intercostal space mid-axillary line ***(preferred)***
    - Alternate site 2nd intercostal space midclavicular line
  - Cleanse area with alcohol prep or Betadine
  - Insert catheter over the top of the rib and into the interspace
  - Advance catheter until air escapes
  - Remove the needle and leave the catheter in place with a one way valve
- Refer to General Pain Management Protocol as needed

KEY POINTS / CONSIDERATIONS

- Begin transportation ASAP and perform ALS treatment Enroute to the hospital
- Sign and Symptoms of a Tension Pneumothorax; Absent lung sounds on one side, extreme dyspnea, jugular vein distention (JVD), cyanosis (even with 100% oxygen), tracheal deviation AND hypotension
- Hemodynamic compromise is defined: hypotension, narrowed pulse pressure and tachycardia
- Thoracic decompression is a serious medical intervention that requires a chest tube in the hospital

Crush Trauma

EMR

- ABC
- Apply appropriate oxygen therapy with pulse oximetry
- Vital signs every five (5) minutes

EMR STOP

EMT

- Acquire and Transmit a 12-lead ECG
- Refer to General Pain Management Protocol as needed

EMT STOP

ADVANCE

- Vascular access at two (2) sites with blood draw; Normal Saline 500 – 1000 mL bolus as needed

ADVANCE STOP

PARAMEDIC

- Apply the cardiac monitor
- If one complete extremity is crushed for more than two (2) hours or two (2) extremities are crushed for more than one (1) hour:
  - Sodium Bicarbonate 50 mEq IV
  - One (1) minute prior to extrication: Sodium Bicarbonate 50 mEq IV
- Refer General Pain Management Protocol as needed

KEY POINTS / CONSIDERATIONS

- Contact aeromedical transport at scene if anticipated prolonged extrication
- Use one (1) dedicated IV for Sodium Bicarbonate, the other IV is for all other medications
- After extrication immobilize the extremity and apply cold therapy. Do not elevate the extremity
- If patient needs Rapid Sequence Intubation (RSI), use caution with Succinylcholine
- If Paramedics will be on scene in a reasonable amount of time, wait for extrication

Eye Injuries

EMR

EMT

ADVANCE

- ABC
- Apply appropriate oxygen therapy with pulse oximetry
- Vital Signs
- Determine the type of injury
- Have patient remove contacts if possible
- Irrigate affected eye as needed

EMR / EMT / ADVANCE STOP

PARAMEDIC

- Administer 1 – 2 drops of Tetracaine (Pontocaine) every five (5) minutes as needed for pain
  - DO NOT administer if there is an open globe injury or the pupils are not equal in shape (ie: Tear drop)

KEY POINTS / CONSIDERATIONS

- Do not allow eye injury to distract from other serious injuries
- Do not remove the foreign body imbedded in the eye and or orbit
- Stabilize protruding foreign body
- Exert no pressure on the globe at anytime
- If Patient tolerates it, cover both eyes to minimize further trauma
- A tear drop shaped pupil indicates possible open globe injury. **DO NOT TOUCH THE EYE and or APPLY MEDICATIONS**

Hypoperfusion / Hypovolemia

EMR

- ABC
- Apply appropriate oxygen therapy with pulse oximetry
- Vital signs
- Control bleeding externally
  - Pack wound with pressure dressing
  - Dialysis shunt/fistula: pressure dressing – avoid tourniquet
  - Tourniquet – see Key Points

EMR STOP

EMT

- Acquire and Transmit a 12-lead ECG

EMT STOP

ADVANCE

- Vascular access with blood draw
- Permissive hypotension: only give fluid for BP less than 90 SBP refrain from excessive amounts of saline due to clotting washout. May administer 250 mL aliquots as needed up to 1000 ml max.

ADVANCE STOP

PARAMEDIC

- Apply the cardiac monitor

In Trauma patients limit amount of fluids given. Blood products are preferred method for pressure support in trauma. However; in the field if you need pressure support push-dose epi can be given if the SBP is less than 80

- **Epinephrine** 5-20 mcg IV every 2-5 min
  - **Epinephrine** 1:10,000 (code epi) is 100 mcg/mL
  - Add 1 mL = 100 mcg/0.1 mg of **Epinephrine** 1:10,000 to 9 mL **NS**
  - Results in **Epinephrine** concentration **10 mcg/mL**
  - 5-20 mcg = 0.5-2 mL every 2-5 min

- Significant hemorrhage with hypotension: Call for Blood if needed must meet the following.
  - Known or suspected large-volume blood loss and hemodynamic instability
    - With either external or suspected internal bleeding
  - Must meet A or B
    - A. BP <90 systolic ***and*** HR > 110
      or
    - B. $ETCO_2$ <30 mmHg ***or*** Pulse pressure < 40 = SBP-DBP ***or*** Shock index >1 = HR/SBP

May Also call Medical Control for approval

- Administer Calcium Chloride 1gm in 100ml of NS and give over 10 min
- TXA 2 gm IV slow push over 1 min, given in less than 90 min of injury onset.
    - Do not use TXA in minor trauma, only use in noncompressible severe hemorrhaging patients

- Early activation for blood may be requested based on the nature of the call
    - MVA, MCA, penetrating trauma from GSW or knife
    - GI bleeding
    - Postpartum Hemorrhage
    - Other complaints consistent with Large-volume loss of blood

KEY POINTS / CONSIDERATIONS

- A falling BP is **LATE** sign of shock
- Blood should not be used for those with chronic conditions of anemia including cancer Especially when they are not symptomatic.

TXA can cause hypotension if given too quickly

TOURNIQUETS:

- INDICATION
    - Control potentially fatal hemorrhagic wounds
    - After other means of stopping blood loss have failed
- PRECAUTIONS
    - Can increase blood loss if applied incorrectly
    - Damage unlikely if applied < 1 hour
    - ONLY use commercially made tourniquets
    - Avoid using in dialysis shunt/fistula – only when all other means unsuccessful
- PROCEDURE
    - Apply direct pressure to wound
    - Apply tourniquet proximal to wound
        - Not across joints
        - Not obscured by clothing or bandages
    - Tighten until bleeding stops
    - Mark time and date on skin with permanent marker
    - Leave in place throughout transport

Open fracture management

EMR

EMT

- Control bleeding with appropriate procedure
- Stabilize the fracture using splinting device.
- Document extremity exam with pulses/motor/sensation

ADVANCE

- Start IV

PARAMEDIC

- Follow pain control protocol.
- Rocephin 2gm IV slow push
    - Do not give if penicillin or cephalosporin allergy
    - Document time given and alert the ED staff that antibiotics have been given

Pediatric Medical Emergencies

Pediatric Emergencies

- For these protocols, pediatric patients are defined as children having yet reached puberty (underarm hair development in males and breast development in females)
- Procedures for EMS Providers are only for the following clinical situations:
    - Cardiac or Respiratory Arrest
    - Cardiac Dysrhythmias (Bradycardia, Tachycardia)
    - Asthma / Acute Bronchospasm
    - Anaphylaxis / Allergic Reaction
    - Seizures
    - Pain Management
    - Sedation
    - Nausea and Vomiting
    - Overdose
    - Diabetic Emergences
    - Major Trauma
    - Burns
    - Hypoperfusion
- In all clinical situations you must consult MEDICAL CONTROL PHYSICIAN
- Have a Broselow Pediatric Tape or a similar device available to accurately determine the current medication dosage
- Pediatric medication dosages **SHOULD NOT EXCEED** adult dosages
- Normal vital signs for infants and Children

Age	Respirations	Pulse	Systolic BP
Newborn	30 - 60	100 - 180	Greater than 60
Infant (less than 1 year)	30 - 60	100 - 160	Greater than 60
Toddler (1 - 3 years)	24 - 40	90 - 150	Greater than 70
Preschool (3 - 5 years)	22 - 34	80 - 140	Greater than 75
School-aged (6 - 8 years)	18 - 30	70 - 120	Greater than 80

Pediatric Asystole or PEA

EMR

EMT

- CPR and AED
- Perform, 2 minute cycles of high quality CPR (Hard and Fast)

EMR/EMT STOP

ADVANCE

- Vascular access; normal saline 20ml/kg IV/IO bolus as needed
- Epinephrine 1:10,000 dose 0.01 mg/kg IV; may repeat every 3 – 5 minutes
  Give epinephrine ASAP

ADVANCE STOP

PARAMEDIC

- Apply the cardiac monitor
- Consider and treat the reversible causes (H's and T's) as appropriate
- Epinephrine 1:10,000 dose 0.01 mg/kg IV; may repeat every 3 – 5 minutes
  - Optional: Epinephrine 1:1000 may be diluted with 9 ml of normal saline
- Place advanced airway as appropriate
  - Use Broselow tape for proper sizing and dosages of drugs
  - Use the Pediatric Sedation Protocol for continuous sedation if needed

KEY POINTS / CONSIDERATIONS

- Consult MEDICAL CONTROL PHYSICIAN and begin transport to the closet most appropriate hospital ASAP
- Confirm asystole in more than 1 lead
- Do not interrupt compressions for advanced airway during the first 8-minutes of CPR
- Consider and possibly treat contributing factors including hypoxia, hypovolemia, hypothermia, hyper/hypokalemia, hydrogen ion (acidosis), tension pneumothorax, cardiac tamponade, toxins, thrombosis coronary, and thrombosis pulmonary
- Epinephrine needs to be given ASAP as ROSC is reduce by 4% for every minute it is delay in administration
- Broselow tape should be used to assure proper dosing of drugs. Over 36 kg use adult dosages for all drugs

Pediatric V-Fib / Pulseless V-Tach

EMR

EMT

- CPR and AED
- Perform, 2 minute cycles of high quality CPR (Hard and Fast)

EMR/EMT STOP

ADVANCE

- Vascular access; normal saline 20ml/kg IV/IO bolus as needed
- Epinephrine 1:10,000 dose 0.01 mg/kg IV; may repeat every 3 – 5 minutes

ADVANCE STOP

PARAMEDIC

- Apply the cardiac monitor
- Consider and treat the reversible causes (H's and T's) as appropriate
- Initial defibrillation at 2 J/kg, repeat every 2 minutes at 4 J/kg
- Epinephrine (after 2nd shock) 1:10,000 dose 0.01 mg/kg IV; may repeat every 3 – 5 minutes
    - Optional: Epinephrine 1:1000 may be diluted with 9 ml of normal saline
- Administer Amiodarone (Cordarone) 5 mg/kg (Dilute in NS 1.5 mg/ml) IV may repeat up to 3 total doses for refractory VF/pulseless VT
    - OR
- Lidocaine 1mg/kg IV/IO loading dose (do not repeat)
- Place advanced airway as appropriate
    - Use Broselow tape for proper sizing and dosages of drugs
    - Use the Pediatric Sedation Protocol for continuous sedation if needed

KEY POINTS / CONSIDERATIONS

- Consult MEDICAL CONTROL PHYSICIAN and begin transport to the closest most appropriate hospital ASAP
- Do not interrupt compressions for advanced airway during the first 8-minutes of CPR
- Use the Pediatric defibrillation pads for patients less than 10 kg
- V-Fib cardiac arrest is rare in children
- Consider and possibly treat contributing factors including hypoxia, hypovolemia, hypothermia, hyper/hypokalemia, hydrogen ion (acidosis), tension pneumothorax, cardiac tamponade, toxins, thrombosis coronary, and thrombosis pulmonary, tricyclic antidepressants
- Epinephrine needs to be given ASAP as ROSC is reduce by 4% for every minute it is delay in administration
- Broselow tape should be used to assure proper dosing of drugs. Over 36 kg use adult dosages for all drugs

Pediatric Bradycardia

EMR

- ABC
- Apply appropriate oxygen therapy with pulse oximetry
- Vital signs
- If heart rate is less than 60 bpm and the patient's mental status and respiratory rate are deceased, ventilate with a BVM
- Start CPR if no improvement with ventilations

EMR STOP

EMT

- Acquire and Transmit a 12-lead ECG

EMT STOP

ADVANCE

- Vascular access; normal saline 20 ml/kg IV bolus as needed

ADVANCE STOP

PARAMEDIC

- Apply the cardiac monitor
- Epinephrine 1:10,000 dose 0.01 mg/kg IV/IO; may repeat every 3 – 5 minutes
  - Optional: Epinephrine 1:1000 may be diluted with 9 ml of normal saline
- If bradycardia is due to an increase in vagal tone or primary AV block, give atropine before giving Epinephrine
  - Atropine 0.02 mg/kg (0.1 mg/min dose) IV/IO; may repeat at 5 minutes to a max of 0.04 mg/kg
- Transcutaneous pacing
  - Refer to Procedural Sedation Protocol
- Place an advance airway as appropriate

KEY POINTS / CONSIDERATIONS

- Consult MEDICAL CONTROL PHYSICIAN ASAP
- Definition: Newborn/Infant bradycardia – pulse less than 80 bpm; child over 1 year of age – pulse than 60 bpm
- Do not treat asymptomatic bradycardia without consulting MEDICAL CONTROL Physician

Pediatric Tachycardia

EMR

- ABC
- Apply appropriate oxygen therapy with pulse oximetry
- Vital signs

EMR STOP

EMT

- Acquire and Transmit a 12-lead ECG

EMT STOP

ADVANCE

- Vascular access; normal saline 20 ml/kg IV bolus as needed
- Valsalva maneuvers

ADVANCE STOP

PARAMEDIC

- Apply the cardiac monitor
- UNSTABLE
    - Synchronized cardioversion at 0.5 – 1.0 J/kg; may repeat at 2 J/kg if unsuccessful
        - Refer to Procedural Sedation Protocol
- STABLE Wide QRS
    - If regular and QRS monomorphic consider adenosine 0.1mg/kg IV
        - May repeat in 1 – 2 minutes at 0.2 mg/kg IV
- STABLE NARROW QRS
    - Adenosine (Adenocard) 0.1 mg/kg IV
        - May repeat in 1 – 2 minutes at 0.2 mg/kg IV

KEY POINTS / CONSIDERATIONS

- Consult MEDICAL CONTROL PHYSICIAN ASAP
- Definition: Newborn/Infant SVT – pulse greater than 220 bpm; child over 1 year of age – SVT if pulse is greater than 180 bpm
- The most common causes of Sinus Tachycardia in children are fever and dehydration
- Do not treat asymptomatic tachycardia without consulting MEDICAL CONTROL Physician

Pediatric Acute Asthma and Status Asthmaticus

EMR

- ABC
- Apply appropriate oxygen therapy with pulse oximetry
- Vital signs
- Assist patient with their own meter dose inhalation medications as appropriate

EMR STOP

EMT

- Consider ETCO2 Monitoring
- 12 lead EKG and transmit
- **Albuterol** 2.5 mg nebulized repeat as needed (MAX 3 doses)
  - May add **Atrovent** 0.5 mg (aka **Duo-Neb**) x1 to any dose
- CPAP for moderate-severe distress
- Call for Paramedic intercept immediately

EMT STOP

ADVANCE

- Vascular access with blood draw
- **Epinephrine** 1:1000 dose 0.01 mg/kg SQ/IM (MAX 0.5 mg)
  - If **SEVERE DISTRESS CALL MEDICAL CONTROL PHYSICIAN**

ADVANCE STOP

PARAMEDIC

- **Albuterol** 2.5 mg nebulized repeat as needed (MAX 3 additional doses)
  - May add **Atrovent** 0.5 mg (aka **Duo-Neb**) x1 to any dose if not given
  - Xopenex 1.25mg nebulized as Alternative to albuterol may repeat x 3
  - Ketamine 1mg/kg IV for bronchodilatation and sedation on CPAP, repeat q10min
- **Methylprednisolone (Solu-Medrol)** 1-2 mg/kg IV/IM (MAX 125 mg)
- If SEVERE (Status Asthmaticus):
  - **Magnesium Sulfate** 50 mg/kg in 100 mL **D5W** IV over 20 minutes (MAX 2 g)
  - May choose ONE **Epinephrine** option:
    - **Epinephrine** 1:1000 dose 0.01 mg/kg SQ/IM (MAX 0.5 mg) (MAX 2 total doses including Advanced EMT dose)
    - **Racemic/Epinephrine** 1:1000 dose 0.5 mg mixed with 3 ml normal saline, via nebulizer (or as per package directions)
  - Consult MEDICAL CONTROL if additional dosing needed or no improvement

KEY POINTS / CONSIDERATIONS

- Consult MEDICAL CONTROL PHYSICIAN ASAP
- Absence of breath sounds can be indicative of Status Asthmaticus. Be prepared for imminent respiratory arrest

Pediatric Anaphylaxis / Allergic Reaction

EMR

- ABC
- Apply appropriate oxygen therapy with pulse oximetry
- Vital signs

EMR STOP

EMT

- Determine if the patient has been given their own Epi Pen
- Administer Epi Pen Jr.
  - May use the 1:1000 prefilled syringe or draw up from a vial 0.15 mg
  - DuoNeb (Albuterol 2.5 mg + Atrovent 0.5 mg) via nebulizer, **if not effective then proceed to the next step**
  - Administer Albuterol 2.5 mg via nebulizer

EMT STOP

ADVANCE

- Vascular access; Normal Saline 20 mL/kg IV bolus as needed
- Administer Albuterol 2.5 mg via nebulizer
- Consult Medical Control Physician for:
  - Epinephrine 1:1000 dose 0.01 mg/kg SQ (0.5 mg max) if in severe distress

ADVANCE STOP

PARAMEDIC

- Apply the cardiac monitor
- ASYMPTOMATIC
  - Supportive care
- MILD SYMPTOMS: Urticaria, Itching, Nasal congestion, Watery eye
  - Diphenhydramine (Benadryl) 1 – 2 mg/kg (25 mg max) IV, IM, PO
- MODERATE SYMPTOMS: Wheezing, Nausea, Vomiting, Diarrhea, Flushing, Swelling face
  - Methylprednisolone (Solu-Medrol) 1 – 2 mg/kg IV, IM if no IV access
  - Pepcid (Famotidine) 0.5 mg/kg IV (20 mg max)
  - Xopenex
- SEVERE SYMPTOMS: Severe reaction not relieved by initial treatment or patient is presenting with Stridor, Hypotension (systolic BP less than 90 mmHg), and/or Altered mental status

- If BLS airway maneuvers fail, intubate, unable to intubate perform a needle Cricothyrotomy (patients less than 8 yrs. old) **only as a last resort when all other AIRWAY interventions have failed**
- Cardiovascular collapse: Epinephrine 1:10,000 dose 0.01 mg/kg (0.5 mg max) IV/IO
- If no IV, Epinephrine 1:1000 dose 0.01 mg/kg (0.5 mg max) SQ

KEY POINTS / CONSIDERATIONS

- If an EMT has administered an Epi Pen, or the patient has administered their own Epi Pen, CONSULT MEDICAL CONTROL PHYSICIAN prior to administering additional Epinephrine subcutaneously or allowing the patient to refuse medical treatment.
- It is not appropriate to sign off a patient when they have been given Epinephrine

Pediatric Diabetic Emergencies

EMR

- ABC
- Apply appropriate oxygen therapy with pulse oximetry
- Vital signs
- If blood glucose is known or suspected to be low, and patient is able to shallow on command, give one unit dose of oral glucose
- Check blood sugar level, normal range 60 – 80 mg/dl.

EMR STOP

EMT

- Call for ALS intercept if patient is unable to swallow on command or has Altered Mental Status
- Glucose 60 – 80 mg/dL and is showing signs and symptoms of hypoglycemia and ABLE to swallow
  - Glucose 30 g PO x1
- Glucose 60 – 80 mg/dL and is showing signs and symptoms of hypoglycemia and UNABLE to swallow
  - Glucagon (Baqsimi) 3 mg IN
    - Optional med carry

EMT STOP

ADVANCE

PARAMEDIC

- Blood glucose is below the normal range of 60 – 80 mg/dl and the patient is showing signs and symptoms of Hypoglycemia, administer Dextrose as following:
  - 0 – 1 yr. old D10 – 0.5 gm/kg IV
  - 1 – Puberty D25 – 0.5 gm/kg IV
- Optional
  - If no D10 or D25, may use D5 at 10 mL/kg IV
  - If unable to swallow
    - Glucagon 1 mg IM, SQ
- Blood glucose is above 400 mg/dl, if signs of dehydration are present, fluid bolus:
  - 0 – 1 yr. old NS 10 mL/kg, may repeat
  - 1 – Puberty NS 20 mL/kg, may repeat
- May consult Broselow tape for dosages as well

KEY POINTS / CONSIDERATIONS

- Consult MEDICAL CONTROL PHYSICIAN ASAP
- To make d10, add 12 cc of D50 into 50 ml of Normal Saline

Pediatric Hypoperfusion

EMR

EMT

- ABC
- Apply appropriate oxygen therapy with pulse oximetry
- Vital signs

EMR/EMT STOP

ADVANCE

- Vascular access; normal saline 20ml/kg IV/IO bolus as needed

ADVANCE STOP

PARAMEDIC

- Apply the cardiac monitor
- Consider the following
  - Push-dose EPI 10 mcg IV q2 min prn pressure support

KEY POINTS / CONSIDERATIONS

- Consult MEDICAL CONTROL PHYSICIAN ASAP
- Patients with Hypovolemia due to: Bleeding, Vomiting, Diarrhea, or Septic shock
- Consult MEDICAL CONTROL PHYSICIAN if you suspect Cardiogenic shock
- Diagnostic criteria for hypertension includes:
  - Capillary refill greater than 2 seconds
  - Cool, clammy and/or mottles skin
  - Inability to recognize parents
  - Restlessness, listlessness
  - Tachycardia
  - Tachypnea
  - Systolic BP less than 60 mmHg (less than 2 yrs. old)
  - Systolic BP less than 70 mmHg (greater than 2 yrs. old)

Pediatric Nausea and/or Vomiting

EMR

EMT

- ABC
- Apply appropriate oxygen therapy with pulse oximetry
- Vital signs

EMR/EMT STOP

ADVANCE

- Vascular access
- Normal saline 20 ml/kg IV/IO bolus as needed
- Ondansetron (Zofran) 0.1 mg/kg IV/IM/ODT (MAX 4 mg)
    - Minimum dose 2 mg for ODT
    - Patient's age should be greater than 6 months old

ADVANCE STOP

PARAMEDIC

- Apply the cardiac monitor
- **Preferred**
    - Ondansetron (Zofran) 0.1 mg/kg IV/IM/ODT (MAX 4 mg)
        - Minimum dose 2 mg for ODT
        - Patient's age should be greater than 6 months old
- **Alternative** – requires cardiac monitor and EKG
    - Droperidol 10-50 mcg/kg IV (MAX 1.25 mg)

KEY POINTS / CONSIDERATIONS

Pediatric Overdose or Toxic Exposure

EMR

- Opiate overdoses administer Naloxone (Narcan) 2 mg 1 ml in each nostril; For respiratory depression only
- Decontamination as needed
- ABC
- Apply appropriate oxygen therapy with pulse oximetry
- Vital signs
- If suspect or know blood glucose is low and patient can swallow may administer 1 dose of oral glucose (see Pediatric Emergency Protocol)
- Determine what was taken, when, and how much, if possible
- Check blood glucose level, normal range 60 – 80 mg/dl, if level is abnormal refer to Pediatric Emergencies Protocol

EMR STOP

EMT

- Consider contacting Poison Control 800-222-1222 for additional information and treatment options
- Acquire and transmit a 12-lead ECG

EMT STOP

ADVANCE

- Obtain vascular access
- Opiate overdose: Naloxone (Narcan) 0.1 mg/kg IV, IM, SQ; repeat to a max of 2 mg

ADVANCE STOP

PARAMEDIC

- Apply the cardiac monitor
- **SYMPTOMATIC Patient with:**
  - Organophosphate Poisoning: Atropine 1 mg IV; repeat every 3 – 5 minutes until secretions dry
  - Dystonic Reaction: Diphenhydramine (Benadryl) 1 mg/kg (25 mg max) IV, IM, PO
  - Beta Blocker OD: Glucagon 1 – 2 mg IM
  - Sympathomimetic Ingestion (cocaine/amphetamine): Midazolam (Versed) 0.1 mg/kg IV or IM
  - Calcium Channel Blocker OD: Glucagon 1 – 2 mg IM (hypotensive - 5 mL/kg NS Bolus)

- Tricyclic Antidepressants: Sodium Bicarb 1 mEq/kg if wide complex arrhythmia and prolonged QRS duration (If hypotensive - 10 mL/kg NS bolus)

KEY POINTS / CONSIDERATIONS

- Consult MEDICAL CONTROL PHYSICIAN ASAP
- Dystonic Reaction is uncontrolled contractions of face, neck, and or tongue
- Cocaine/Methamphetamine signs and symptoms seizure, hypertension, tachycardia
- Signs and symptoms of organophosphate poisoning consider SLUDGE
  - **S**alivation
  - **L**acrimation
  - **U**rination
  - **D**iarrhea
  - **G**astric cramps
  - **E**mesis

Pediatric Pain Management

EMR

- ABC
- Apply appropriate oxygen therapy with pulse oximetry
- Vital signs

EMR STOP

EMT

- Ibuprofen (Motrin/Advil) 10mg/kg max 800mg (>6 mo old)
- Acetaminophen (Tylenol) 15 mg/kg max 1000mg

EMT STOP

ADVANCE

- Vascular access
- Ondansetron (Zofran) 0.1 mg/kg IV, ODT (minimum dose 2 mg for ODT)

ADVANCE STOP

PARAMEDIC

- Apply the cardiac monitor
- Administer **ONE** of the following narcotic analgesics
  - Morphine 0.05 mg/kg IV or IM; repeat once to a max of 0.1 mg/kg
  - Fentanyl 0.5 – 1 mcg/kg slow IV, IM, IN
  - Ketamine 0.1mg/kg IV give once max 20mg, may be used with Fentanyl
  - Dilaudid 0.01 mg/kg IV, IM; Greater than 2 yrs. old – max of 0.5 mg
- Ondansetron (Zofran) 0.1 mg/kg IV, ODT, IM; if patient becomes nauseous (minimum dose 2 mg for ODT

KEY POINTS / CONSIDERATIONS

- Consult MEDICAL CONTROL PHYSICIAN ASAP
- Patients with:
  - Severe burns without hemodynamic compromise
  - Suspected isolated extremity injuries, fractures or dislocations with severe pain
  - Abdominal pain
  - Back pain
- All other painful conditions, providers MUST CONSULT MEDICAL CONTROL PHYSICIAN for orders
- Contraindications to pain management protocol: altered mental status, hypoventilation, hypotension, other traumatic injuries
- This protocol may **NOT** be used in conjunction with the Procedural Sedation Protocol, UNLESS MEDICAL CONTROL PHYSICIAN is consulted
- Consult MEDICAL CONTROL PHYSICIAN for additional pain and or nausea medication
- For severe pain you may use a dose of ketamine with dose of Fentanyl.

Pediatric Fever

EMR

- Vital signs

EMR STOP

EMT

ADVANCE

PARAMEDIC

- Fever greater than 100.4 F

  May give one of the following
  - Ibuprofen (Advil/Motrin) 10 mg/kg up to 800mg po (>6 mo old)
  - Tylenol (Acetaminophen) 15mg/kg up to 1000 mg po

KEY POINTS / CONSIDERATIONS

- ***Do Not*** give ibuprofen to children less than 6 months old or to patients with history of allergy to NSAIDS or history of renal failure
- ***Do Not*** give acetaminophen to patients with history of liver failure or those with allergies to medication.
- Neither medication should be given within 6 hours of prior administration.

Pediatric Procedural Sedation

EMT

- ABC
- Apply appropriate oxygen therapy oximetry
- Vital signs

EMR/EMT STOP

ADVANCE

- Vascular access; normal saline 20ml/kg IV/IO bolus as needed

ADVANCE STOP

PARAMEDIC

- Apply the cardiac monitor
- Administer **ONE** of the following narcotic analgesics
  - Morphine 0.05 mg/kg IV or IM; repeat once to a max of 0.1 mg/kg
  - Dilaudid 0.01 mg/kg IV, IM; Greater than 2 yrs. old – max of 0.5 mg
  - Fentanyl 0.5 – 1 mcg/kg **slow** IV, IM, IN
- Administer **ONE** of the following Benzodiazepines (Sedative)
  - Midazolam (Versed) 0.05 mg/kg IV, IM, IN (max of 2 mg)
  - Lorazepam (Ativan) 0.05 mg/kg IV, IM, IN (max of 2 mg)
- Alternative is Ketamine 2mg/kg IV (do not use with Benzos)

KEY POINTS / CONSIDERATIONS

- Consult MEDICAL CONTROL PHYSICIAN ASAP
- Consult MEDICAL CONTROL PHYSICIAN for additional pain and or nausea medication
- Ketamine and benzodiazepine use increase risk of respiratory depression

Pediatric Seizures

EMR

- ABC
- Apply appropriate oxygen therapy pulse oximetry
- Vital signs
- If suspect or know blood glucose is low and patient can swallow may administer 1 dose of oral glucose (see Pediatric Emergency Protocol)
- If child is warm, remove blanket or loosen clothing
- Check blood glucose level, normal range 60 – 80 mg/dl, if level is abnormal refer to Pediatric Emergencies Protocol
- DO NOT DELAY TREATMENT OF SEIZURE TO OBTAIN BGL****

EMR STOP

EMT

- **EMT STOP**

ADVANCE

- Obtain vascular access

ADVANCE STOP

PARAMEDIC

- Apply the cardiac monitor
- Administer **ONE** of the following:
  - Lorazepam (Ativan) 0.1 mg/kg IV, IM, IN (max of 2 mg)
  - Midazolam (Versed) 0.05 mg/kg IV, IO (max of 2mg)
    - 0.2mg/kg IM, IN (max of 2 mg)
  - Diazepam (Valium) 0.2 mg/kg IV, IM, IN (max of 5 mg)
- Place advanced airway as appropriate

- Alternative if Benzo refractory seizure
  - Ketamine 2 mg/kg IV be prepared to take over airway may repeat q10 mins

KEY POINTS / CONSIDERATIONS

- Consult MEDICAL CONTROL PHYSICIAN ASAP
- Protect the patient and EMS crew from injury during the seizure
- Paramedic may assist the patient's family or caregivers with administration of seizure medications rectally
- IN administration of Benzodiazepines is as effective as IV

Pediatric Trauma Emergencies

Pediatric Hypoperfusion / Hypovolemia

EMR

EMT

- ABC
- Apply appropriate oxygen therapy with pulse oximetry
- Vital signs

EMR/EMT STOP

ADVANCE

- Vascular access; normal saline 20ml/kg IV/IO bolus as needed

ADVANCE STOP

PARAMEDIC

- Apply the cardiac monitor
- Consider the following
  - Push-dose EPI 10 mcg IV q2 min prn pressure support
  - TXA 15mg/kg IV slow push not to exceed 2gm. Less than 90 min from injury
  - Blood: 10ml/kg can repeat up to 3 times call Medical Control for further guidance.
    - Use same criteria as adults for blood usage
- Needle decompression if patient has signs and symptoms consistent with **Tension Pneumothorax AND Hemodynamic Compromise**
  - Needle decompression
  - Prepare (14 or 16 ga 1.5 inch catheter, alcohol prep / Betadine)
  - Locate 5th intercostal space mid-axillary line ***(preferred)***
    - Alternate site 2nd intercostal space midclavicular line
  - Cleanse area with alcohol prep or Betadine
  - Insert catheter over the top of the rib and into the interspace
  - Advance catheter until air escapes
  - Remove the needle and leave the catheter in place with a one way valve

KEY POINTS / CONSIDERATIONS

- Diagnostic criteria for UNSTABLE includes
  - Capillary refill greater than two (2) seconds
  - Cool, clammy or mottled skin
  - Inability to recognize Parents
  - Restlessness and or listlessness
  - Tachycardia and or Tachypnea
  - Systolic BP less than 70 mmHg (two (2) years and older)
  - Systolic BP less than 60 mmHg (less than two (2) years old
- A falling BP is a **LATE** sign of shock

Pediatric Burns

EMR

- Stop the burning, remove clothing, jewelry, Etc.
- ABC
- Apply appropriate oxygen therapy with pulse oximetry
- Vital signs
- Consult MEDICAL CONTROL PHYSICIAN for direct transport to a Burn Center via aeromedical transport service if needed
- Use dry sterile dressing or appropriate specialized burn dressing
- Avoid wetting the patient due to the danger of hypothermia
- Burns to the eye requires copious irrigation with Normal Saline – **DO NOT DELAY**

EMR STOP

EMT

- Acquire and Transmit a 12-lead ECG
- May give oral ibuprofen 10mg/kg max 800mg or Tylenol 15 mg/kg max 1000mg

EMT STOP

ADVANCE

- Vascular access at two (2) sites with blood draw; Normal Saline 20 mL/kg IV bolus may repeat once

ADVANCE STOP

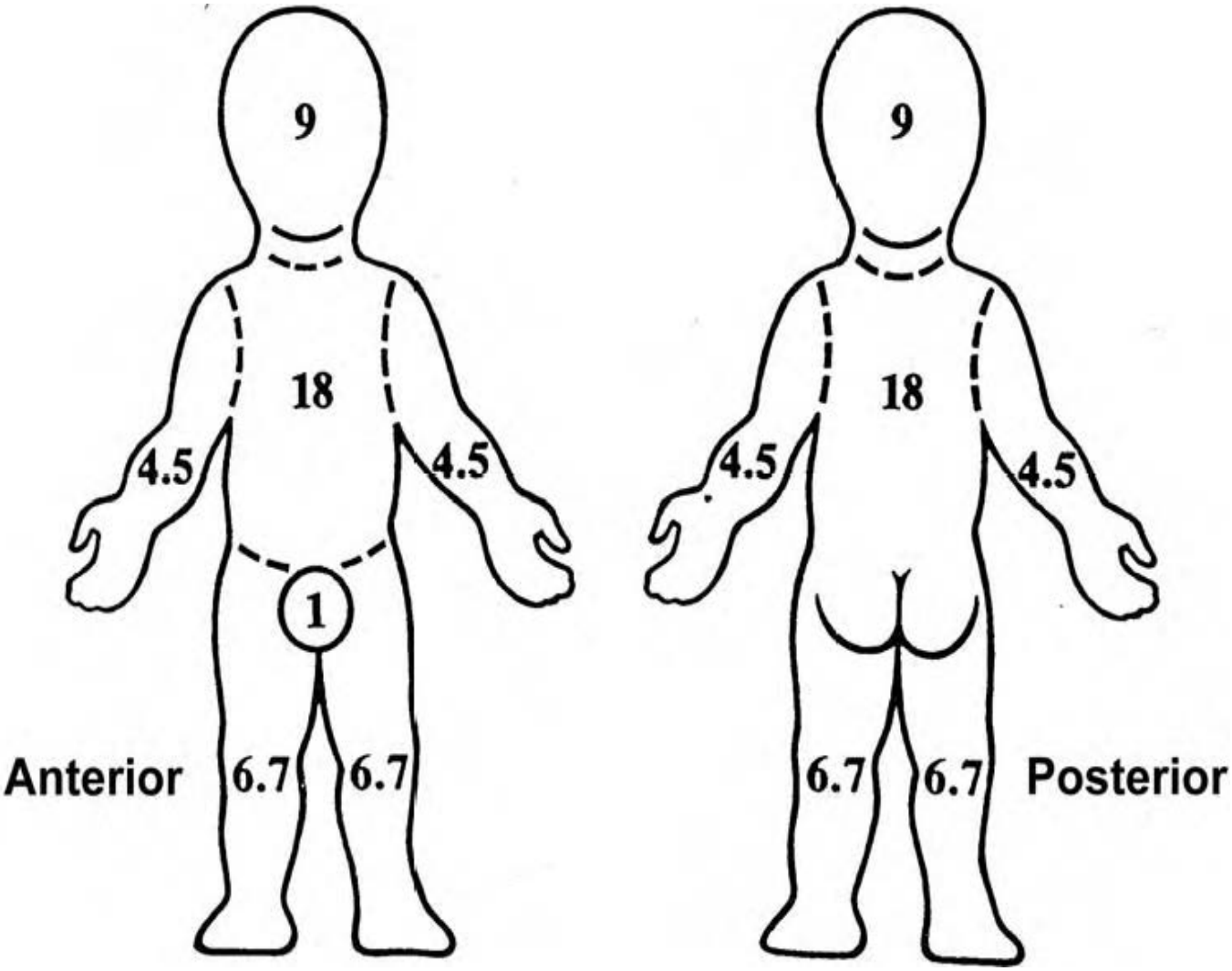
PARAMEDIC

- Apply the cardiac monitor
- Patient has signs of airway involvement, be prepared to intubate
- Refer to Pediatric Pain Management Protocol as needed
- May start the Parkland Formula if time allows

KEY POINTS / CONSIDERATIONS

- Be alert for other injuries including cardiac dysrhythmias
- Be alert for smoke inhalation
- Assure 100% oxygen (Oxygen saturation readings may be falsely elevated
- If hazardous materials are involved, notify the destination hospital **IMMEDIATELY** to allow for decontamination
- When considering total area of a burn, **DO NOT** count first-degree burns
- Burns are only to be dressed with simple sterile dressings
- Consider Cyanide Toxicity and Carbon Monoxide Poisoning
- Parkland Formula, 4 mL X %BSA X weight in KG; Half is given in the first 8 hr

Burn Rule of Nines



OB / GYN Emergencies

Childbirth

EMR

EMT

ADVANCE

PARAMEDIC

Management of a normal Delivery

- Support the baby's head over the perineum
- If the membranes cover the head after it emerges, tear the sac with your fingers or forceps to permit the amniotic fluid to escape
- Suction meconium in the amniotic fluid if baby is in respiratory distress
- Suction the oropharynx then the nostrils with a bulb syringe. Depress the bulb syringe prior to placing it on the bay's mouth or nose
- Gently guide the head downward until the shoulder appears. The other shoulder is delivered by gentle upward traction
- If the cord is around the neck and cannot be easily removed, clamp it with two (2) clamps and cut the cord between the clamps. This is an emergency as the baby is no longer getting any oxygen
- Clamp the cord in less than sixty (60) seconds, the clamps are to be 4 inches and the other clamp 6 inches from the umbilicus and cut between them
- Assess the APGAR score at one (1) minute and then again at five (5) minutes (see page 2 for APGAR score chart)

Management of a Breech Delivery

- Support the buttocks or extremities until the back appears
- Grasp the baby's **ILIAC WINGS** and apply gentle downward traction. **DO NOT** pull on the legs and or back, as these can cause spine dislocation and or adrenal hemorrhage
- Gently move the infant's body in the direction of least resistance. By moving the body anteriorly and posteriorly, both shoulders should deliver posteriorly
- Splint the humerus bones with your fingers and apply gentle traction with your fingers
- Gentle downward compression of the uterus will assist in the head delivery. Swing the legs upward until the body is in a vertical position. This will permit delivery of the head.

Management of a Prolapsed Cord or a Limb Presentation

- Place the mother in a face – up position with her hips elevated
- Place a gloved hand in the vagina and attempt to hold the baby's head away or off the cord
- Keep the cord moist using a sterile dressing and sterile water
- TRANSPORT AND CONTACT THE HOSITAL ASAP

APGAR score

- Assess the APGAR score at one (1) minute and then again at five (5) minutes after birth
- **DO NOT** withhold resuscitation efforts to determine APGAR score

Sign	0	1	2
A - Appearance	Blue / Pale	Body pink, extremities blue	Completely pink
P - Pulse	Absent	Below 100 BPM	Above 100 BPM
G - Grimace (Flick soles of feet)	No Response	Grimace	Vigorous cry
A - Activity (Muscle tone)	Limp	Some flexion	Active motion
R - Respirations	No Effort	Weak / Irregular	Strong cry

KEY POINTS / CONSIDERATIONS

- Determine the estimated date of expected birth, number of previous pregnancies and number of live births
- Determine if the amniotic sac (bag of water) has broken, if there is vaginal bleeding or mucus discharge, or the urge to bear down
- Determine the duration and frequency of uterine contractions
- Examine the patient for crowning. If delivery is not imminent, transport ASAP. If delivery is imminent, prepare for an on-scene delivery
- If multiple births are anticipated but subsequent births do not occur within ten (10) minutes of the previous delivery transport immediately
- After delivery of the placenta, gently massage the uterus
- Bring the placenta and any other tissue to the hospital for inspection
- Suction meconium if baby is not vigorous (depressed respirations, depressed muscle tone, and a heart rate that is greater than 100 BPM, use a bulb syringe to suction the mouth and then the nose (Mouth before the Nose)
- **TXA** can be used in severe Post partum hemorrhage. Use same critera as trauma page 47-48

Pre-Eclampsia/Eclampsia

EMR

- ABC
- Apply appropriate oxygen therapy with pulse oximetry
- If suspect or know blood glucose is low and patient can swallow
  - Administer 1 dose of oral glucose
- Vital signs
- Check glucose, refer to MEDICAL: Diabetic Emergencies if needed
  - Normal range 60-80 mg/dL

EMR STOP

EMT

EMT STOP

ADVANCE

- Vascular access with blood draw

ADVANCE STOP

PARAMEDIC

- Cardiac monitor
- Severe maternal hypertension: SBP >160 or DBP > 110 mmHg over 15 mins:
  - **Labetalol** 20 mg IV/IO slow push
  - If BP remains > 160/110 after 10 mins
    - **Labetalol** 40 mg IV/IO slow push
  - Contact MEDICAL CONTROL if BP remains >160/110
- Recent or current seizure
  - **Magnesium Sulfate** 4 IV over 5 min
    - May give IM if required (non-diluted)
  - If seizure continues: **Midazolam** (**Versed**) 2 mg IV over 1 min
    - Repeat every 5 min as needed

KEY POINTS / CONSIDERATIONS

- Preeclampsia suspected if:
  - BP > 140/90
  - Severe headache
  - Confusion
- Eclampsia is when BP is above 160 SBP or greater than 110 DBP and should treat BP
- Considered pregnant up to 6 weeks post-partum
- Eclampsia is preeclampsia plus seizure
  - Treat with **Magnesium** immediately

Pre-Term Labor 24 – 37 Weeks

EMR

EMT

- ABC
- Apply appropriate oxygen therapy with pulse oximetry
- Vital signs

EMR / EMT STOP

ADVANCE

- Vascular access with blood draw; Normal Saline 500 – 1000 mL IV bolus as needed

ADVANCE STOP

PARAMEDIC

- Apply the cardiac monitor

KEY POINTS / CONSIDERATIONS

- Transport to the closest appropriate hospital
- Notify the destination hospital ASAP
- If patient is unwilling to go to the closet hospital, consult MEDICAL CONTROL PHYSICIAN for assistance in determining appropriate destination

Guidelines, Procedures, and Additional Information

Airway Management

EMR

- The goal of oxygen therapy is to achieve adequate tissue oxygenation using the lowest possible FiO2
  - Nasal Cannula = 2 – 6 lpm
  - Non-rebreather mask = 12 – 15 lpm
  - Nasopharyngeal and or Oropharyngeal airways
  - Bag – Valve – Mask assisted ventilation
  - Pulse oximetry

EMR STOP

EMT

ADVANCE

- Medically approved non-visualized airway
  - Supraglottic airways such as: LMA, i-GEL
  - End tidal Co2 monitoring (must be used with non-visualized airways)
- Continuous Positive Airway Pressure (CPAP)

EMT / ADVANCE STOP

PARAMEDIC

- Oral endotracheal intubation in unresponsive Adults and Pediatric Patients
  - Continuous waveform and Quantitative Capnography must be used and documented with all intubated Patients
- Medication facilitated intubation
- **Surgical Airway Procedure – older than eight (8) years old**
  - Prepare scalpel, size six (6) ET tube or smaller, alcohol preps, and hemostat
  - Cleanse the site, make a vertical ½ inch incision through the skin and the cricothyroid membrane
  - Insert scalpel handle and rotate 90 degrees, insert hemostat, spread the opening
  - Insert the ET tube and inflate the cuff, attach the BVM and ventilate
  - Observe for signs of subcutaneous emphysema, severe hemorrhage, and poor oxygenation
- **Pediatric Needle Cricothyrotomy – Less than eight (8) years old**
  - Prepare 14 ga IV catheters, 22 mm connector, 3 mL syringe, and alcohol preps
  - Extend the head and place a towel under the shoulders

- Locate spot by marking the location with your fingernail, cleanse site, insert the 14 ga IV catheter, remove the needle
- Attach the 22 mm connector or the 3 mL syringe to normal ET tube
- Secure the catheter and reassess the Patient

KEY POINTS / CONSIDERATIONS

- The goal of oxygen therapy is to achieve adequate tissue oxygenation using the lowest possible FIO2 with consideration for respiratory function effecters (ie. CO2 levels, Hypoxic Drive etc.)
- Always have a BVM available when using a portable transport ventilator
- Intubation may be attempted on a Patient two (2) times. If unsuccessful utilize a medically approved non-visualized airway or ventilate using a BVM
- Reconfirm endotracheal placement after any Patient transfer with at least two (2) assessments and continuous waveform / quantitative capnography documentation

Endotracheal Intubation

PARAMEDIC

- Airway control for unresponsive adults and pediatric patients
- Confirm endotracheal tube placement with at least two (2) assessment techniques
- Capnography must be used and placed within one (1) minute of intubation
- If unsuccessful after two (2) attempts, place a non-visualized airway for airway control

LEMON Airway Assessment

- The score with a maximum of ten (10) points is calculated by assigning one (1) point for each of the following LEMON criteria:
  - L = Look externally – facial trauma, large incisors, beard, or moustache, large tongue
  - E = Evaluate the 3 – 3 – 2 rule – incisor distance – three (3) finger breadths, hyoid-mental distance – three (3) finger breadths, thyroid-to-mouth distance – two (2) finger breadths
  - M = Mallampati – Mallampati score less than three (3)
  - O = Obstruction – presence of any condition like epiglottis, peritonsillar abscess, trauma
  - N = Neck mobility – limited neck mobility
- **Patients in the different intubation groups will have higher LEMON scores**

LEMON airway assessment method:

1 = Inter-incisor distance in fingers

2 = Hyoid mental distance in fingers

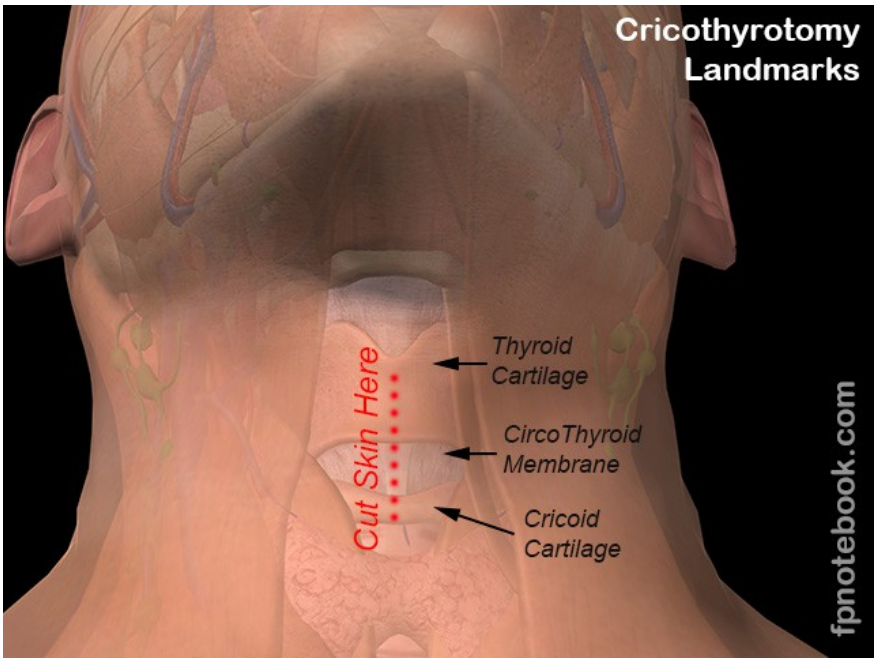
3 = Thyroid to floor of the mouth in fingers

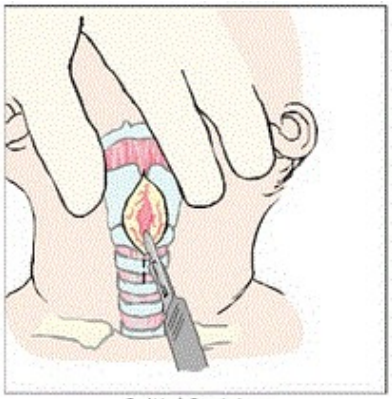
Cricothyrotomy

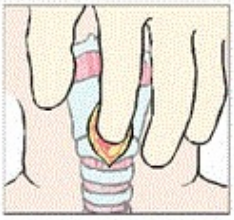
PARAMEDIC

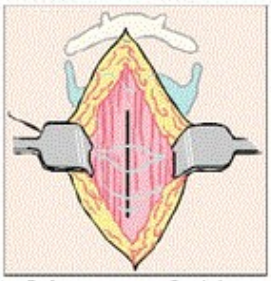
- INDICATION
  - Severe respiratory distress in which oropharyngeal and nasopharyngeal intubation attempts failed
  - Cannot intubate, cannot ventilate and **ALL OTHER RESCUE AIRWAY DEVICES FAILED**
- Absolute contraindications
  - Patient can safely be orotracheally or nasotracheally intubated
  - Child less than eight (8) years old
- Contraindications
  - Fracture of larynx
- Procedure
  - Gather equipment
    - Scalpel
    - Size six (6) ET tube or smaller
    - Alcohol prep pads
    - Hemostat
  - Locate the incision site
  - Cleanse the site
  - Make a vertical ½ inch incision through the skin
  - Make a small horizontal incision through the cricoid membrane
  - Insert the hemostats and spread opening
  - Insert the ET tube and inflate the cuff
  - Attach the BVM and ventilate
  - Assess for the following:
    - Breath sounds
    - Signs of subcutaneous emphysema
    - Hemorrhage
    - Poor oxygenation

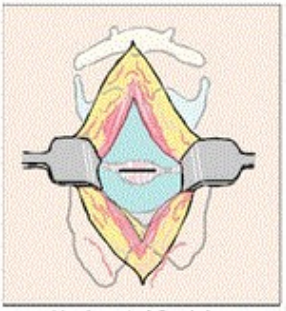
If using commercial QuickTrach see page 91-92 for product details




Initial Incision


Membranous Incisions

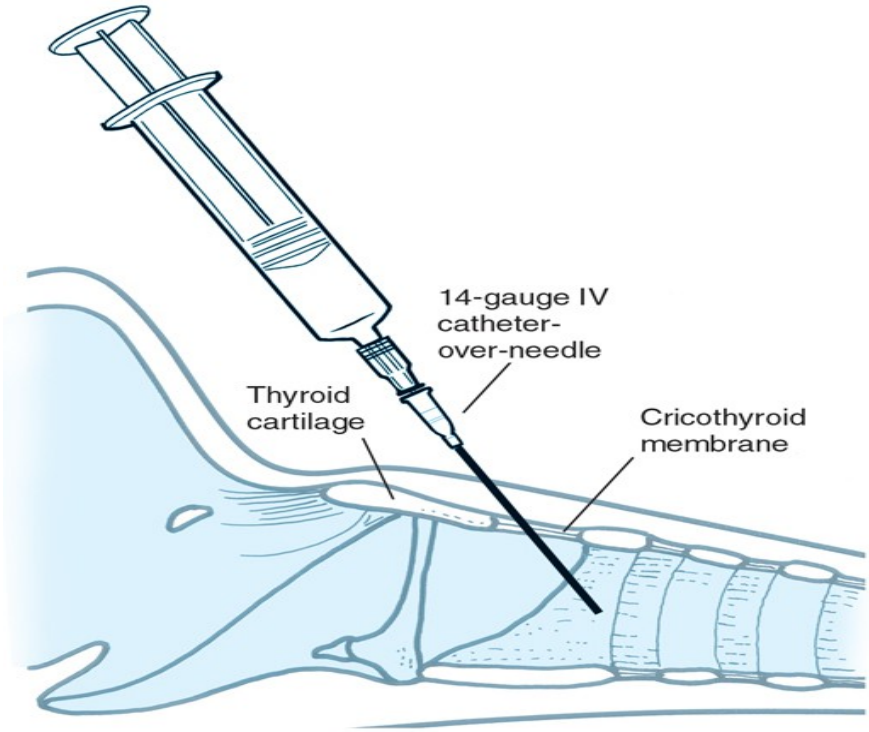

Subcutaneous Incision


Horizontal Incision

Pediatric Needle Cricothyrotomy

PARAMEDIC

- Procedure
  - Gather your equipment
    - Alcohol prep pads
    - 14 ga IV catheter
    - 22 mm connector
    - 3 mL syringe
  - Extend the head
  - Place a towel under the shoulders
  - Locate your site and mark with your fingernail
  - Insert the 14 ga IV catheter and remove the needle
  - Attach the 22 mm connector and ventilate
  - Secure the catheter and assess
- Any preassembled kit includes the trocar version Quick Crich is acceptable
- **PLEASE MAKE SURE YOUR DEPARTMENT PRACTICES WITH WHAT YOU CARRY**



Source: Goodman DM, Green TP, Unti SM, Powell EC: *Current Procedures: Pediatrics:* www.accesspediatrics.com

Intraosseous Access

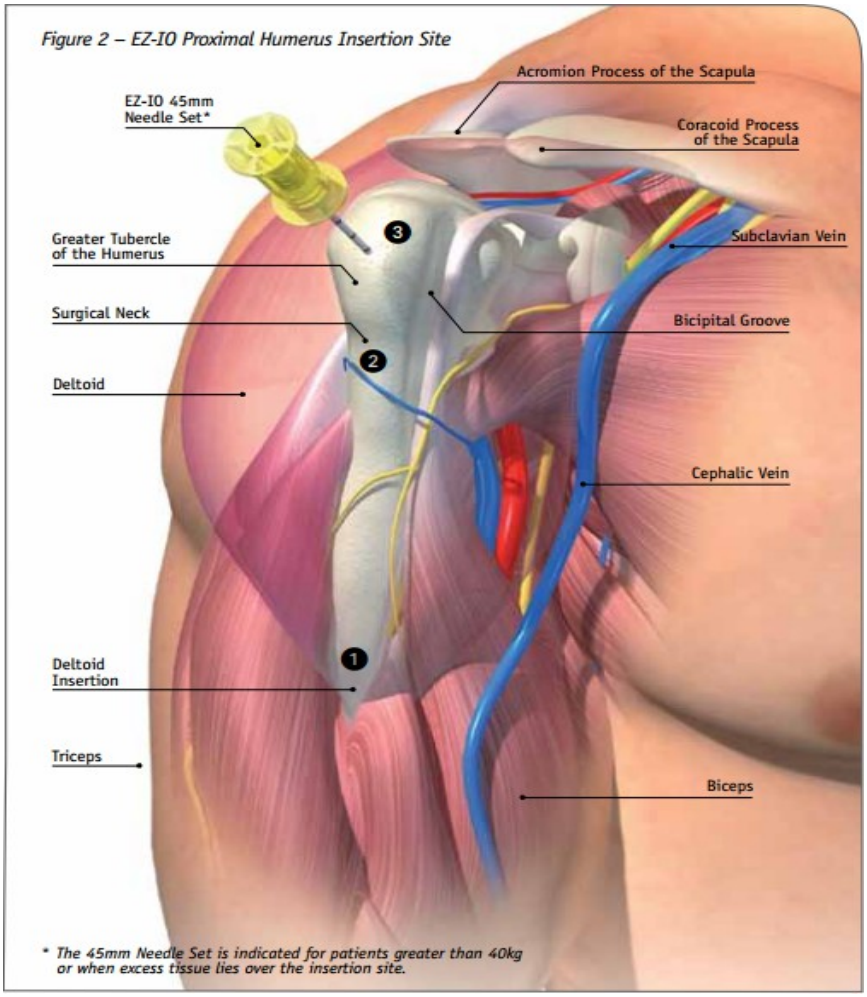
ADVANCE

PARAMEDIC

- Indications
  - Immediate venous access for delivery of fluids, drugs, and or blood products in any age Patients
  - Reliable access site for emergent or resuscitative situations where peripheral venous access is unobtainable
- Contraindications
  - Open fracture at the proposed insertion site
  - Skin infection at the proposed insertion site
- Materials
  - Gloves
  - Prep solution
  - IV solution, pressure bag, IV tubing
  - Disposable 16 – 18 ga intraosseous needle
  - Optical: Lidocaine 2% for local anesthesia with a 25 – 27 ga needle on a three (3) mL syringe
  - Gauze and tape
- Pre-procedure
  - Obtain informed consent
  - Inform the Patient or guardian of the possibility of major complications and their treatment
  - Explain the major steps of the procedure
- Procedure
  - Assess need for placement of an intraosseous line and obtain consent if appropriate
  - Identify the landmarks: don gloves, prepare the IV solution and IV tubing
  - Use prep solution to cleanse the skin over the insertion site
  - If appropriate, infiltrate the skin and periosteum over the insertion site with one (1) mL of Lidocaine 2% using the three (3) mL syringe and needle
  - Open the intraosseous needle
  - Insert the needle through the skin at the selected insertion site and advance until you reach the periosteum
  - Advance the needle through the periosteum and into the bone. A sudden “give” is felt when you enter the marrow cavity
  - Advance the needle stylet and attach the IV tubing; open the tubing valve
    - If the fluid is seen extravasating from around the needle, remove the needle and reinsert the needle into the marrow cavity
  - Secure the needle in place with gauze and tape
  - You may infiltrate the bone marrow for pain control by infusing 2% Lidocaine up to 2 mg/kg into the IO not to exceed 200 mg

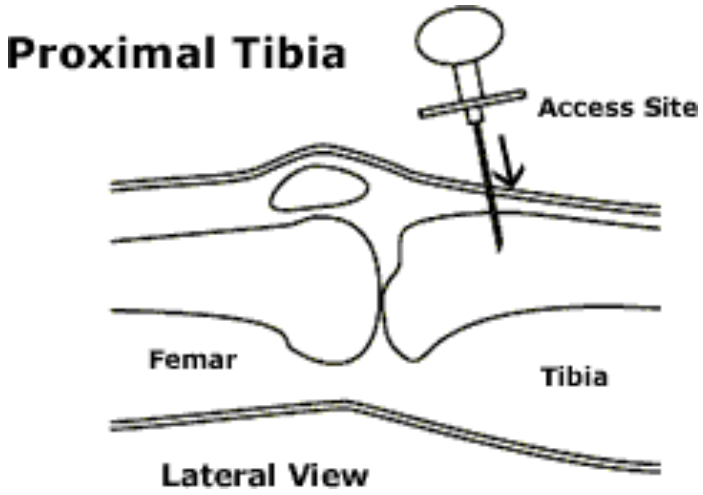
Proximal Humerus

- The proximal humerus insertion site is located directly on the most prominent aspect of the greater tubercle. Ensure that the patients' hand is resting on the abdomen and the elbow is adducted (close to the body). Slide thumb up the anterior shaft of the humerus until you feel the greater tubercle, this is the surgical neck. Approximately one
  (1) cm above the surgical neck is the insertion site. Vidacare recommends the 45 mm needle on patients greater than 45 kg (99 lbs). This is the preferred site for patients who are responsive to pain. Once the insertion is completed secure the arm in place to prevent movement and accidental dislodgement of the IO catheter.



Proximal Tibia

- The proximal tibia insertion site is approximately 2 cm below the patella and approximately 2 cm medial to the tibial tuberosity.



Complication, Prevention, and Management

- Local hematoma or cellulitis. Apply pressure dressing for bleeding
- RARELY osteomyelitis; requires IV antibiotics

Documentation in the medical record

- Consent if obtained, and who it was obtained from
- Indications and contraindications for the procedure on this patient
- The procedure used to include prep and size of IO needle used
- Any complications or “none”
- Who was notified about the complication (family, Physician)

Approved Airway and Vascular Access Skills

	Paramedic		
	Advance		
	EMT		
	EMR		
Airway	Non-Rebreather Mask 12 - 15 lpm Nasal Cannula 2 - 6 lpm Oropharyngeal Airways Nasopharyngeal Airways Bag-Valve-Mask	LMA i-GEL CPAP	CPAP NIPPV Capnography Orotracheal Intubation Nasotracheal Intubation Cricothyrotomy (Greater than 8-years-old) Needle Cricothyrotomy (Less than 8-years-old) IV Pumps PICC line (emergency only)
Vascular Access		Intravascular Access Blood Draw IO Proximal Humeral (Preferred) IO Proximal Tibial IO Distal Tibial	
	EMR		
	EMT		
	Advance		

Ventricular Assist Device Failure

EMR

- ABC
- Apply appropriate oxygen therapy
- **LVAD Functioning?**
  - Auscultate left upper abdominal quadrant – Continuous humming pump – pump **IS** working
  - Vital signs use a Doppler or Elemano device to obtain HR / BP
- Have AED available
- If the pump has stopped for 5 – minutes or longer, assess the patient
  - Patient is hemodynamically **unstable**; re-establish power and contact the VAD coordinator or ED physician immediately
  - Patient is hemodynamically **stable**; **DO NOT** re-establish the power (A clot may have formed in the pump) and contact the VAD coordinator or ED physician immediately. Continue to monitor the patient.

EMR STOP

EMT

- Acquire and Transmit a 12-lead ECG

EMT STOP

ADVANCE

- Vascular access with blood draw
- Controller Alarming (Red Heart)
  - Treat for cardiogenic shock per the Cardiogenic Shock protocol

ADVANCE STOP

PARAMEDIC

- Apply the cardiac monitor
- Refer to the appropriate protocol as needed
  - Patient may be defibrillated / cardioverted and / or paced safely
- Consult MEDICAL CONTROL PHYSICIAN so they are aware of this special patient
- If the pump has stopped and will not re-start after re-establishing the power, preform a rapid transport to the nearest facility is indicated
  - Compressions will likely result in dislodgement of the pump and are considered

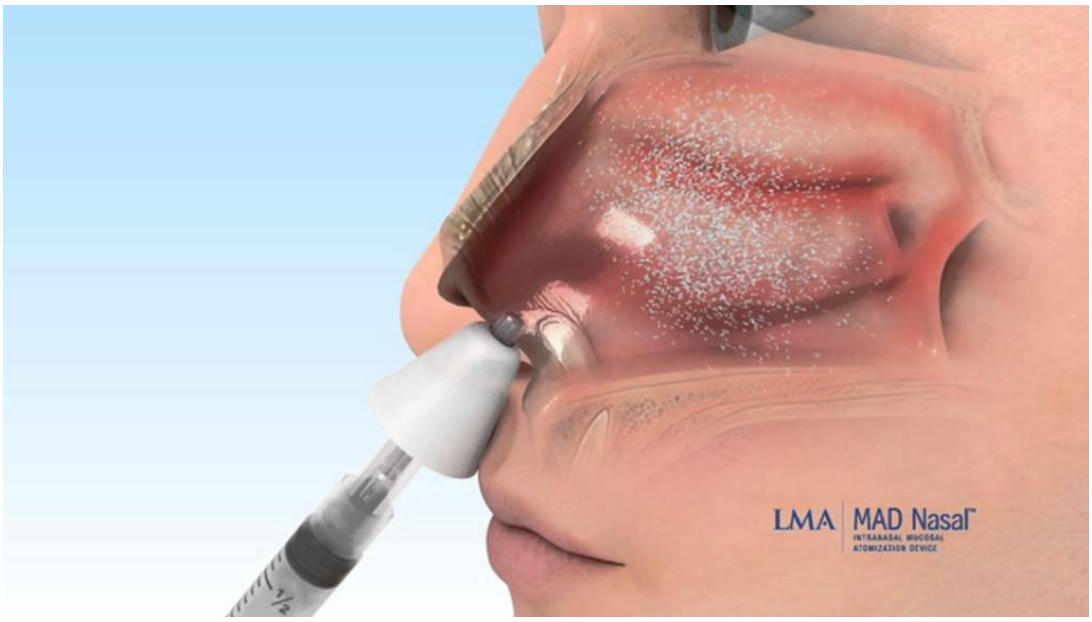
KEY POINTS / CONSIDERATIONS

- Turning the LVAD back on after it has stopped for five (5) minutes can increase the possibility of clot formations being pushed around the system
- Most patients are already on Coumadin and ASA
- The LVAD is a continuous flow device and you may or may not feel a pulse
- The patient needs to have their caregiver and all their equipment transported with them (The caregiver is the expert on the device)
- Obtain a BP with Elemano device or with a Doppler
- The goal mean for arterial pressure (MAP) for VAD patients is between 60 – 90 mmHg (MAP = [Systolic BP + (Diastolic x 2)] / 3
- This device is used as a bridge to transplant to may be destination therapy
- For additional information on this device refer to: http://www.thoratec.com/emails/heartmate-II-patient-care-guidelines-for-first-responders.html

Medication Administration

PARAMEDIC

Intranasal (IN)



General Information

- The mucosal Atomization Device (MAD) can be used for the administration of Fentanyl, Midazolam, Ativan, and Naloxone in the event an IV has not or cannot be initiated
- Prior to using the intranasal route; inspect the patient's nostrils for significant amounts of blood or mucous discharge. The presence of either will limit the medication absorption. Suctioning the nasal passage prior to delivery and / or alternative delivery options should be considered
- **ALWAYS** deliver half of the medication dose up each nostril
- **DO NOT USE** more than one (1) mL of medication per nostril. If higher volume is required, apply it in two (2) separate doses allowing a few minutes for the initial amount to be absorbed
- Be aware that there is approximately 0.1 mL of dead space in the MAD. It is important to make allowances for this dead space when calculating the volume to be administered

Procedure

1. Using a 1 mL or a 3 mL syringe and needle, draw up the appropriate amount of medication
2. Replace the needle with the MAD tip
3. Use your free hand to hold the crown of the head stable. Place the tip of the MAD snugly against the nostril aiming slightly up and outward (Toward the top of the ipsilateral ear)
4. Briskly compress the syringe plunger and deliver approximately half of the medication, repeat the same process in the other nostril
5. Any amount greater than one (1) mL is needed, wait 2 – 3 minutes before administering the remaining medication

Intramuscular (IM)

IM injection is the most commonly used route of parenteral medication administration. The drug is injected into the muscle tissue from which it is absorbed into the bloodstream. This method has a predictable rate of absorption, but its onset of action is considerable slower than an IV injection.

Indications

- When the rate of absorption needs to be slower and / or prolonged in action
- When other administration routes are unsuccessful or unavailable (i. e. IV)

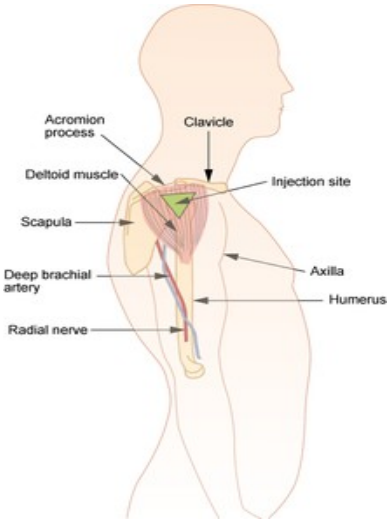
Contraindications

- Severe bleeding disorders (i. e. hemophilia) or recent thrombolytic therapy
- State of severe Hypoperfusion or shock (Exception: EPI-auto-injector for anaphylaxis)
- When rapid absorption and action of a medication is required (i. e. when IV is preferred)

Procedure

1. Universal precautions and prep your equipment
    a. Appropriate needle length: 5/8 to 1 inch for deltoid and 1 – 1.5 inch for any larger muscle
    b. Appropriate needle gauge: 22 – 25 gauge needles for aqueous and 21 gauge for oily or thicker medications
    c. 3 – 5 mL syringe
    d. Medication
    e. Alcohol swabs
    f. Band-Aids
2. Check the label, date, and appearance of the medication
3. Locate the appropriate site for injection. Use the following muscles

a. Posterior Deltoid for injections of two (2) mL or less (Preferred site)
    i. Identify the landmarks of the upper arm
    ii. Find the bony portion of the shoulder where the clavicle and the scapula meet (Acromioclavicular joint)
    iii. Measure three (3) or four (4) finger width down the arm from the AC joint; then slide one (1) or two (2) finger width posteriorly on the arm
    iv. Cleanse the site with a alcohol swab and allow to dry
    v. DO NOT inject large volumes of irritating medications into the muscle (i. e. steroids. Etc.)

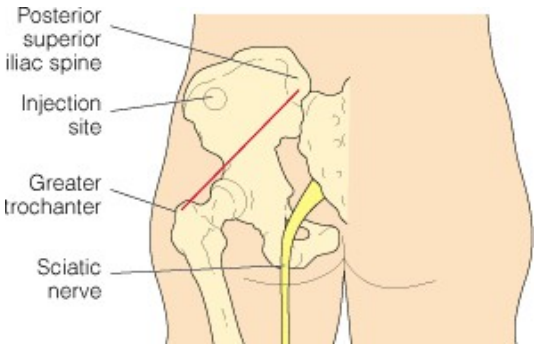


Torso – gluteal Muscle

Use for injection of two (2) – five (5) mL injection for adults or two (2) mL or less in children greater than the age of three (3).

Procedure

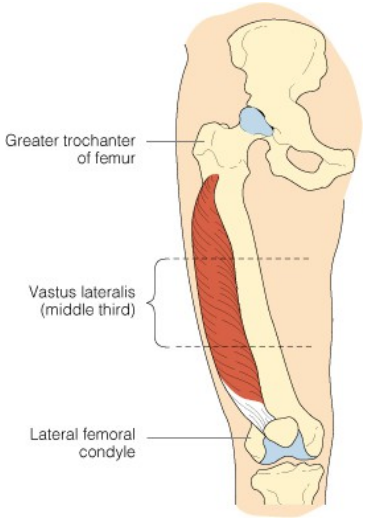
1. Identify the posterior superior iliac spine
2. Draw an imaginary line to the head of the trochanter (Have the patient lie prone and point their toes inward to help relax the muscle)
3. The injection is given lateral and superior to this line



Vastus Lateralis Muscle

Use for injections of two (2) mL or less in children and adults

1. Locate the site, on the anterior and lateral aspects of the thigh
2. Divide the area into thirds between the greater trochanter of the femur and the lateral femoral condyle
3. Injection should be given into the middle third (Preferred site)



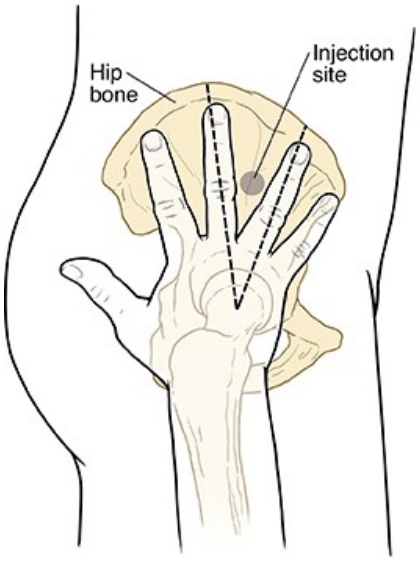
Ventrogluteal Muscle

Use for injections of two (2) – five (5) mL in adults or two (2) mL or less for children

Procedure

1. Place the heel of your right palm on your patient's greater trochanter of the femur
2. Place your index finger on the anterior superior iliac spine and spread your other finger posteriorly
3. Injection is given in the "V" formed between the index finger the second finger

4. Stretch or flatten the skin overlying the selected site (This allows for a smoother entry of the needle)
5. Hold the syringe like a dart and quickly thrust the needle into the tissue and muscle at a 90-degree angle
6. Aspirate the syringe to ensure that an inadvertent venous administration is avoided. If any blood is aspirated, withdraw the syringe and dispose of the medication. Begin the same process over again
    a. **DO NOT ADMINISTER ANY MEDICATION MIXED WITH BLOOD**
7. No blood is aspirated; slowly in inject the medication. After all the medication is injected, quickly withdraw the syringe and place in a sharp approved container
8. Gently massage over the injection site to help increase the absorption and medication distribution. Apply pressure and place over the injection site



Intranasal Narcan

EMR

EMT

ADVANCE

PARAMEDIC

Use for patients that present with an opiate overdose

Procedure

1. Attach the MAD to the syringe
2. Screw Narcan into the syringe
3. Inject no more than one (1) mL into each nostril
    a. Patient should respond in two (2) – three (3) minutes
    b. No response may be due to large amount of opiate ingestion

- Paramedics need to be requested when any OD is suspected
- No patient will be signed off if Narcan has been given
- Law enforcement may have given Narcan prior to any EMS arrival

Quick Trach Instructions

PARAMEDIC

Emergency airway device that allows quick and safe ventilation of a patient in the presence of acute respiratory distress with an upper airway obstruction

Preparation

1. Identify the indications for the use of the Quick Trach Cricothyrotomy Kit
    a. Rescue device for failed airways
    b. Acute upper airway obstruction that cannot be relieved by another airway maneuvers
2. Identify examples of acute upper airway obstruction
    a. Epiglottitis
    b. Laryngospasm
    c. Facial trauma and / or burns
    d. Laryngeal edema
    e. Fractured larynx
    f. Foreign body obstruction
3. Identify components of the Quick Trach Cricothyrotomy Kit
    a. 1 – Quick Trach syringe with stopper
    b. 1 – Connecting tube with 15 mm adapter
    c. 1 – Cushion neckband

Insertion Procedure

1. BSI
2. Select the appropriate size
    a. 2.0 mm for patients (PED 22-77lbs)
    b. 4.0 mm for patients (adult 77lbs and up)
3. Place patient in a supine position and assure stable positioning of the neck and hyperextend the neck (Unless cervical spine injury is suspected)
4. Secure the larynx laterally between your thumb and forefinger. Find the cricoid membrane (In the midline between the thyroid cartilage and the cricoid cartilage) This is the puncture site
5. Prep the site by vigorously scrubbing with appropriate prep solution
6. Firmly hold the device and puncture the cricoid membrane at a 90-degree angle
7. After insertion, check the entry of the needle into the trachea by aspirating air through a syringe. If air is present, the needle is within the trachea
8. Now change the angle of insertion to 45-degree angle (From the head) and advance the device forward into the trachea to the level of the stopper. The stopper reduces the risk of inserting the needle too deeply and causing damage to the rear wall of the trachea

9. Should be no aspiration of air because of an extremely thick neck, it is possible to remove the stopper and carefully insert the needle further until entrance into the trachea is made
10. Remove stopper, be careful not to advance the device further with the needle attached
11. Hold the needle, syringe firmly, and slide only the plastic cannula along with the needle into the trachea until the flange rets on the neck. Carefully remove the needle and syringe
12. Secure the cannula with the neck strap
13. Apply connecting tubing to the 15 mm adapter connection and connect the other end to the BVM or ventilation circuit
14. Ventilate the patient

These instructions are for training purposes only to help familiarize one with the handling of the product and do not represent the product's full instructions for use, including its associated cautions and warnings. For a complete copy of instructions, contact your Teleflex EMS sales representative.

OG Tube Insertion Procedure

EMR
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ADVANCE
PARAMEDIC

INTRODUCTION

High volumes of air or fluid in the stomach can significantly affect a patient's ability to be ventilated by bag-valve mask and limit the effectiveness of chest compressions by inhibiting the return of venous blood to the thorax. In these cases, the stomach should be decompressed by placement of an orogastric tube.

INDICATIONS

- Recommended after any intubation
- Cardiac arrest
- Gastric distension interfering with effective ventilations

CONTRAINDICATIONS

- Use extreme caution if there is a history of caustic ingestion or esophageal varices

PROCEDURE

1. Assemble and prepare equipment:
    - Gastric tube (14 Fr or 16 Fr)
    - Water soluble lubricating gel
    - Laryngoscope
    - 30–60 mL catheter-tip syringe (not Luer lock)
    - Stethoscope
    - Personal protective equipment, including gloves and face shield
    - Suction tubing
    - Tape
2. Estimate the length of tube required: measure the distance from the epigastrium to the corner of the mouth or nose, passing by the earlobe.
3. Using aseptic technique, lubricate the distal 7.5 to 10 cm of the tube.
4. Visualize the esophagus using a laryngoscope.
5. Insert the tube and advance to the desired depth.
6. Check tube placement by auscultating over the epigastrium while injecting 20-30 mL of air down the tube. Bubbling or "whooshing" sounds should be heard. If sounds are not heard, advance the tube by another 2.5-5 cm and re-check.
7. Once tube placement has been confirmed, secure the tube with tape. Connect to suction at low vacuum.

Scene Rehabilitation Protocol

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PARAMEDIC

This protocol may be applied to adult patients on emergencies scenes and any gathering approved by the Medical Director (i. e. Large sporting events, parades, concerts, fairs, and MCI incidents)

- All firefighters must report to the designated rehab area for any of the following criteria; including training
  - Two (2) bottles initially (then one (1) additional bottle) or failure of SCBA equipment, including running out of air
  - Thirty (30) minutes of work time including overhaul
  - Hazmat technicians working on a hazmat scene
- Crime Scene / Standoffs
  - Bomb squad members who have been operating in heavy protective clothing
  - Police tactical unit members that have been working for extending period of time
- Upon entering the rehab area, the following will occur prior to returning to work related activity
  - Removal of all PPE; bunker pants can be pushed down on the boots
  - Active / passive cooling
  - Oral rehydration; one (1) 16 oz bottle minimum
  - Assessment and Vitals; complete head to toe assessment and a neuro exam
  - Monitor for patterns of illness or unusual symptoms including exposure to fire scene toxins
  - Public Event Patrons
    - This should be used for evaluating patrons of certain events that may or may not otherwise meet the definition of a patient
    - EMS personnel have the authority in deciding when an individual meets the definition of a patient and / or requires further treatment and / or transport
    - A PCR is required on any individual that is evaluated at the rehab center, ALS care more then OTC medications and / or transported
    - Establish rehab location such that it provides shelter, privacy, and freedom from any hazards

Criteria for Mandatory Rest

Pulse		Blood Pressure	Respirations	Temperature
Age	**Less than**	**Systolic**	greater than 8	greater than 101* F
20 - 25	170	greater than 30 or less than 200	less than 30	Tympanic
26 - 30	165			
31 - 35	160	**Diastolic**		
36 - 40	155	less than 100		
41 - 45	152			
46 - 50	148			
51 - 55	140			
56 - 60	136			
61 - 65	132			

Pulse Oximetry
SpO2 greater than 94%
Consider possibility of carbon monoxide and accuracy

If any public safety responder and / or patron meets any of the criteria, must rest for ten (10) minutes and be reevaluated. If the persons vitals are no longer within the criteria after the rest period, can return to normal activities. If their vitals remain in the criteria, they will be required to rest another ten (10) minutes and every ten (10) minutes there after until they no longer are in the criteria.

Monitor carboxyhemoglobin using the following guidelines

- 0 – 5% - consider normal for non-smokers; greater than 3% with symptoms place on high flow and remove from the environment
- 5 – 10% - consider normal for smokers; symptoms present place on high flow oxygen and remove from the environment
- 10 – 15% - consider abnormal for any patient; access the patient and place on high flow oxygen and remove from the environment
- Greater than 15% - consider significantly abnormal for any patient; access the patient and place on high flow oxygen and remove from the environment, transport to the closest appropriate facility
-

Automatic Transport Criteria – Treat under appropriate protocols

- Vital signs remaining within criteria after thirty (30) minutes of mandatory rehab rest
- Chest pain or suspected cardiac symptoms
- Cardiac rhythm other than sinus or sinus tachycardia; unless prior documented of being normal for the patient
- Shortness of breath unresolved by ten (10) minutes of high flow oxygen
- Altered mental status, syncopal episode, unresolved dizziness, and headache or seizure activity
- Inability to hold fluids down or an episode of vomiting
- Severe muscle cramps

Miscellanies

- An IV may be initiate for rehydration with up to one (1) liter of Normal Saline or until pulse is less than 100 bpm and their BP is greater than 100 mmHg.
- Complete a full PCR and / or complete refusal prior to releasing the patient
- Medical Control is not required to discontinue IV therapy if treating under this protocol.

EBOLA

EMR

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PARAMEDIC

- Dispatch will alert the EMS provider about a possible patient with history of EBOLA exposure or recent travel to West Africa specifically Sierra Leone, Nigeria, Guinea, Liberia, or Senegal
- Paramedics should donn their CDC approved PPE and remove nonessential items from the ambulance
- The patient encounter should include questioning about recent travel especially to one of the above countries and / or recent contact with an Ebola affected patient
- If the patient is confirmed to be high risk and / or exposed to Ebola, contact the receiving emergency room department ASAP
- Obtain a set of vitals using disposable equipment. May provide oxygen and / or ventilate the patient as needed. No IV and / or intubation should be performed in the field.
- The ambulance crew will doff their PPE and dispose of all ambulance waste per the CDC guidelines and procedures
- EFD has made one of their reserve ambulances available to any EMS agency as well as PPE if needed to transport the patient
- Contact Medical Control ASAP with any questions

Informed Consent and Refusal of Care / Transport

EMT

ADVANCE

PARAMEDIC

- Conduct the following assessments
  - Legal competence
  - Mental competence
  - Medical or situational competence
- Patient Incompetent
  - Treat and transport in “Good Faith”
  - Do not jeopardize safety of crew or self
  - Call law enforcement if needed
- Who may sign for the refusal
  - Patient of legal age
  - Parent
  - Legal Guardian
- Refusal Assessment and Documentation
  - Complete assessment
  - Obtain a complete set of vital signs
  - Explain the risk and dangers
  - Advise them to seek medical attention
  - Complete patient refusal form
  - Review form with the signer
  - Have patient sign the form if at all possible
  - Obtain a witness signature
  - Complete PCR
  - Contact Medical Control as needed

Inter-Facility Transport

EMT

ADVANCE

- Refer to Medical Device Dependent Transport (Non-rule policy statement)
- **EMT / ADVANCE STOP**

PARAMEDIC

Paramedics may transport a patient between hospitals with the following IV infusions, provided the medication is an order, running in an infusion pump, and provided by the transferring Physician. Be certain to clarify the orders regarding medication titration prior to departure.

GP IIb / IIa Receptor Inhibitors

- Integrilin (Eptifibatide): 0.5 – 2 mg/kg/min (or similar agents)
- Monitor the patient for signs of bleeding around the IV sites, hemoptysis, hematuria, or epistaxis
- Discontinue if any sign or symptoms of bleeding complications

Heparin

- Usual dosage: 18 units/kg/hr
- Monitor the patient for signs of bleeding around the IV sites, hemoptysis, hematuria, or epistaxis
- Discontinue if any sign or symptoms of bleeding complications

Nitroglycerin

- Usual dosage: 10 – 200 mcg/min
- Monitor the patient blood pressure every five (5) minutes
- Discontinue and infuse a 500 mL Normal Saline Bolus if blood pressure falls below 90 mmHg or if diminishing mental status occurs with diminishing blood pressure

Medical Device Dependent Patient Transport

EMT

ADVANCE

PARAMEDIC

The Emergency Medical Services Commission recognizes the increasing numbers of medical-device-dependent patients. EMT's and Advance may transport these patients. The following represents the EMS Commission's **"Non Rule Policy"**

- Long-term care providers should stop central venous and enteral on-going infusions prior to transport by the EMT or Advance EMS personal
- EMT / Advance **SHALL NOT** manipulate these devices unless directed to do so by Medical Control Physician

EMT / Advance may transport any of the following under control of the provider organization's Medical Director

- PCA Pump with any medication or fluid infusing through a peripheral IV
- Medication infusing through a peripheral IV or continuous subcutaneous catheter via a closed locked system
- A central catheter that is clamped off (subclavian, Hickman, PICC, and Passport)
- A Patient with a feeding tube that is clamped off
- A Patient with a Holter monitor
- A Patient with a peripheral IV infusing vitamins
- IV fluids infusing through a peripheral; IV via gravity or an infusing system that allows the technician to change the rate of infusion are limited to the following
    - Normal Saline
    - Lactated Ringers
    - Sodium Chloride (0.9% or less)
    - Potassium Chloride (20 mEq or less for EMT's, 40 mEq or less for Advance)

The provider organization's Medical Director may approve additional devices at their discretion.

The following are determined by the EMS commission to require Paramedic level transportation:

- Medication infusing through a peripheral, central IV, and or fluids infusing through a central IV via gravity or an infusing system that allows the operator or assistant to change the rate of infusion
- A Patient with a chest tube
- A Patient with a continuous feeding tube
- A vent dependent Patient

Transfer of Care

EMT

- Documentation must be left at the hospital to include the following:
  - Agency ID, Crew ID
  - Patient's demographics
  - Initial assessment: chief complaint, past medical history
  - Any inventions performed by the Patient and or Crew and the patient response

ADVANCE

PARAMEDIC

- Specimens left at the hospital:
  - Upon arrival at the ED, notify the receiving Nurse if blood has been drawn
  - Refer to Vascular Access Protocol's key points for labeling the tubes
  - **DO NOT** leave blood tubes on a counter or give them to anyone who is not a licensed healthcare provider

KEY POINTS / CONSIDERATIONS

If a Patient Care Report (PCR) is not left with the hospital at the time of transfer, a completed PCR must be faxed to the receiving hospital within four (4) hours of dispatch.

Documentation Policy

EMR

EMT

ADVANCE

PARAMEDIC

Standard Procedure

- After completion of each patient transport, the following information needs to be documented in a PCR. A copy of the PCR needs to left with the Patient's chart in the ED. Please send reports ASAP, state law requires all PCRs to be sent to the hospital within 24-hours of being dispatched. A $500 fine per day can be levied against the department for failure to turn in a run report.

The following need to be documented in the PCR:

- **Chief complaint:** The Patient's major presenting problem.
- History of present illness or injury: this should include the OPQRST findings
- **Part pertinent medical history**: what relates to the current problem, current symptoms, medications, current allergies, last oral intake, and events leading to the illness and or injury
- **Physical exam:** Include initial, rapid, focused, and or detailed exam performed, include all vital signs and ECG interpretations if appropriate. This should include a very complete and detailed description that thoroughly paints the condition of the Patient. All objective findings along with the pertinent negatives need to be included
- **Treatment and Response:** All treatments must be documented, preferably chronologically. What treatment was provided, the time, who performed the treatment, number of attempt(s) and success(es), the Patient's response to the treatment and further assessment. If the treatment has specific documentation requirements, then those must be included as well. Documentation of non- treatments is required as well.
- **Transportation:** The position in the mode of transportation. It is recommended that you document the Patient was secured and how to the cot, when the hospital was contacted and how, any orders requested and or denied, all times, any changes in the Patient's condition, and what room and who was the person care was transferred to at the hospital.

Behavioral Health Transport Protocol

EMR

EMT

ADVANCE

PARAMEDIC

- This protocol is intended to ensure the safety of patients and EMS providers during transport of non-medical behavioral health transports to a behavioral health facility
- Law enforcement/police transport is a preferred option and obviates the necessary transportation requirements below
    - For non-medical, non-sedated patients only
- Risks include but are not limited to:
    - Patient aggression/violence directed toward EMS providers
    - Patient self-harm including attempting to exit a moving vehicle
    - Patient elopement
- All patients are to be transported with the following precautions:
    - No blankets or coverings overlying or otherwise obstructing the view of seatbelts
    - Patient on stretcher at all times with all seatbelts in use
    - Seatbelts inverted such that the “PRESS” button is turned upside down
    - EMS provider must be aware of the patient and their hands at all times
    - A pre-arranged distress signal between provider in the back and driver
        - If there are signs of agitation or potential danger, including but not limited to the patient touching the seatbelts and not following directions:
            - Activate the distress signal
            - Bring the ambulance to a stop
            - Broadcast location
            - Driver to assist with patient restraint, if necessary
            - Contact local law enforcement, if necessary
- Manpower required for transport to be determined by the Broset Violence Checklist (BVC) + self-harm risk
    - Checklist should be filled out by sending facility and confirmed by EMS on arrival
    - Score:
        - 0: Low Risk
        - 1-2: Mild risk
        - 3-4: Moderate risk
        - >4: High risk
    - Low risk: 1 EMT-B or above in the back of the ambulance
    - Mild risk: 1 EMT-B plus soft restraints or XD Cuffs on at least 1 extremity
    - Moderate risk: 2 EMT-B or above in the back of the ambulance
    - High risk: Police Officer or Armed Security Guard + EMT-B or above in the back of the ambulance
        - If a security guard is to be utilized, it is preferred they are armed and trained in restraining potentially violent individuals
- Soft restraints or XD Cuffs as needed to maintain patient and provider safety
- See MEDICAL: Patient Agitation/Hyperactive Delirium as needed if sedation is required
- If patient requires sedation or transport otherwise becomes unsafe for patient or providers, divert to nearest Emergency Department

Broset Violence Checklist + Self-Harm Risk

Patient Sticker

- To be completed by the sending physician and confirmed by EMS upon arrival at the bedside
- Behaviors are considered to be positive if displayed during any part of the clinical interaction
- Definitions of behaviors:
  - **Confused:** Appears obviously confused and disoriented. May be unaware of the time, place or person.
  - **Irritable:** Easily annoyed or angered. Unable to tolerate the presence of others.
  - **Boisterous:** Behavior is overtly "loud" or noisy. For example: slams doors, shouts out when talking, etc.
  - **Verbally threatening:** A verbal outburst which is more than just a raised voice where there is definite intent to intimidate or threaten another person. For example, verbal attacks, abuse, name calling, verbally neutral comments uttered in a snarling, aggressive manner.
  - **Physically threatening:** Where there is a definite intent to physically threaten another person. For example, the taking of an aggressive stance; grabbing another person's clothing; raising of an arm, leg, making of a fist or modeling of a head-butt directed at another.
  - **Attacking objects:** An attack directed at an object and not an individual. For example, the indiscriminate throwing of an object; banging or smashing windows; kicking, banging or head-butting an object; smashing of furniture.
  - **Self-Harm:** Witnessed or interrupted attempt at self-harm or suicide while in a legal or healthcare setting. For example, attempting to strangle self with blankets; attempting to grab items from room or healthcare providers/police officers to use to harm self – such as trauma shears, needles, scalpels, weapons i.e. tasers or guns.
  - **Elopement:** Any attempt at elopement from the initial scene, EMS, law enforcement and/or Emergency Department during the clinical interaction.

Behavior	No	Yes	EMS Conf
Confused	☐	☐	☐
Irritable	☐	☐	☐
Boisterous	☐	☐	☐
Verbally Threatening	☐	☐	☐
Physically Threatening	☐	☐	☐
Attacking Objects	☐	☐	☐
Self-Harm	☐	☐	☐
Elopement	☐	☐	☐
Total Yes (0-8)			

Evaluator: Check recommended personnel level
EMS: Confirm and initial score on arrival

Score	Risk	Personnel
☐ **0**	Low	1 EMT-B or above
☐ **1-2**	Mild	1 EMT-B + Soft Restraint
☐ **3-4**	Moderate	2 EMT-B or above
☐ **>4**	High	1 EMT + Officer

Physician Signature **Printed Name – Title** **Date and Time**

EMS Confirmation Signature **Printed Name – Title** **Date and Time**

Medication Formulary Pages

Medication	Routes	Volume/Unit	Concentration	MG / Unit	Total
EMR					
Naloxone (Narcan)	IN	2 mL	1 mg / mL	2 mg	2
Saline Water	Irrigation	250 mL or 500 mL (Discretion of the Dept.)			4000 mL
EMT					
Aspirin	Oral	Tablet	81 mg / Tablet	36 Tablets	1
Albuterol (Proventil)	Inhalation	3 mL	0.83 mg / mL	2.5 mg	5
DuoNeb	Inhalation	Ipratopine Bromide / Albuterol Sulfate	0.5 mg / 3 mg		3
Epinephrine Auto Injector	IM	EPI Pen Adult (0.3 mg) / EPI Pen JR (0.15 mg)			
Epinephrine 1:1000	SQ	1 mL	1 mg / mL	1 mg	2
Glucose Gel	Buccal	15 grams	As Packaged		2 Tubes
Glucagon	IN	3 mg	As Packaged	3 mg	1
Glucose Tablets	Oral	15 grams	As Packaged		1 Bottle
Tylenol (acetaminophen)	Oral	Tab/liquid	As packaged	Tab/liquid	1 bottle
Motrin (ibuprofen)	Oral	Tab/liquid	As packaged	Tab/liquid	1 bottle
Advance					
Epinephrine 1:10,000	IV / IO	10 mL	0.1 mg / mL	1 mg	10
Dextrose 25%	IV	10 mL	250 mg / mL	2.5 mg /	4
Dextrose 50%	IV	50 mL	500 mg / mL	5 mg / mL	4
Ondansetron (Zofran)	Oral/IV/IM	Tablets/liquid	4 mg / Tablet 4 mg/ mL	120 mg 4 mg	1 Bottle
Normal Saline (0.9%)	IV / IO	500 mL or 1000 mL (Discretion of the Dept.)			7000 mL

Lactated Ringer's	IV / IO	500 mL or 1000 mL (Discretion of the Dept.)			2000 mL
May use either Normal Saline OR Lactated Ringer's in ALL protocols Cannot infuse LR with Ketamine or Diazepam (Valium)					
Paramedic					
Adenosine (Adenocard)	IV	2 mL	3 mg / mL	6 mg	2
Adenosine (Adenocard)	IV	2 mL	3 mg / mL	12 mg	2
Amiodarone (Cordarone)	IV / IO	3 mL	50 mg / mL	150 mg	4
Atropine	IV / IO	10 mL	0.1 mg / mL	1 mg	5
Atrovent (ipratropium bromide)	Inhalation	2.5 mL	0.5 mg / mL	1.25 mg	3
Calcium Chloride 10%	IV	10 mL	1 g/10 mL	1 g	1

Cardizem (Diltiazem)	IV	5 mL	5 mg / mL	25 mg	2
Dextrose 5% Water (D5W) for med dilution	IV	500 mL			2
Dextrose 10%	IV	500 mL	100 mg / mL	50 grams	2
Medication	**Routes**	**Volume/Unit**	**Concentration**	**MG / Unit**	**Total**
Diazepam (Valium)	IV /IM/ IN	2 mL	5 mg / mL	5 mg / mL	2 – 4
Dilaudid (Hydromorphone)	IV / IM	1 mL	1 mg / mL	1 mg	2 – 4 *
Diphenhydramine (Benadryl)	IV / IM	1 mL	50 mg / mL	50 mg	4
Droperidol	IV / IM	2 mL	2.5 mg / mL	5 mg	1
Epinephrine (Racemic)	Inhalation	As Packaged	3		
Epinephrine 1:10,000	IV / IO	10 mL	0.1 mg / mL	1 mg	10
Etomidate (Amidate)	IV	20 mL			2 mg / mL	40 mg	1 – 2
Famotidine (Pepcid)	IV	20 mL	10 mg / mL	20 mg	2
Fentanyl Citrate	IV/IM/IN	2 mL	50 mcg / mL	100 mcg	2 – 4 *

(Sublimate)					
Haldol Lactate (Haloperidol)	IM	5 mg	5 mg / mL	5 mg	2
Ketamine	IV/IO/IM	10mL 5 mL	50 mg / mL 100 mg / mL (may vary)	500mg	2 *
Labetalol	IV	20 mL	5 mg / mL	100 mg	1
Lidocaine premix	IV	500mL	2 g / 500mL	2gm	2
Lidocaine 2%	IV	5 mL	20 mg / mL	100 mg	2
Lorazepam (Ativan)	IV / IM/ IN	1 mL	2 mg / mL	2 mg	3 - 9
Magnesium Sulfate	IV	10 mL	500 mg / mL	5 grams	1
Methylprednisolone (Solu-Medrol)	IV / IM	2 mL	62.5 mg / mL	125 mg	2
Midazolam (Versed)	IV/ IM / IN/ IO	5 mL	1 mg / mL	5 mg	2 - 4
Morphine	IV / IM	1 mL	10 mg / mL	10 mg	2 – 5 *
Naloxone (Narcan)	IV/ IM / IN	2 mL	1 mg / mL	2 mg	3
Nitroglycerin Tablets **(OR)**	SL	Tablet	0.4 mg / Tablet	1 Bottle	1

Nitroglycerin Spray	SL	Spray	0.4 mg / Spray	1 Bottle	1
Norepinephrine	IV	8mg	8 mg / 250ml	8mg	1*
Ondansetron (Zofran)	Oral/IV/IM	Tablets/liquid	4 mg / Tablet 4 mg / mL	120 mg 4 mg	1 Bottle
Oxymetazoline (Afrin)	IN	As Packaged			1 Bottle
Rocephin	IV	Per package 2gm solution for Injection			1
Rocuronium	IV	10 mL	100 mg/10 mL	100 mg	2
Sodium Bicarbonate	IV		1 mEq / mL	50 mEq	2
Succinylcholine	IV	50 mL	20mg/ml	200mg	2 *
Medication	**Routes**	**Volume/Unit**	**Concentration**	**MG /**	**Total**
Terbutaline (Brethine)	SubQ	10mL	1 mg / mL	1 mg	2

Tetracaine Hydrochloride Ophthalmic	Topical	1 mL	0.6 mL / Single	0.50%	1 Bottle
Toradol	IV / IM	15 mL / Multi	60 mg	60 mg / 2	4 *
Tranexamic Acid TXA	IV/IO/IN	20ml	2g	2g/20ml	2*
Zyprexa (olanzapine)	IM	2 mL	10 mg vial	10mg	2
ACCEPTABLE MEDICATIONS INDENTIFIED FOR DRUG SHORTAGES SITUATIONS					
Benadryl (Tablet/Liquid)	Oral	125 mL / 50 Tablets	25 mg / 12 mg / 5 mL	1 Bottle	1 Bottle
Dopamine HCL (Premix infusion)	IV	125 mL / 50 Tablets	1600 mcg / mL	800 mg	2
Procainamide	IV	500 mL	500 mg / mL	1000 mg	4
Promethazine (Phenergan)	IM	2 mL	50 mg / mL	50 mg	2
Proparacaine HCL opth	Eye gtt	1 mL	0.5%	1 bottle	2
Levalbuterol (Xopenex)	Inhalation	1	1.25 mg / 3 mL	1.25 mg	2

* Optional non carry medication for non-transport medic vehicles only.

Jason Bailey, MD FACEP
Elkhart General Medical Director

David W. Reser M.D

David W Reser, MD FACEP
Goshen Hospital Medical Director

Medication Calculations

Procainamide Infusion: 2 g in 500 mL Normal Saline = 4 mg / mL

Infusion Rate	Administration set: 60 drops / mL
1 mg / min	15 drops / minute
2 mg / min	30 drops / minute
3 mg / min	45 drops / minute
4 mg / min	60 drops / minute

Procainamide Loading Dose

Dilute 1 g of Procainamide in 50 mL of Normal Saline (concentration 20 mg / mL)

Using a 60-gtt set, infuse at a rate of one (1) gtt every second

Continue until: Arrhythmia is suppressed
Hypotension ensues
QRS widens by greater than 50%

17 mg / mL is given or 1 g is given

Dopamine: 800 mg in 500 mL Normal Saline = 1600 mcg / mL

	Weight in Kilograms											
Infusion Rate (mcg/kg/minute)	50	55	60	65	70	75	80	85	90	95	100	105
5	9	10	11	12	13	14	15	16	17	18	19	20
10	18	20	22	24	26	28	30	32	34	38	40	39
15	28	31	34	37	39	42	45	48	51	53	56	59
20	38	41	45	49	53	56	60	64	68	71	75	79

Dopamine quick calculation: Patient's weight in lbs. (round to a 2 digit number and subtract 2) = gtts / minute or mL / hour for 5 mcg / kg / minute.
Example: 168 lbs = 17 – 2 = 15 gtts / minute or 15 mL / hour

Amiodarone – Adult Tachycardia Loading Dose:
150 mg in 1000 mL (1.5 mg / minute)
Give over 10 minutes (100 gtts / minute with 10 gtts / mL tubing)

Maintenance Infusion:
150 mg in 100 mL (1.5 mg / mL) – 1 mg / minute (40gtts/minute with 60 gtt set is 2 gtts every 3 seconds)
150 mg in 50 (3 mL / minute (20gtts / minute with 60 gtt set is 1 gtt every 3 seconds)

Certification / Licensure – Local Credential – IN – Service Requirements

EMR

EMT

State of Indiana and National Registry Certifications / Licenses are valid for a period of two (2) years. Didactic, skill session, and audit and review hours must be documented and signed by the person responsible for the program.

1. Affiliation is good for up to one (1) year if there is a leave of absence and not preforming their duties. It will be at the discretion of the Department and the Medical Director if remediation is needed prior to resuming duties.
2. Disciplinary action may be taken for violation of any of these requirements including suspension and is at the discretion of the Medical Director and will be on case-by-case basis
3. Initial Elkhart County EMS (ECEMS) Credentialing:
   - 3.1. Affiliation with either an Elkhart General Hospital or Goshen Hospital affiliated service provider
   - 3.2. ECEMS Provider must submit a letter of intent to credential individual to the Medical Director or EMS coordinator of their sponsoring hospital. Include copies of all EMS certifications.
   - 3.3. Become familiar with ECEMS Patient Care Protocols.
   - 3.4. The candidate must complete the ECEMS Patient Care Protocol exam with a minimum score of an 80%.
   - 3.5. On completing a success exam, candidate must complete five (5) patient contacts as the lead patient care provider or have performed Basic care for a patient that was then turned over to a Paramedic. Additionally credentialed personnel certified / licenses at the highest level of the ambulance provider certification must be available at the scene and in the ambulance during patient care to provide performance review. The departments, at their discretion, may require more runs based on performance of the candidate.
   - 3.6. Medical Director will recommend acceptance, remediation, or denial of credentialing. Remediation will be at the discretion of the Medical Director. If initial credentialing is denied, the individual must wait sixty (60) days before reapplying for credentials in the ECEMS system.
   - 3.7. The Medical Director at his/her discretion may determine additional requirements.
   - 3.8. Candidate may appeal to the Medical Director or the EMS Coordinator for any grievances with the department in reference to affiliation process.
4. Affiliated provider requirements for continued credentialing:

4.1. Maintain an AHA Healthcare Provider CPR or an American Red Cross Professional Rescuer CPR certification.
4.2. Maintain continuing education didactic hours as required for continued State of Indiana certification / license.
4.3. Maintain a minimum number of audit & review hours as required by the State of Indiana for certification / licensure level. A minimum of one (1) of those audit & reviews must be attended at the provider's primary supervising hospital **PER YEAR.**
4.4. Verification of all skills as listed in the CEU book must be witnessed at an in-service training or actual clinical setting by the Medical Director or his / her designee.
4.5. Must have four (4) airway managements per calendar year, which can be done with your department and / or live patients.

EMR / EMT STOP

ADVANCE

5. Initial **Advance** ECEMS Patient Care Protocol provider credentialing:
   5.1. Complete ten (10) patient care contacts utilizing ECEMS Patient Care Protocols at the **ADVANCE** level with a supervising paramedic.
   5.2. Affiliated provider requirements for continued Advance local credentials:
      5.2.1. Maintain four (4) airway managements per calendar year and may be done at their department.
      5.2.2. Validation of Advance skill competencies as required by State of Indiana certification / licensure and / or National Registry requirements annually by the Medical Director and his / her designee. Required skills are at the discretion of the Medical Director.
      5.2.3. Advance skills must be signed by members of the educational staff of the supervising hospitals as identified by the Medical Director and per State of Indiana Rules and Regulations. These individuals can only sign for skills that do not exceed their certification level.

ADVANCE STOP

PARAMEDIC

6. Initial **PARAMEDIC** ECEMS Patient Care Protocol provider credentialing:
   6.1. Complete ten (10) patient care contacts utilizing ECEMS Patient Care Protocols at the **PARAMEDIC** level with a supervising paramedic.
   6.2. Affiliated provider requirements for continued Paramedic local credentials:
      6.2.1. Maintain an Advanced Cardiac Life Support (ACLS) certification
      6.2.2. Maintain an Pediatric Advanced Life Support (PALS) or Pediatric Emergencies for Pre-Hospital Professionals (PEPP) certification
      6.2.3. Maintain an Pre-Hospital Trauma Life Support (PHTLS) certification

6.2.4. Maintain an Advance Medical Life Support (AMLS) certification or educational objective equivalent

6.2.5. Maintain an airway proficiency of 80% intubation success rate with a minimum of eight (8) simulated or field intubations per calendar year as verified by members of the educational staff of the supervising hospitals, Medical Director, or a patient care report. Four (4) must be live or high fidelity simulator.

6.2.6. Validation of Paramedic skill competencies as required by State of Indiana certification / licensure and / or National Registry requirements annually by the Medical Director and his / her designee. Required skills are at the discretion of the Medical Director.

6.2.7. New Paramedics coming into ECEMS system must do a mega code simulation with the Medical Director before being released to work independently unless they were trained at Goshen General Hospital paramedic program.

6.2.8. Paramedic skills must be signed by members of the educational staff of the supervising hospitals as identified by the Medical Director and per State of Indiana Rules and Regulations. These individuals can only sign for skills that do not exceed their certification level.

Bleeding Control

For any life-threatening bleeding from an arm or leg and a tourniquet in NOT available OR for other traumatic bleeding: APPLY DIRECT PRESSURE ON THE WOUND

1. Cover the wound with a clean bandage and apply direct pressure by pushing on it with both hands
2. The is large and deep, try to “pack” the cloth into the wound (see packing wounds below)
3. Apply continues pressure as you can hold pressure to stop bleeding

Packing Wounds

Pack (stuff) the wound with a bleeding control (also called hemostatic) gauze, plain gauze, or a clean cloth and apply pressure with both hands.

1. Open the clothing over the bleeding wound and wipe away any pooled blood
2. Pack (stuff) the wound with bleeding control gauze, plain gauze, clean cloth, or trauma dressing
3. The goal is to completely and tightly pack the wound cavity to stop hemorrhage. Begin packing the gauze into the wound with your fingers while simultaneously maintaining pressure on the wound
4. The key for successful wound packing is that the wound is tightly packed and apply as much pressure as possible to the bleeding vessels
5. Apply steady pressure with both hands directly on top of the bleeding wound for at least three (3) minutes
6. Push down as hard as you can and hold pressure to stop the bleeding
7. **DO NOT USE LIQUID OR POWDERED CLOTTING AGENTS**

Life-threatening bleeding from an arm / leg and a tourniquet is available:

INDICATIONS

- A tourniquet or BP cuff should be used to control potentially fatal hemorrhagic wounds only after other means of stopping blood loss have failed

PRECAUTION

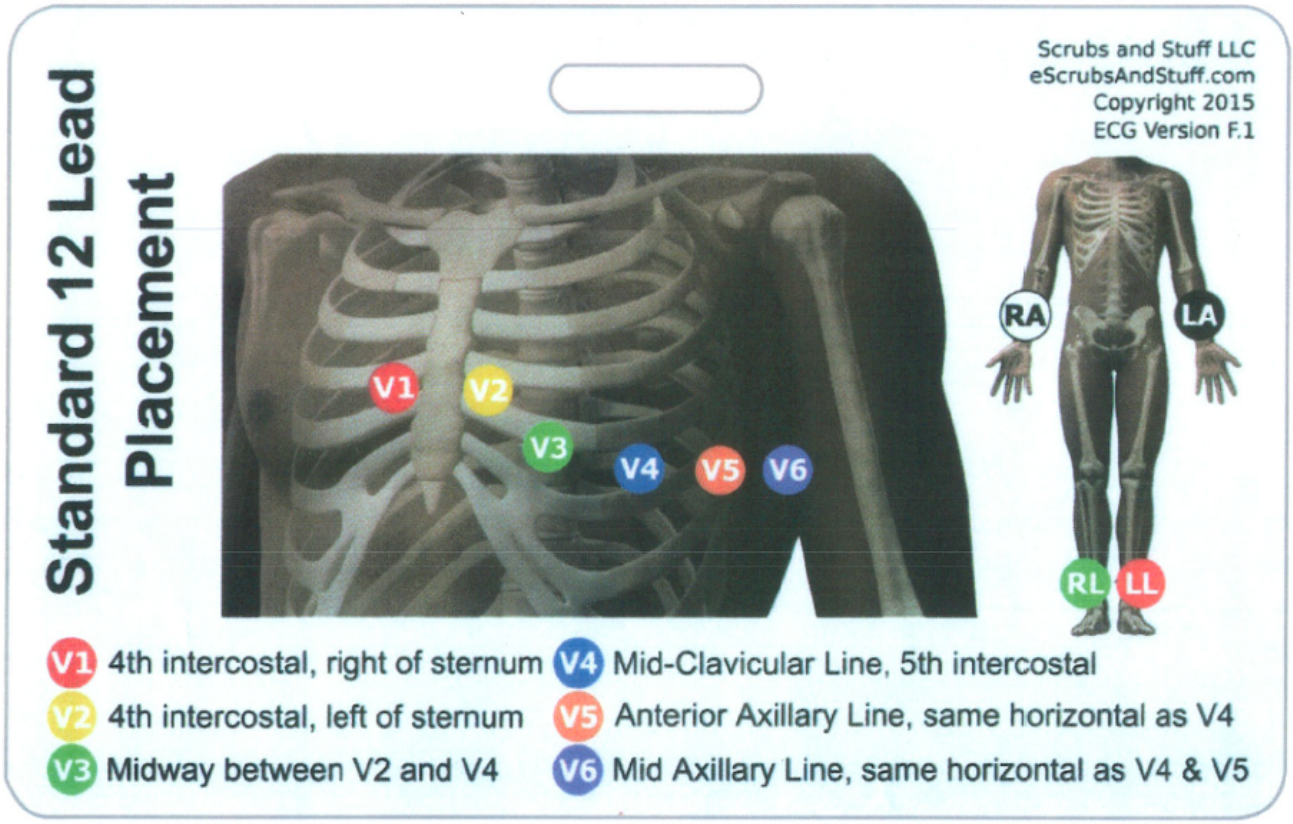
- A tourniquet applied incorrectly can increase blood loss and lead to death
- Damage is unlikely if the tourniquet is removed within the hour. Low risk to tissue is acceptable over death secondary to hypovolemic shock
- A commercially made tourniquet is only the acceptable tourniquet to be used

Technique

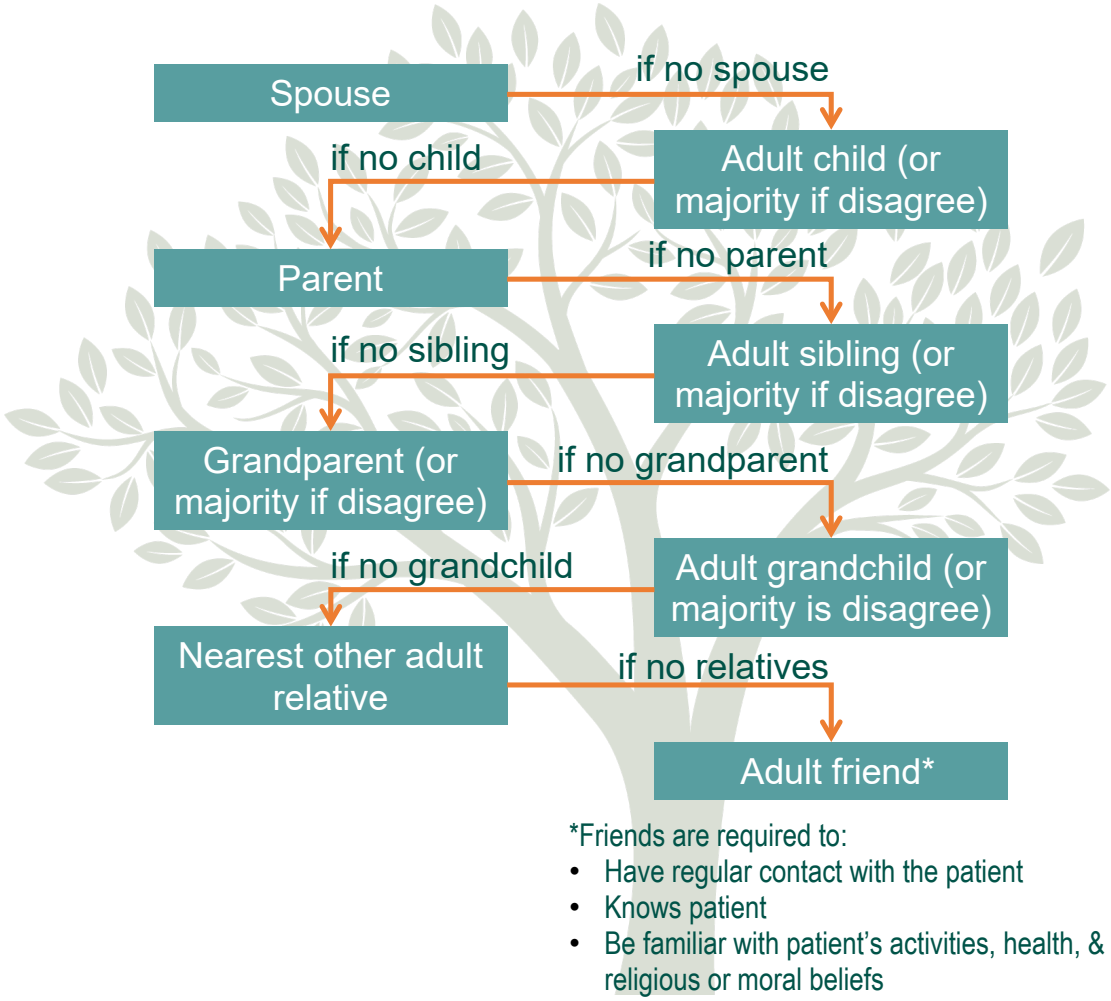
- Attempt to control hemorrhage using direct pressure, elevation and indirect pressure on pressure points prior to considering the application of a tourniquet
- The tourniquet should never be obscured by clothing or bandages
- Apply tourniquet proximal to the wound and **NOT** across any joints
- Tighten the tourniquet until bleeding stops
- Mark the time and date of application on the patient's skin or on the tourniquet with a permanent marker
- Keep the tourniquet on throughout hospital transport – a correctly applied tourniquet should only be removed by the receiving hospital

- A tourniquet will cause pain but it is necessary to stop life-threatening bleeding

12 Lead Placement



Indiana Proxy Decision Maker Tree



Indiana law allows family members or a close friend to make health care decisions if there is no legally appointed representative. There is a hierarchy in order of priority for these proxy decision-makers.

- The first person eligible to serve as a proxy is the patient's spouse. This means that if the patient is married, his or her spouse can make health care decisions.
- If there is no spouse, then an adult child/majority of adult children can serve as proxy. If no children, then an adult sibling/majority of siblings, and so forth (see above).