Elkhart County EMS

EMS Patient Care Protocols

Ver. 2016.01.01
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INTRODUCTION FROM THE EMS MEDICAL DIRECTOR AND EMS COORDINATORS

IU Health Goshen Hospital and Beacon Health Elkhart General Hospital are proud to update these evidence based protocols for all affiliated Elkhart County Emergency Medical Service providers. The protocols continue to be developed by the Protocol Committee Research Teams after extensive review of the most recent American Heart Association Guidelines, other regional protocols, relevant medical research, and input from individual field providers. The following evidence based medical care guidelines 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 protocols allows all EMS professionals to easily follow the potential interventions and treatment available for each specific patient complaint. All provider levels are highlighted, with level appropriate care below, while the corresponding protocol STOP line is clearly delineated.

**EMERGENCY MEDICAL RESPONDER**

- EMERGENCY MEDICAL RESPONDER, EMT, EMT BA/ADVANCED EMT, and PARAMEDIC protocols

**EMERGENCY MEDICAL RESPONDER STOP**

**EMT**

- EMT, ADVANCED EMT, and PARAMEDIC protocols

**EMT STOP**

**ADVANCED EMT**

- ADVANCED EMT and PARAMEDIC protocols

**ADVANCED EMT STOP**

**PARAMEDIC**

- PARAMEDIC protocols

**Key Points/Considerations**

- Additional points specific to patients that fall within the protocol

These protocols 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 completed before ALS. Advanced providers are responsible for all appropriate BLS interventions.

Medical Control/Direction for all levels of EMS providers is defined as:

- System Medical Director, when present at the scene and in physical contact with the patient
- Base physician at the receiving hospital, by radio, landline, or cellular telephone

*When transport is to another facility, and communication is not possible with the physician at the receiving facility, use Base physician at IU Health Goshen Hospital or Elkhart General Hospital*
STATEMENT REGARDING PHYSICIAN(S) ON SCENE

Medical Direction, from a Physician intervener present at the scene and in physical contact with the patient may be accepted ONLY after ALL of the following criteria have been met:

- Intervener provides appropriate identification
- Confirmation has been received from the base physician
- Communication between intervener and base physician has taken place by radio, land line, or cellular telephone
- Intervener agrees to accompany patient in the ambulance to the hospital

The Base physician may resume control at any time. The EMS provider will not serve as a mediator between intervener and base physician.

STATEMENT REGARDING MEDICATION SHORTAGES

Due to the Medication shortages that we have experienced over the past year, and the expectation that this may continue for up to five years, we have listed medications as preferred and acceptable:

- Preferred medications/concentrations should be used when available
- Acceptable medications/concentrations can be used as a back up only if preferred medications are not available from suppliers.

Every effort should be made to make available preferred medications/concentrations. This may mean seeking out alternative suppliers.

*It is important to remember that we must double check the medication we are administering for proper drug and dosage in light of the potential for new or alternative drugs and concentrations. Proper training should take place prior to placing an unfamiliar medication, packaging, concentration, etc. on the emergency vehicle.*

Our Commitment to EMS in Elkhart County

The IU Health Goshen Hospital and Beacon Health Elkhart General Hospital Protocol Committees will continue to evaluate current EMS and Medical literature to update the protocols to optimize the outcomes of our patients. 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 protocols make your job easier, and assist you in the care of your patients.

We would like to thank everyone who provided input that contributed to the 2016 protocols.

Protocol signatures of approval dated this __22nd_day of __April____2016.

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MEDICAL EMERGENCIES

CARDIAC EMERGENCIES
Cardiac Arrest: Termination of Resuscitation

**EMERGENCY MEDICAL RESPONDER**

**EMT**

**ADVANCED EMT**

- Resuscitative efforts for patients in cardiac arrest should **NOT** be initiated if:
  - Patient presents with significant dependent lividity, rigor mortis, decomposition and/or injuries incompatible with life (such as decapitation)
  - Family presents a signed Out of Hospital DNR (Do Not Resuscitate)
  - Family presents a signed Physician Orders for Scope of Treatment (POST)
  - Health care facility Staff presents a DNR order appropriate to that facility

- For all other patients in cardiac arrest, in whom appropriateness of resuscitation is questionable, the EMS provider MUST start BLS care, including defibrillation while awaiting arrival of a paramedic unit.

**EMERGENCY MEDICAL RESPONDER/EMT/ADVANCED EMT STOP**

**PARAMEDIC**

- Consider Field termination of resuscitation **ONLY** if patient meets **ALL** of the following:
  - Completed protocol appropriate for presenting rhythm with **NO** response to interventions
  - Non-hypothermic
  - Older than 18 years old
  - No communication failure with family
  - Scene is appropriate for termination order

- Consider “2 minute” warning to give family time to prepare for termination

- If at any time during ALS care, appropriateness of resuscitation is questionable, consult MEDICAL CONTROL physician for assistance.

**Key Points/Considerations**

- 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.
Cardiac Arrest: PEA and Asystole

**EMERGENCY MEDICAL RESPONDER**

- Recognize
- CPR and AED
- Check for DNR
- Perform 2 minute cycles of high quality CPR (hard and fast) Rate should be around 100-120 beats per minute

**EMERGENCY MEDICAL RESPONDER STOP**

**EMT**

- Secure airway with medically approved non-visualized airway

**EMT STOP**

**ADVANCED EMT**

- Vascular access IV/IO
- Cardiac Monitor

**ADVANCED EMT STOP**

**PARAMEDIC**

- Consider and treat Reversible Causes (H’s and T’s)
- Epinephrine 1:10,000 dose 1 mg IV/IO; repeat every 3 - 5 minutes
- Place advanced airway as appropriate after first 8 minutes of CPR
- Refer to the Cardiac: Termination of Resuscitation Protocol as needed

**Key Points/Considerations**

- IO access should be considered and may be established as initial access for patients in cardiac arrest.
- Do not allow IV/IO access, drug delivery, or advanced airway placement to cause delay > 10 sec. in chest compressions or defibrillation
- Consider and possibly treat contributing factors including: Hypoxia, Hypovolemia, Hypothermia, Hyper-/Hypokalemia, Hydrogen Ion (Acidosis), Tension Pneumothorax, Cardiac Tamponade, Toxins, Thrombosis Coronary and/or Pulmonary
- Waveform Capnography/End-Tidal CO₂ must be used for assessment of chest compression effectiveness, advanced airway placement, and ROSC.
- If sufficient personal, intubation may be preformed with limited interruption of CPR.
- Epinephrine needs to given as soon as possible as ROSC is reduced by 4% for every minute you delay giving it.
**Cardiac Arrest: V-Fib / Pulseless V-Tach**

**EMERGENCY MEDICAL RESPONDER**
- Recognize
- CPR and AED
- Check for DNR
- Perform 2 minute cycles of high quality CPR (hard and fast) Rate should be around 100-120 beats per minute

**EMERGENCY MEDICAL RESPONDER STOP**

**EMT**
- Secure airway with medically approved non-visualized airway

**EMT STOP**

**ADVANCED EMT**
- Vascular access IV/IO
- Cardiac Monitor

**ADVANCED EMT STOP**

**PARAMEDIC**
- Consider and treat Reversible Causes (H's and T's)
- Epinephrine 1:10,000 dose 1mg IV/IO; repeat every 3-5 minutes
- Administer Amiodarone (Cordarone) 300 mg diluted in 30mL NS IV; repeat in 3-5 minutes 150 mg diluted in 15 mL NS
- Place advanced airway as appropriate after first 8 minutes of CPR
- Consider: Magnesium sulfate 1-2 grams diluted in 10mL NS IV, for torsade’s de points

**Key Points/Considerations**
- IO access should be considered and may be established as initial access for patients in cardiac arrest.
- If patient in persistent V-Fib or Pulseless V-Tach, consult MEDICAL CONTROL physician for decision to transport or termination of field care
- Defibrillate at manufacturers recommended settings
- 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
- Do not allow IV/IO access, drug delivery, or advanced airway placement to cause significant delay in chest compressions or defibrillation
- Waveform Capnography/End-Tidal CO₂ must be used for assessment of chest compression effectiveness, advanced airway placement, and ROSC.
- If sufficient personal, intubation may be performed with limited interruption of CPR.
**Cardiac: Acute Coronary Syndrome**

**EMERGENCY MEDICAL RESPONDER**
- ABC
- Apply appropriate oxygen therapy
- Vital signs
- Have AED available

**EMERGENCY MEDICAL RESPONDER STOP**

**EMT**
- Aspirin 324 mg (4 x 81 mg tabs)
  - May withhold aspirin administration if patient has true allergy to ASA
- Assist patient with their own prescribed Nitroglycerin (up to 3 dose maximum), if systolic BP is greater than 90 mmHg

**EMT STOP**

**ADVANCED EMT**
- Cardiac Monitor with 12 lead in 5-10 min of patient contact and transmit
- Vascular access, with blood draw
  - IV access prior to administration of Nitroglycerin
  - Nitroglycerin 0.4mg SL: repeat every 5 min up to 3 doses
  - If systolic BP less than 90 mmHg; Normal Saline 500-1000 mL IV bolus

**ADVANCED EMT STOP**

**PARAMEDIC**
- Notify MEDICAL CONTROL physician AS SOON AS POSSIBLE if STEMI identified
  - If elevation in Leads II, III, aVF check for more than 1mm of ST elevation in V4R. If present, DO NOT give nitroglycerin
- If systolic BP greater than 90 mmHg
  - Nitroglycerin 0.4 mg SL; repeat every 5 minutes to max 3 doses
  - ONLY IF severe chest pain (> 8 on Pain Scale) administer ONE of the following:
    - Morphine 2 - 5 mg IV
    - Fentanyl 25 - 100 mcg slow IV
- Additional IV access as needed while enroute if time permits

**Key Points/Considerations**
- Focus on maintaining ABC, pain relief, rapid ID, rapid notification and rapid transport
- Vitals, including 12 Lead ECG, 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
**Cardiac: Cardiogenic Shock**

**EMERGENCY MEDICAL RESPONDER**

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

**ADVANCED EMT STOP**

**ADVANCED EMT**

- 12 lead ECG and transmit
- Vascular access, with blood draw
- If no signs of pulmonary edema: Normal Saline 500-1000 mL IV bolus
- Cardiac Monitor

**PARAMEDIC**

- If patient remains unstable following fluid bolus or the patient has pulmonary edema
  - Dopamine infusion 5 mcg/kg/min, titrate to effect, not to exceed 20 mcg/kg/min

**Key Points/Considerations**

- UNSTABLE is defined as systolic BP less than 90 mmHg and/or decreased level of consciousness
- Refer to appropriate Dysrhythmia protocol as needed
- Monitor lung sounds for rales if present hold fluid bolus
**Cardiac: Wide Complex Tachycardia with a Pulse**

**EMERGENCY MEDICAL RESPONDER**

- ABC
- Apply appropriate oxygen therapy
- Vital signs
- Have AED available

**EMERGENCY MEDICAL RESPONDER / EMT STOP**

**ADVANCED EMT**

- 12 lead ECG and transmit
- Vascular access, with blood draw
- Cardiac Monitor

**ADVANCED EMT STOP**

**PARAMEDIC**

- **UNSTABLE**
  - Refer to *General: Procedural Sedation* protocol if time permits
  - *Synchronized* cardioversion; repeat to max 3 times
    - If cardioversion fails follow drug regiment for STABLE patient
- **STABLE**
  - Preferred:
    - Amiodarone (Cordarone) 150 mg in 100 mL NS infused over 10 minutes (10mL/min); repeat if VT recurs
    - If rhythm is converted: Amiodarone (Cordarone) 1 mg/min IV infusion
  - Acceptable:
    - Procainamide 20 mg/min slow IV infusion to max 17 mg/kg
    - If rhythm is converted: Procainamide 1-4 mg/min IV infusion
- Magnesium Sulfate 2 grams dilute in 10mL NS over 5-10 minutes IV push for Torsade de Pointes

**Key Points/Considerations**

- **UNSTABLE** is defined as ventricular rate greater than 150 bpm with symptoms of chest pain, dyspnea, altered mental status, pulmonary edema, or hypotension (systolic BP less than 90 mmHg)
- **Wide Complex** is defined as a QRS complex greater than 0.12 seconds
- **Cardioversion** at manufacturers recommended setting
- **Consider Adenosine only** if regular and monomorphic – Initial dose 6mg, 2\textsuperscript{nd} dose 12mg
**Cardiac: Narrow Complex Tachycardia**

### EMERGENCY MEDICAL RESPONDER

**EMT**
- ABC
- Apply appropriate oxygen therapy
- Vital signs
- Have AED available

**EMERGENCY MEDICAL RESPONDER / EMT STOP**

### ADVANCED EMT

- 12 lead ECG and transmit
- Vascular access, with blood draw
- Cardiac Monitor
- Valsalva Maneuvers

**ADVANCED EMT STOP**

### PARAMEDIC

**IF UNSTABLE**
- Refer to *General: Procedural Sedation* protocol if time permits
- *Synchronized* cardioversion; repeat to max 3 times
  - If cardioversion fails, follow rhythm appropriate drug regimen for STABLE patient

**IF STABLE**
- **REGULAR** Rhythm:
  - Adenosine (Adenocard) 6 mg rapid IV push followed by 20ml NaCl bolus
  - Adenosine (Adenocard) 12 mg rapid IV push; repeat 1-2 minutes 12 mg
- **IRREGULAR** Rhythm: (Atrial Flutter or Atrial Fibrillation)
  - Ventricular rate greater than150 bpm
    - Cardizem (Diltiazem HCL) Lyo-Ject 0.10 mg/kg slow IV push over 2 minutes, may repeat in 15 min 1 time if BP >110 SBP
  - Ventricular rate less than 150 bpm
    - Consult MEDICAL CONTROL physician for order: Cardizem (Diltiazem HCL) Lyo-Ject 0.10 mg/kg slow IV push over 2 minutes

**Consider Wolff-Parkinson-White (WPW) if HR over 220 and young age**
- **AVOID** Adenosine and Cardizem
- Preferred:
  - Amiodarone (Cordarone) 150 mg diluted in 15 mL NS IV over 10 min
- **Acceptable:**
  - Procainamide 20 mg/min; max 17 mg/kg

### Key Points/Considerations

- **UNSTABLE** is defined as ventricular rate greater than 150 bpm with symptoms of chest pain, dyspnea, altered mental status, pulmonary edema, or hypotension (systolic BP less than 90 mmHg)
- Cardioversion at manufacturers recommended setting
Cardiac: Symptomatic Bradycardia / Heart Blocks

**EMERGENCY MEDICAL RESPONDER**

- ABC
- Apply appropriate oxygen therapy
- Vital signs
- Have AED available

**EMERGENCY MEDICAL RESPONDER / EMT STOP**

**ADVANCED EMT**

- 12 lead ECG and transmit
- Vascular access, with blood draw
- Cardiac Monitor

**ADVANCED EMT STOP**

**PARAMEDIC**

- Consider and treat Reversible Causes (H’s and T’s)
- Atropine 0.5 mg IV; repeat every 3-5 min to max 3 mg
- Begin transcutaneous pacing if atropine is ineffective
  - Refer to General: Procedural Sedation protocol as needed
- If Hypotensive, Dopamine infusion 5 mcg/kg/min, titrate to effect, not to exceed 20 mcg/kg/min
- Consider immediate pacing for 2nd degree Type II or 3rd degree Heart Blocks

**Key Points/Considerations**

- Bradycardia is 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 or hypotension (systolic BP less than 90 mmHg)
- Consider and possibly treat contributing factors including: Hypoxia, Hypovolemia, Hypothermia, Hyper-/Hypokalemia, Hydrogen Ion (Acidosis), Tension Pneumothorax, Cardiac Tamponade, Toxins, Thrombosis- Coronary and Pulmonary
GENERAL MEDICAL EMERGENCIES

General: Nausea and/or Vomiting

EMERGENCY MEDICAL RESPONDER

EMT

- ABC
- Apply appropriate oxygen therapy
- Vital signs

EMERGENCY MEDICAL RESPONDER / EMT STOP

ADVANCED EMT

- 12 lead ECG and transmit
- Vascular access, with blood draw; Normal Saline 500-1000mL IV bolus as needed
- Cardiac Monitor

ADVANCED EMT STOP

PARAMEDIC

- Preferred:
  - Ondansetron (Zofran) ODT 4-8 mg SL
  - Ondansetron (Zofran) 4 mg IV or IM; may repeat once in 10 minutes
- Acceptable:
  - Promethazine (Phenergan) 25 mg IM ONLY

Key Points/Considerations

- Consult MEDICAL CONTROL physician if patient has any of the following: systolic BP less than 90, pregnancy, or head trauma
## General: Pain Management

### EMERGENCY MEDICAL RESPONDER

**EMT**
- ABC
- Apply appropriate oxygen therapy
- Vital signs

### EMERGENCY MEDICAL RESPONDER / EMT STOP

### ADVANCED EMT
- 12 lead ECG and transmit
- Vascular access, with blood draw
- Cardiac Monitor

### ADVANCED EMT STOP

### PARAMEDIC
- Administer **ONE** of the following narcotic analgesics
  - Morphine 2 - 5 mg IV; repeat every 5 min to max 10 mg
  - Dilaudid 0.5 - 1 mg IV/IM max of 1 mg
  - Fentanyl 25-100 mcg *slow* IV; repeat every 5 min to max 200 mcg
- Ondansetron (Zofran) 4 mg IV or IM, if patient becomes nauseated **OR**
- Ondansteron (Zofran) 4mg ODT SL

### Key Points/Considerations
- For patients with:
  - Severe burns without hemodynamic compromise
  - Suspected isolated extremity injuries with severe pain
  - Abdominal pain
  - Back pain
- For all other painful conditions, paramedics must consult MEDICAL CONTROL physician for orders
- Contraindications to pain management protocol: altered mental status, hypoventilation, systolic BP less than 90, other traumatic injuries
- This protocol may **NOT** be used in conjunction with the *General: Procedural Sedation protocol*, unless MEDICAL CONTROL physician is consulted.
- Fentanyl should be used if there is any concern for potential hemodynamic instability.
- Consult MEDICAL CONTROL physician for additional Morphine, Fentanyl, Dilaudid or Zofran
General: Patient Agitation

**EMT**
- Call for Law Enforcement
- ABC
- Apply appropriate oxygen therapy
- Vital signs

**ADVANCED EMT**
- Vascular access, with blood draw if possible and safe for provider

**PARAMEDIC**
- May administer **ONE** of the following:
  - Midazolam (Versed) 2 - 5 mg IV, IM
  - Lorazepam (Ativan) 1 - 2 mg IN, IM: IV dilute in equal amount NS slow IV push; repeat every 5 minutes to max 4 mg
  - Haldol 5mg IV, IM
  - Benadryl 25-50mg IV, IM for possible Synthetic THC

**Key Points/Considerations**
- If the patient is in police custody and/or has handcuffs on, they will not be transported by EMS without an officer present in ambulance
- Patient must NOT be transported in a face-down position
- 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, cravats or commercially available soft medical restraints
General: Procedural Sedation

**EMERGENCY MEDICAL RESPONDER**

- ABC
- Apply appropriate oxygen therapy
- Vital signs

**EMERGENCY MEDICAL RESPONDER / EMT STOP**

**ADVANCED EMT**

- Vascular access, with blood draw
- Cardiac Monitor with continuous pulse oximetry

**ADVANCED EMT STOP**

**PARAMEDIC**

- May use pain protocol for pain management
- Cardioversion administer **ONE** of the following
  - Midazolam (Versed) 2 – 5 mg slow IV push; titrate to desired effect max 10mg
  - Etomidate (Amidate) 0.1 mg/kg IV; max 40 mg
- Transcutaneous pacing
  - Midazolam (Versed) 2 – 5 mg slow IV push; titrate to desired effect max 10mg
- Post Intubation (systolic BP greater than 100) administer **ONE** of the following
  - Midazolam (Versed) 0.05 mg/kg IV; repeat every 5 minutes to max of 10mg
  - Etomidate (Amidate) 0.1 mg/kg IV Max 40 mg
- CPAP/BiPAP sedation administer **ONE** of the following
  - Midazolam (Versed) 1– 2 mg slow IV push
  - Lorazepam (Ativan) 0.5 - 1 mg IV dilute in equal amount NS slow IV push

**Key Points/Considerations**

- Contact medical control for additional pain or nausea medications
Medical: Allergic Reaction / Anaphylaxis

EMERGENCY MEDICAL RESPONDER

- ABC Vital signs
- Apply appropriate oxygen therapy

EMERGENCY MEDICAL RESPONDER STOP

EMT

- Administer Adult Epi Pen

EMT STOP

ADVANCED EMT

- Vascular access, with blood draw; Normal Saline 500-1000 mL IV bolus as needed
- Cardiac Monitor
- For wheezing
  - DuoNeb (Albuterol 2.5 mg + Atrovent 0.5 mg in 2.5 mL mixed together), via nebulizer: **if not effective then proceed to next step >**
    - Albuterol 2.5 mg via nebulizer; repeat once
  - For severe reaction with stridor (call Medical Control)
    - Epinephrine 1:1000 dose 0.01 mg/kg (0.3 mg max) SQ

ADVANCED EMT STOP

PARAMEDIC

- **Asymptomatic**
  - Supportive care
- **Mild symptoms**: Urticaria, itching, nasal congestion, watery eyes, etc.
  - Diphenhydramine (Benadryl) 50 mg IV or deep IM
- **Moderate symptoms**: Wheezing, nausea, vomiting, diarrhea, flushing, swelling face, neck, tongue
  - DuoNeb (Albuterol 2.5 mg + Atrovent 0.5 mg in 2.5 mL mixed together), via nebulizer: **if not effective then proceed to next step >**
    - Albuterol 2.5 mg via nebulizer; repeat once
  - Famotidine (Pepcid) 20 mg IV
  - Methylprednisolone (Solu-Medrol) 125 mg IV, IM if no IV access
- **Severe reaction** not relieved by initial treatment or patient presenting with Stridor, hypotension (systolic BP less than 90 mmHg), and/or Altered Mental Status
  - If BLS airway maneuvers fail, attempt less invasive ALS methods then attempt ETI. **Cricothyrotomy may be considered only after all other Airway interventions have been exhausted.**
  - Administer ONE of the following:
    - Terbutaline (Brethine) 0.3 mg SQ
    - **If NO significant cardiac history**: Epinephrine 1:10,000 dose 0.01 mg/kg (0.3 mg max) IV IF no other Epi Given.

Key Points/Considerations

- If Epi has been administered you must call Medical Control before given more epi.
- Do not give epi in the deltoid muscle.
Medical: Diabetic Emergencies

**EMERGENCY MEDICAL RESPONDER**

- ABC
- Apply appropriate oxygen therapy
- Vital signs

**EMERGENCY MEDICAL RESPONDER STOP**

**EMT**

- Check Blood Glucose level
- If blood glucose is known or suspected to be low less than normal range 60-80 mg/dL and patient is able to swallow on command, give oral glucose one unit dose
- Call for ALS Intercept if patient is unable to swallow on command, or mental status is altered.

**EMT STOP**

**ADVANCED EMT PARAMEDIC**

- Vascular access, with blood draw
- Blood glucose level below normal range 60-80 mg/dL and signs and symptoms of hypoglycemia
  - Preferred:
    - Dextrose 50% 25 grams IV; repeat 10 minutes
  - Acceptable
    - Dextrose 10% 15 grams 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 has a history of CHF, the fluid bolus is contraindicated
- If the patient has taken sugar prior to arrival, ensure that the patient has not taken sugar substitute
Medical: Overdose or Toxic Exposure

**EMERGENCY MEDICAL RESPONDER**
- Opiate OD: Naloxone 2mg IN give 1ml to each nares; for respiratory depression only
- Decontaminate as needed
- ABC, apply appropriate oxygen therapy, and vital signs
- Attempt to determine what was taken, when, and how much, bring containers to ED
- Contact Poison Control 1-800-222-1222 for additional information and treatment

**EMT**
- Check blood glucose level normal range 60-80mg-dl, If level is abnormal refer to Medical: Diabetic Emergencies protocol.

**EMERGENCY MEDICAL RESPONDER / EMT STOP**

**ADVANCED EMT**
- 12 Lead ECG
- Vascular access, with blood draw, cardiac monitor, 12 lead and transmit
  - Opiate OD: Naloxone (Narcan) 0.5 mg IV, IM; repeat to max 2 mg for respiratory depression ONLY

**ADVANCED EMT STOP**

**PARAMEDIC**
- For symptomatic patients with known:
  - Organophosphate poisoning: Atropine 2 – 5 mg IV; repeat every 3-5 minutes
  - Dystonic reaction or synth THC: Diphenhydramine (Benadryl) 50 mg IV or IM
  - 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 OD (cocaine/amphetamines): Midazolam (Versed) 2 - 5 mg IV, IM

**Key Points/Considerations**
- Includes patients who are unconscious/unresponsive without suspected trauma or other causes
- 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 patient after administration of Naloxone (Narcan) don’t give to intubated patients
- Medics should be called for any OD
- Signs and symptoms of organophosphate poisoning consider SLUDGE
  - Salivation, Lacrimation, Urination, Diarrhea, Gastric cramps, Emesis
# Medical: Seizures

## EMERGENCY MEDICAL RESPONDER
- ABC
- Apply appropriate oxygen therapy
- Vital signs

## EMT
- Check blood glucose level normal range 60-80mg-dl, If level is abnormal refer to *Medical: Diabetic Emergencies* protocol.

## EMERGENCY MEDICAL RESPONDER / EMT STOP

## ADVANCED EMT
- Vascular access, with blood draw
- Cardiac Monitor

## ADVANCED EMT STOP

## PARAMEDIC
- Preferred
  - Lorazepam (Ativan) 1 - 2 mg IN, IV dilute in equal amount NS slow IV push; repeat every 5 minutes to max 4 mg
  - If vascular access cannot be obtained may give **ONE** of the following:
    - Lorazepam (Ativan) 1-2 mg IM; repeat every 5 minutes to max 4 mg
    - Midazolam (Versed) 2 - 5 mg IM or IN
- Acceptable
  - Diazepam (valium) 5 mg slow IV, IM; repeat 2 – 5 minutes to max 10 mg
    - If vascular access cannot be obtained may give Diazepam (valium) 5 mg slow IM

## Key Points/Considerations
- Protect the patient and EMS crew from injury during the seizure
- Refer to the Eclampsia protocol if patient is pregnant or recently post partum
**Medical: Shock / Hypoperfusion**

### EMERGENCY MEDICAL RESPONDER

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

### ADVANCED EMT STOP

**ADVANCED EMT**
- 12 lead ECG and transmit
- Vascular access, with blood draw
- If no pulmonary edema (rales): Normal Saline 500 - 1000mL bolus IV
- Cardiac Monitor
- Obtain additional vascular access as time permits

### PARAMEDIC

**PARAMEDIC STOP**
- Dopamine infusion 5 mcg/kg/min, titrate to effect, not to exceed 20 mcg/kg/min

### Key Points/Considerations
- Additional fluid bolus can be administered but patient needs to be reassessed for rales or signs of pulmonary edema.
- UNSTABLE is defined as Systolic BP less than 90 mmHg and/or decreased level of consciousness
- Monitor for signs and symptoms of pulmonary edema
- Consider causes of hypoperfusion, including anaphylaxis, toxic ingestions, cardiac rhythm disturbances, myocardial infarction, sepsis, ruptured AAA, ectopic pregnancy, trauma, or others
### Medical: Heat/Cold Related Illness

<table>
<thead>
<tr>
<th>EMERGENCY MEDICAL RESPONDER</th>
<th>EMT</th>
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<tbody>
<tr>
<td>ABC</td>
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<tr>
<td>Remove from the heat source or cold environment</td>
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<tr>
<td>Remove all clothing</td>
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<tr>
<td>If skin is hot and dry, cover with wet sheets</td>
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<tr>
<td>If skin is cold and wet, cover with dry sheets</td>
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<tr>
<td>Use air conditioning, fans, heater as needed</td>
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<tr>
<td>Consider heat/cold packs under armpits, in groin, and on neck</td>
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<tr>
<td>Apply appropriate oxygen therapy</td>
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<tr>
<td>Vital signs</td>
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</table>

**EMERGENCY MEDICAL RESPONDER / EMT STOP**

### ADVANCED EMT

<table>
<thead>
<tr>
<th>PARAMEDIC</th>
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<tbody>
<tr>
<td>12 lead ECG and transmit</td>
</tr>
<tr>
<td>Large bore IV; Normal Saline 500 - 1000mL IV bolus</td>
</tr>
<tr>
<td>Consider warmed fluids for cold emergencies</td>
</tr>
<tr>
<td>Cardiac Monitor</td>
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</tbody>
</table>

**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 illness
- If patient in cardiac arrest, follow AHA guidelines
- Monitor for signs and symptoms of pulmonary edema
**Medical: Suspected Stroke**

**EMERGENCY MEDICAL RESPONDER**

- ABC
- Apply appropriate oxygen therapy
- Vital signs
- Determine the exact time of symptom onset and/or last time seen without symptoms by interviewing patient, family, and bystanders
- If time from symptom onset to ETA to ED will be less than 3 hours *then*
  - NOTIFY MEDICAL CONTROL physician ASAP to prepare for possible thrombolytic therapy

**EMT**

- Check blood glucose level normal range 60-80mg-dl, If level is abnormal refer to *Medical: Diabetic Emergencies* protocol.

**EMERGENCY MEDICAL RESPONDER / EMT STOP**

**ADVANCED EMT / PARAMEDIC**

- 12 lead ECG and transmit
- Vascular access, with blood draw
- Cardiac Monitor

**Key Points/Considerations**

Cincinnati Pre-Hospital Stroke Scale:

1. Have the patient repeat “You can't teach an old dog new tricks”. Assess for correct use of words, without slurring
2. Have the patient smile, assess for facial droop
3. Have the patient close eyes and hold arms straight out for 10 seconds. Assess for arm drift or unequal movement of one side
## Medical: Epistaxis (non-traumatic)

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<thead>
<tr>
<th>EMERGENCY MEDICAL RESPONDER</th>
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<tr>
<td>ADVANCED EMT</td>
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<tr>
<td>• ABC</td>
<td></td>
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<tr>
<td>• Apply appropriate oxygen therapy</td>
<td></td>
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<tr>
<td>• Vital signs</td>
<td></td>
</tr>
<tr>
<td>• Have patient sit forward and blow nose to remove any small loose clots</td>
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<tr>
<td>• Have patient hold head forward pinching the nostrils anteriorly OR apply nasal clamp device. <em>(Do not allow patient to lean head backwards)</em></td>
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</table>

### EMERGENCY MEDICAL RESPONDER/EMT/ADVANCED EMT STOP

<table>
<thead>
<tr>
<th>PARAMEDIC</th>
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<tbody>
<tr>
<td>• Administer 2 sprays oxymetazoline (Afrin) in each nostril</td>
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</table>
RESPIRATORY EMERGENCIES

Respiratory: Acute Asthma and Status Asthmaticus

EMERGENCY MEDICAL RESPONDER

- ABC
- Apply appropriate oxygen therapy
- Vital signs

**EMERGENCY MEDICAL RESPONDER STOP**

EMT

- Assist patient with their own meter dose inhalation medications as appropriate

**EMT STOP**

ADVANCED EMT

- Vascular access, with blood draw
- Cardiac Monitor, 12 Lead ECG and transmit
- DuoNeb (Albuterol 2.5 mg + Atrovent 0.5 mg in 2.5 mL mixed together), via nebulizer once only, *if not effective then*...
- Albuterol 2.5 mg via nebulizer; may repeat once
- Call for ALS intercept
- Epinephrine 1:1000 dose 0.3 –0.5 mg IM, if severe distress (call MC for order)

**ADVANCED EMT STOP**

PARAMEDIC

- Consider starting CPAP for moderate to severe disease
- Methylprednisolone (Solu-Medrol) 125 mg IV, IM if no IV access
- If SEVERE (Status Asthmaticus)
  - Terbutaline (Brethine) 0.3 mg SQ, *if not effective then*
  - ONE of the following:
    - Epinephrine 1:1000 dose 0.3 –0.5 mg IM, if severe distress
    - Epinephrine 1:1000 dose 0.5 mg mixed with 3 mL Normal Saline, via nebulizer
    - Epinephrine 1:10,000 dose 0.5 mg IV
    - Magnesium Sulfate 1-2 grams IV

**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.
Respiratory: Acute Pulmonary Edema

EMERGENCY MEDICAL RESPONDER

EMT

- ABC
- Apply appropriate oxygen therapy
- Vital signs
- Sit patient upright, if possible

EMERGENCY MEDICAL RESPONDER / EMT STOP

ADVANCED EMT

- Vascular access, with blood draw
- Cardiac Monitor, 12 Lead ECG and transmit
- Nitroglycerin 0.4 mg; repeat every 3 - 5 minutes, if systolic BP greater than 90 mmHg
- DuoNeb (Albuterol 2.5 mg + Atrovent 0.5 mg in 2.5 mL mixed together), via nebulizer if not effective then proceed to next step
- Albuterol 2.5 mg; repeat once

ADVANCED EMT STOP

PARAMEDIC

- Consider starting CPAP for moderate to severe disease
- Nitroglycerin 0.4 mg; repeat every 3 - 5 minutes, if systolic BP greater than 90 mmHg
- DuoNeb (Albuterol 2.5 mg + Atrovent 0.5 mg in 2.5 mL mixed together), via nebulizer if not effective then proceed to next step
- Albuterol 2.5 mg; repeat once

Key Points/Considerations

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

**EMERGENCY MEDICAL RESPONDER**
- ABC
- Apply appropriate oxygen therapy
- Vital signs

**EMERGENCY MEDICAL RESPONDER STOP**

**EMT**
- Assist patient with their own meter dose inhalation medications as appropriate

**EMT STOP**

**ADVANCED EMT**
- Vascular access, with blood draw
- Cardiac Monitor, 12 Lead ECG and transmit
- DuoNeb (Albuterol 2.5 mg + Atrovent 0.5 mg in 2.5 mL mixed together), via nebulizer *if not effective then proceed to next step:*
- Albuterol 2.5 mg via nebulizer; repeat once

**ADVANCED EMT STOP**

**PARAMEDIC**
- Consider starting CPAP for moderate to severe disease
- Methylprednisolone (Solu-Medrol) 125 mg IV, IM if no IV access
Respiratory: Medication Facilitated Intubation

PARAMEDIC

- PARAMEDIC ONLY

INDICATIONS

- Medication Facilitated Intubation may be utilized on standing orders when definitive airway control is necessary in an adult and requires the use of sedative medication or use of a neuromuscular blockade agent by approved services only.

DRUG ASSISTED INTUBATION

- Cardiac Monitor and pulse oximetry
- Lidocaine 1.5 mg/kg (100 mg max) – wait 60 seconds (for head injury patients only)
- Preferred:
  - Administer Etomidate (Amidate) 0.4 mg/kg (40 mg max) rapid IV push
- Acceptable:
  - Versed 3-5 mg IV to achieve sedation
- Intubate if sufficient sedation has been achieved or proceed to next step
- Administer Succinylicholine 1.5 mg/kg (150 mg max) IV
  - Onset of action 1 minute
  - Duration 5 - 8 minutes
- Intubate
- If intubation fails (2 attempts maximum) manage the airway and ventilate
  - Consider inserting a medically approved non-visualized airway device
  - If unable to adequately ventilate the patient, perform Cricothyrotomy only as a last resort when all other Airway interventions have failed.
- Attach an EtCO2 monitor, confirm ETT placement (confirm by waveform and quantitative analysis) and secure the ETT
- Document all ETI attempts and a minimum of 2 EtCO2 Waveform and Quantitative levels. Provide a Code Summary (if using Physio Monitors) for the Patient Care Record.
- Refer to General: Procedural Sedation protocol as needed

Key Points

- Be cautious with the use of Succinylicholine in patients with eye injuries, long standing crush injuries and skeletal muscle myopathy, most frequently Duchene’s muscular dystrophy.
- Pre-oxygenation and oxygenation are important when possible.
- Consider Atropine 0.5 IV for Bradycardia
**Trauma Transport Guidelines**

<table>
<thead>
<tr>
<th>EMERGENCY MEDICAL RESPONDER</th>
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<tr>
<td>EMT</td>
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<tr>
<td>EMT BA/ADVANCED EMT</td>
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<tr>
<td>PARAMEDIC</td>
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</tbody>
</table>

- Assess patient according to the *Field Triage Guidelines of Injured Patients*
- 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 nearest Level I / II Trauma Center
  - Via Ground Transport if less than 30 minute transport time, 45 minutes in inclement weather:
  - Via Aeromedical Transport if ground transport time more than 30 minutes and air transport time less than 45 minutes:

- Exceptions in which patient should be transported via ground to the closest appropriate facility:
  - Air transport time greater than 45 minutes
  - Weather or other local conditions prohibit air travel to the scene or to the closest Level I or II Trauma Center
  - Scene wait time for aeromedical transport provider would exceed time required to transport the patient to the closest appropriate acute care facility by ground. In this situation the air medical provider may be diverted to the receiving acute care facility.
  - Patients in cardiac arrest at the scene after blunt trauma should not be transported via aeromedical transport.
  - Patients meeting Step 3 and 4 criteria

**Key Points**

- This is a guideline and is not intended to specifically define every condition in which transport decisions concerning ground transport vs. air medical services may be needed. Good clinical judgment should be used at all times.
- The helicopter can be requested to respond to the scene when:
  - ALS personnel request the helicopter
  - BLS personnel request the helicopter, when ALS is delayed or unavailable.
- When EMS arrives, they must assess the situation. If it is determined by the most highly trained EMS provider ON THE SCENE that the helicopter is not needed, it should be cancelled as soon as possible.

REFER TO LANDING ZONE LIST BY TOWNSHIP
Field Triage Guidelines of Injured Patients

2011 Guidelines for Field Triage of Injured Patients

1. Assess signs of vital signs and level of consciousness
   - Glasgow Coma Scale
   - Systolic Blood Pressure (mmHg)
   - Respiratory Rate

2. Assess anatomy of injury
   - All penetrating injuries to head, neck, torso, and extremities proximal to elbow or knees
   - Chest wall instability or deformity (e.g., flail chest)
   - Two or more proximal long-bone fractures
   - Crushed, degloved, mangled, or pulseless extremity
   - Amputation proximal to wrist or ankle
   - Pelvic fractures
   - Open or depressed skull fracture
   - Paralysis

3. Assess mechanism of injury and evidence of high-energy impact
   - Falls
     - Adults: >20 feet (one story is equal to 10 feet)
     - Children: >10 feet or two or three times the height of the child
   - High-speed auto crash
     - Intrusion, including roof: >12 inches occupant site; >18 inches any site
     - Ejection (partial or complete) from automobile
     - Death in same passenger compartment
     - Vehicle telemetry data consistent with a high risk of injury
   - Auto vs. pedestrian/driver/other thrown, run over, or with significant (>59 mph) impact
   - Motorcycle crash >30 mph

4. Assess special patient or system considerations
   - Older Adults
     - Risk of injury/death increases after age 65 years
     - MAP < 90 may represent shock after age 65
     - Low impact mechanism (e.g., ground level fall) may result in severe injury
   - Children
     - Should be triaged preferentially to pediatric capable trauma centers
   - Anticoagulants and bleeding disorders
   - Patients with head injury are at high risk for rapid deterioration
   - Burns
     - Without other trauma mechanism: triage to burn facility
     - With trauma mechanism: triage to trauma center
   - Pregnancy >28 weeks
   - EMS provider judgment

Transport to a trauma center, Stage 1 and 2 attempt to identify the most seriously injured patients. Use these guidelines to transport patients to the appropriate level of care.

Transport to a trauma center, which, depending upon the defined trauma system, need not be the highest level trauma center.

Transport to a trauma center or hospital capable of timely and thorough evaluation and initial management of potentially serious injuries. Consider consultation with medical control.

When in doubt, transport to a trauma center.

Find the plan to save lives, at www.cdc.gov/fieldtriage

National Center for Injury Prevention and Control
Division of Injury Response
Landing Zones

Bristol:
1. BRIS1 Raber Golf Course SR 120
2. BRIS2 Bristol Elementary School
3. BRIS3 York Elementary School, SR 120 and CR 35
4. BRIS4 RV/MH Hall of Fame, CR17 Executive Drive

Clinton Township:
1. MILL1 Rock Run Church, CR 38 and CR 33
2. MILL2 Woodlawn Christian School Ball Field, CR 34 and CR 37
3. MILL3 Clinton Christian School, CR 35 and SR 4
4. MILL4 Amish School Ball Field, CR 30 and CR 37

Concord Township:
1. CONC1 Concord High School
2. CONC2 Concord East Side Elementary School
3. CONC3 Farmers Market, SR 19 and CR 26

Elkhart Township/Goshen Fire Department:
1. GOSH1 Goshen Airport
2. GOSH2 Grace Community Church, CR 36 and CR 21
3. GOSH3 Elkhart County Fairgrounds – farthest east parking lot
4. GOSH4 Brenneman Memorial Church, SR 15 and Goshen City north limits

Foraker:
1. FORK1 Nappanee Airport
2. FORK2 Union Center Church, 70535 CR 11
3. FORK3 Salem Mennonite Church, 23984 CR 46
4. FORK4 Ball Fields, 24647 CR 44

Jefferson Township:
1. JEFF1 Kropf SR 15 and CR 20
2. JEFF2 Marshland US 20 and CR 27
3. JEFF3 Crossroads Church CR 18 and CR 17

Harrison Township:
1. HARR1 Mount Moriah Worship Center, CR 30 between CR 15 and CR 13
2. HARR2 Goshen Evangelical Church, CR 17 south of CR 28
3. HARR3 Harrison Township Fire Department Station #2, CR 40 and CR 9

Middlebury:
1. MIDD1 Essenhaus Maintenance Building – entrance to covered bridge
2. MIDD2 Griner Church, CR 20 and CR 13
3. MIDD3 Living Stones Fellowship, CR 4 and CR 13
4. MIDD4 York Elementary School, SR 120 and CR 35
Landing Zones (continued)

Osolo:
1. OSOL1 Elkhart Airport
2. OSOL2 Osolo EMS, 25600 CR 4
3. OSOL3 RV Museum, US80/90 and CR 17

Baugo Township:
1. BAUG1 Baugo Fire Station 57955 CR 3 – between CR 20 and CR 118
2. BAUG2 Mishawaka Pilots Club, 29580 CR 20 – between Ash Rd and CR 1

Elkhart:
1. ELKH1 NIBCO soccer fields, 700 Riverview Ave
2. ELKH2 Northside Middle School, 300 Lawrence
3. ELKH3 Elkhart Airport, CR 6 – between John Weaver Pkwy and CR 7

Nappanee:
1. NAPP1 Nappanee Airport 41d 44’ 21” N    85d 56’ 18” W
2. NAPP2 Northwood High School 41d 27’ 40” N    86d 00’ 90” W
3. NAPP3 West Park 41d 28’ 48” N    86D 00’ 24” N

Wakarusa:
1. WAKA1 Northwood Middle School, 207 N. Elkhart – between CR 40 and CR 3
2. WAKA2 Olive Mennonite Church Cemetery, 61081 CR 3 – between CR 30 and CR 28
3. WAKA3 Twin Oaks Church, CR 44 – between SR 19 and CR 3

New Paris:
1. NEWP1 New Paris Grade School, CR 46 - west of CR 25
2. NEWP2 Bethany Church, SR 6 - west of CR 123
3. NEWP3 Pamida Store, SR 13 – south of Elkhart/Kosciusko County Line
4. NEWP4 Benton Grade School, CR 31 – south of CR 44
Trauma: Burns

EMERGENCY MEDICAL RESPONDER

EMT

- Stop the burning. Remove any clothing, jewelry, etc.
- ABC
- High Flow Oxygen 12-15 lpm via NRB
- Vital signs
- Consult MEDICAL CONTROL physician for direct transport to a Burn Center via aeromedical transport service if needed
- Use dry sterile dressings or appropriate specialized burn dressings
- Avoid wetting the patient due to the danger of hypothermia
- Burns to the eye require copious irrigation with Normal Saline — do not delay irrigation

EMERGENCY MEDICAL RESPONDER / EMT STOP

ADVANCED EMT

- Vascular access at 2 sites, with blood draw; Normal saline 500 - 1000mL
- Cardiac Monitor; obtain 12 lead ECG and transmit

ADVANCED EMT STOP

PARAMEDIC

- If patient has signs of airway involvement be prepared to intubate
- Refer to General: Pain Management protocol as needed
- May start 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 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, 4ml x %BSA x weight KG : Half given in first 8 hrs
Trauma: Burn Rule of Nines

Key Points/Considerations

Head = 9% (front and back)

Back = 18%

Chest = 18%

Right arm = 9%

Left arm = 9%

Perineum = 1%

Right leg = 18%

Left leg = 18%
**Trauma: Chest Trauma**

**EMERGENCY MEDICAL RESPONDER**

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

**EMERGENCY MEDICAL RESPONDER / EMT STOP**

**ADVANCED EMT**
- Vascular access, with blood draw; use the side opposite the injury if possible
- Refer to *Trauma: Hypoperfusion / Hypovolemia* protocol for fluid administration
- Cardiac Monitor; obtain 12 lead ECG and transmit

**ADVANCED EMT STOP**

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

**Key Points/Considerations**
- Begin transportation as soon as possible and perform ALS treatment enroute to the hospital
- Signs 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 pressures and
  tachycardia
- Thoracic decompression is a serious medical intervention that requires a chest tube in
  the hospital
- Consider aeromedical transport for severe multi-system trauma
**Trauma: Crush Injuries**

**EMERGENCY MEDICAL RESPONDER**

**EMT**
- ABC
- Apply appropriate oxygen therapy
- Vital signs every 5 minutes

**EMERGENCY MEDICAL RESPONDER / EMT STOP**

**ADVANCED EMT**
- Vascular access at 2 sites, with blood draw; Normal saline 500 - 1000mL IV bolus as needed
- Cardiac Monitor; obtain 12 lead and transmit

**ADVANCED EMT STOP**

**PARAMEDIC**
- If one complete extremity crushed more than 2 hours or two extremities crushed more than 1 hour:
  - Sodium Bicarbonate 50 mEq IV
  - One minute prior to extrication: Sodium Bicarbonate 50 mEq IV
- Refer to *General Pain Management* protocol as needed

**Key Points/Considerations**
- Contact the aeromedical transport at scene if anticipated prolonged extrication.
- Use one dedicated IV for Sodium Bicarbonate, the other IV 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
Trauma: Eye Injuries

EMERGENCY MEDICAL RESPONDER

EMT

ADVANCED EMT

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

PARAMEDIC

- Administer 1-2 drops tetracaine (Pontocaine) every 5 minutes as needed for pain
  - DO Not administer if there is an open globe injury or the pupils are not equal
    in shape

Key Points/Considerations

- Do not allow eye injury to distract from other serious injury
- Do not remove foreign body imbedded in eye or orbit
- Stabilize protruding foreign body
- Exert no pressure on globe at any time
- If patient tolerates cover both eyes to minimize further trauma
- A tear drop shaped pupil indicates possible open globe injury DO NOT TOUCH EYE or
  ADD MEDICATIONS
**Trauma: Hypoperfusion / Hypovolemia**

**EMERGENCY MEDICAL RESPONDER**

- ABC
- Apply appropriate oxygen therapy
- Vital signs
- Consider use of a tourniquet – refer to Key Points/Considerations section listed below

**EMERGENCY MEDICAL RESPONDER / EMT STOP**

**ADVANCED EMT**

- Vascular access, with blood draw; Normal Saline 500 - 1000mL IV bolus
- Cardiac monitor; obtain 12 lead and transmit

**ADVANCED EMT STOP**

**PARAMEDIC**

- Consult MEDICAL CONTROL physician for Dopamine infusion 5 mcg/kg/min, titrate to effect, not to exceed 20 mcg/kg/min

**Key Points/Considerations**

- A falling BP is a LATE sign of shock

**TOURNIQUETS**

**INDICATIONS**

- A tourniquet or B/P Cuff should be used to control potentially fatal hemorrhagic wounds only after other means of stopping blood loss have failed

**PRECAUTIONS**

- A tourniquet applied incorrectly can increase blood loss and lead to death
- Damage is unlikely if the tourniquet is removed within an hour. Low risk to tissue is acceptable over death secondary to hypovolemic shock
- A commercially made tourniquet is the only 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 tourniquet until bleeding stops
- Mark time and date of application on patient’s skin or on the tourniquet. Use permanent marker.
- Keep tourniquet on throughout hospital transport – a correctly applied tourniquet should only be removed by the receiving hospital
Trauma LSB Flow Sheet

**Mechanism of Injury**

Positive Mechanism:
- High Speed MVC
- Fall 3x Patient Height
- Axial Load
- Diving Accident
- Penetrating Wound in/near Spinal Column
- Sports Injury to Head/Neck
- Unconscious Trauma Patient

Uncertain:
Apply manual stabilization until exam completed

Spinal Pain or Tenderness

Motor and Sensory Exam

Normal

**Reliable Patient?**

Yes, Reliable:
- Calm
- Cooperative
- Sober
- Alert
- No Distracting Injuries

Immobilization **NOT** Required

**NOT RELIABLE:**
- Intoxication
- Acute Stress Reaction
- Head/Brain Injury
- Altered Mental Status
- Distracting Injuries

Possible Spinal Injury

**IMMOBILIZE**
PEDIATRIC EMERGENCIES

- For these protocols, pediatric patients are defined as children having not 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 Emergencies
  - Major Trauma
  - Burns
  - Hypoperfusion
- In all other clinical situations you must consult Medical Control physician
- Have a Broselow Pediatric Tape or similar device available to accurately determine the correct medication dosage
- Pediatric Medication Dosages SHOULD NOT EXCEED adult dosages
- Normal Vital Signs for Infants and Children:

<table>
<thead>
<tr>
<th>Age</th>
<th>Respirations</th>
<th>Pulse</th>
<th>Systolic BP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Newborn</td>
<td>30 – 60</td>
<td>100 - 180</td>
<td>&gt;60</td>
</tr>
<tr>
<td>Infant (&lt; 1 year)</td>
<td>30 – 60</td>
<td>100 - 160</td>
<td>&gt;60</td>
</tr>
<tr>
<td>Toddler (1 – 3 years)</td>
<td>24 – 40</td>
<td>90 - 150</td>
<td>&gt;70</td>
</tr>
<tr>
<td>Preschooler (3 – 5 years)</td>
<td>22 – 34</td>
<td>80 - 140</td>
<td>&gt;75</td>
</tr>
<tr>
<td>School-aged (6 – 8 years)</td>
<td>18 – 30</td>
<td>70 - 120</td>
<td>&gt;80</td>
</tr>
</tbody>
</table>
**Pediatric Trauma: Hypoperfusion / Hypovolemia**

<table>
<thead>
<tr>
<th>EMERGENCY MEDICAL RESPONDER</th>
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<tbody>
<tr>
<td><strong>EMT</strong></td>
</tr>
<tr>
<td>● ABC</td>
</tr>
<tr>
<td>● Apply appropriate oxygen therapy</td>
</tr>
<tr>
<td>● Vital signs</td>
</tr>
</tbody>
</table>

**EMERGENCY MEDICAL RESPONDER / EMT STOP**

<table>
<thead>
<tr>
<th>ADVANCED EMT</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>PARAMEDIC</strong></td>
</tr>
<tr>
<td>● Vascular access; Normal Saline 20 mL/kg IV bolus, may repeat once</td>
</tr>
<tr>
<td>● Cardiac monitor</td>
</tr>
</tbody>
</table>

### Key Points/Considerations

- Diagnostic criteria for UNSTABLE includes: capillary refill time greater than 2 seconds, cool, clammy or mottled skin, inability to recognize parents, restlessness, listlessness, tachycardia, tachypnea, systolic BP less than 70 mmHg (2 years and older) or systolic BP less than 60 mmHg (less than 2 years old).
- A falling BP is a LATE sign of shock
**Pediatric Trauma: Burns**

**EMERGENCY MEDICAL RESPONDER**

- Stop the burning. Remove any clothing, jewelry, etc.
- ABC
- High Flow Oxygen 12-15 lpm via NRB
- Vital signs
- Use dry sterile dressings or appropriate specialized burn dressing.
- Avoid wetting the patient due to the danger of hypothermia
- Burns to the eye require copious irrigation with Normal Saline — do not delay irrigation

**ADVANCED EMT**

- Vascular access at 2 sites; Normal saline 20 mL/kg IV bolus, may repeat once
- Cardiac Monitor

**PARAMEDIC**

- If patient has signs of airway involvement be prepared to intubate
- See Pediatric: Pain Management protocol

**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, 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, 4ml x %BSA x weight KG : Half given in first 8 hrs
Pediatric Trauma: Burn Rule of Nines

Key Points/Considerations

- Back = 18%
- Head = 18% (front and back)
- Chest = 18%
- Right arm = 9%
- Left arm = 9%
- Right leg = 13.5%
- Left leg = 13.5%
- Perineum = 1%
### Pediatric Cardiac Arrest: Asystole or PEA

#### EMERGENCY MEDICAL RESPONDER

**EMT**

- Recognize CPR and AED
- Perform 2 minute cycles of high quality CPR (hard and fast)

#### EMERGENCY MEDICAL RESPONDER / EMT STOP

**ADVANCED EMT**

- Vascular access; Normal Saline 20 mL/kg IV/IO bolus as needed
- Cardiac Monitor; obtain 12 lead and transmit

#### ADVANCED EMT STOP

**PARAMEDIC**

- Consider and treat Reversible Causes (H’s and T’s) as appropriate
- Epinephrine 1:10,000 dose 0.01 mg/kg IV; repeat every 3-5 minutes
- Place advanced airway as appropriate

#### Key Points/Considerations

- Consult MEDICAL CONTROL physician and begin transport to the closest most appropriate hospital as soon as possible
- Confirm asystole in more than 1 lead
- Do not interrupt compressions for placement of an 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 as soon as possible as ROSC is reduced by 4% for every minute you delay giving it.
**Pediatric Cardiac Arrest: V-Fib / Pulseless V-Tach**

**EMERGENCY MEDICAL RESPONDER**

- Recognize
- CPR and AED
- Perform 2 minute cycles of high quality CPR (hard and fast)

**EMERGENCY MEDICAL RESPONDER / EMT STOP**

**ADVANCED EMT**

- Vascular access; Normal Saline 20 mL/kg IV/IO bolus, as needed
- Cardiac Monitor; obtain 12 lead and transmit

**ADVANCED EMT STOP**

**PARAMEDIC**

- Consider and treat Reversible Causes (H’s and T’s) as appropriate
- Initial defibrillation at 2 J/kg, repeat every two minutes at 4 J/kg
- Epinephrine 1:10,000 dose 0.01 mg/kg IV/IO; repeat every 3 – 5 minutes
- Administer Amiodarone (Cordarone) 5 mg/kg (dilute in NS 1.5 mg/mL) IV
- Place advanced airway when appropriate

**Key Points/Considerations**

- Consult MEDICAL CONTROL physician and begin transport to the closest hospital as soon as possible
- Do not interrupt compressions for placement of an advanced airway during the first 8 minutes of CPR
- Use the small (pediatric) pads for patients less than 10 kg
- V-fib cardiac arrest is rare in children. Consider toxic ingestions including tricyclic antidepressants.
### Pediatric Cardiac: Bradycardia

**EMT**
- ABC
- Apply appropriate oxygen therapy
- Vital signs
- If heart rate is less than 60 bpm and patient’s mental status and respiratory rate are decreased, ventilate with BVM
- Start CPR (if no improvement with ventilations)

**EMERGENCY MEDICAL RESPONDER / EMT STOP**

**ADVANCED EMT**
- Vascular access; Normal Saline 20 mL/kg IV bolus, as needed
- Cardiac Monitor; obtain 12 lead and transmit

**ADVANCED EMT STOP**

**PARAMEDIC**
- Consider and treat Reversible Causes (H's and T's) as appropriate
- Epinephrine 1:10,000 dose 0.01 mg/kg IV/IO; repeat every 3-5 minutes
- If bradycardia is due to increased vagal tone or primary AV block give atropine before giving epinephrine
  - Atropine 0.02 mg/kg (0.1 mg min dose) IV/IO; repeat 5 minutes to max 0.04 mg/kg
- Transcutaneous pacing
  - Refer to *Pediatric: Procedural Sedation* protocol
- Place advanced airway as appropriate

**Key Points/Considerations**
- Consult MEDICAL CONTROL physician as soon as possible
- Definition: Newborn/Infant bradycardia -- pulse less than 80 bpm; child over 1 year of age bradycardia -- pulse less than 60 bpm
- Symptomatic includes poor systemic perfusion, hypotension, respiratory difficulty or altered level of consciousness
- Do not treat asymptomatic bradycardia. Consult MEDICAL CONTROL physician.
# Pediatric Cardiac: Tachycardia

## EMERGENCY MEDICAL RESPONDER

**EMT**
- ABC
- Apply appropriate oxygen therapy
- Vital signs

### EMERGENCY MEDICAL RESPONDER / EMT STOP

## ADVANCED EMT

- Vascular access, Normal Saline 20 mL/kg IV bolus, as needed
- Cardiac Monitor; obtain 12 lead and transmit
  - Valsalva Maneuvers

### ADVANCED EMT STOP

## PARAMEDIC

- **UNSTABLE**
  - Synchronized cardioversion 0.5 – 1.0 J/kg; repeat 2 J/kg if unsuccessful
    - Refer to *Pediatric: Procedural Sedation* protocol
- **STABLE Wide QRS:**
  - Administer Amiodarone (Cordarone) 5 mg/kg (dilute in NS 1.5 mg/mL) IV over 20 minutes
- **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 as soon as possible
- Newborn/Infant SVT if pulse greater than 220 bpm; child over 1 year of age SVT if pulse greater than 180 bpm, with no discernable p-waves
- UNSTABLE includes cardio-respiratory compromise, hypotension, or altered level of consciousness
- The most common causes of Sinus Tachycardia in children are fever and dehydration
- Do not treat asymptomatic tachycardia. Consult MEDICAL CONTROL physician.
**Pediatric: Acute Asthma**

**EMERGENCY MEDICAL RESPONDER**
- ABC
- Apply appropriate oxygen therapy
- Vital signs
- Determine if patient has been given his/her own asthma medications

**EMERGENCY MEDICAL RESPONDER STOP**

**EMT**
- Assist with patient prescribed metered dose inhaler

**EMT STOP**

**ADVANCED EMT**
- Cardiac Monitor; obtain 12 lead and transmit
- DuoNeb (Albuterol 2.5 mg + Atrovent 0.5 mg) via nebulizer *if not effective then proceed to next step;*
- Albuterol 2.5 mg via nebulizer
  - Call Medical Control for,
- Epinephrine 1:1000 dose 0.01 mg/kg IM (0.5 mg max), if in severe distress

**ADVANCED EMT STOP**

**PARAMEDIC**
- If patient not improving, obtain vascular access
- Methylprednisolone (Solu-Medrol) 1-2 mg/kg IV, IM if no IV access
- May administer one of the following:
  - Epinephrine 1:1000 dose 0.01 mg/kg IM (0.5 mg max), if in severe distress
  - Racemic Epinephrine 1:1000 dose 0.5 mg mixed with 3 mL Normal Saline
  - Terbutaline (Brethine) 0.005 – 0.01 mg/kg (0.3 mg max) SQ (only for >6yo)
- Consider Magnesium Sulfate 50 mg/kg (2 g max) IV

**Key Points/Considerations**
- Consult MEDICAL CONTROL physician as soon as possible
- Absence of breath sounds can be indicative of status asthmaticus. Be prepared for imminent respiratory arrest
**Pediatric: Anaphylaxis / Allergic Reaction**

**EMERGENCY MEDICAL RESPONDER**
- ABC
- Apply appropriate oxygen therapy
- Vital signs

**EMERGENCY MEDICAL RESPONDER STOP**

**EMT**
- Determine if patient has been given his/her own Epi Pen
- BLS administer Epi Pen Jr.

**EMT STOP**

**ADVANCED EMT**
- Vascular access; Normal Saline 20 mL/kg IV bolus as needed
- Cardiac Monitor
- DuoNeb (Albuterol 2.5 mg + Atrovent 0.5 mg) via nebulizer *if not effective then proceed to next step*;
- Albuterol 2.5 mg via nebulizer
- Consult MEDICAL CONTROL for administration of:
  - Epinephrine 1:1000 dose 0.01 mg/kg IM (0.5 mg max), if in severe distress

**ADVANCED EMT STOP**

**PARAMEDIC**
- Asymptomatic
  - Supportive care
- Mild symptoms: Urticaria, itching, nasal congestion, watery eye
  - Diphenhydramine (Benadryl) 1 – 2 mg/kg (25 mg max) IV or IM
- Moderate symptoms: Wheezing, nausea, vomiting, diarrhea, flushing, swelling face, neck, tongue
  - DuoNeb (Albuterol 2.5 mg + Atrovent 0.5 mg), via nebulizer *if not effective then proceed to next step*;
  - Albuterol 2.5 mg via nebulizer
  - Methylprednisolone (Solu-Medrol) 1 - 2 mg/kg IV
  - Pepcid (Famotidine) 0.5 mg/kg IV (20 mg max)
- Severe reaction not relieved by initial treatment or patient presenting with Stridor, hypotension (systolic BP less than 90 mmHg), and/or Altered Mental Status
- If BLS airway maneuvers fail, intubate, if unable to intubate perform needle Cricothyrotomy (patients <8yrs) *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

- Consult MEDICAL CONTROL physician as soon as possible

---

**Key Points/Considerations**

- If an EMT has administered an Epi Pen, or the patient has administered their own epinephrine auto injector, consult MEDICAL CONTROL physician prior to administering additional epinephrine subcutaneously or allowing a patient to refuse medical treatment.

- It is not appropriate to sign off a patient when they have been given Epinephrine.
**Pediatric: Diabetic Emergencies**

**EMERGENCY MEDICAL RESPONDER**
- ABC
- Apply appropriate oxygen therapy
- Vital signs

**EMERGENCY MEDICAL RESPONDER STOP**

**EMT**
- Check Blood Glucose level normal range 60-80mg-dl
- If blood glucose is known or suspected to be low and patient is able to swallow on command, give oral glucose one unit dose
- Call for ALS Intercept if patient is unable to swallow on command, or mental status is altered.

**EMT STOP**

**ADVANCED EMT PARAMEDIC**
- If blood glucose below normal range 60-80 and patient is showing signs and symptoms of hypoglycemia:

<table>
<thead>
<tr>
<th>Patient’s Age</th>
<th>Amount of Dextrose</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than 1 year</td>
<td>D10 – 0.5 gm/kg IV</td>
</tr>
<tr>
<td>1 – Puberty</td>
<td>D25 – 0.5 gm/kg IV</td>
</tr>
</tbody>
</table>

- Glucagon 1 mg IM, SQ (if unable to establish IV access)
- If blood glucose if above 400 and if signs of dehydration are present, fluid bolus:
  - 0 - 1 year old 10 mL/kg, may repeat
  - 1 – Puberty 20 mL/kg, may repeat

**Key Points/Considerations**
- Consult MEDICAL CONTROL physician as soon as possible
- To make D10, add 12cc of D50 into 50ml NS
**Pediatric: Hypoperfusion**

**EMERGENCY MEDICAL RESPONDER**

**EMT**

- ABC
- Apply appropriate oxygen therapy
- Vital signs

**ADVANCED EMT**

**PARAMEDIC**

- Vascular access; Normal Saline 20 mL/kg IV bolus, as needed
- Cardiac Monitor

**Key Points/Considerations**

- Consult MEDICAL CONTROL physician as soon as possible
- For patients with hypovolemia due to bleeding, vomiting, diarrhea or septic shock.
- Consult MEDICAL CONTROL physician if you suspect cardiogenic shock.
- Diagnostic criteria for hypotension includes: capillary refill time greater than 2 seconds, cool, clammy or mottled skin, inability to recognize parents, restlessness, listlessness, tachycardia, tachypnea, systolic BP less than 70 mmHg (2 years and older) or systolic BP less than 60 mmHg (less than 2 years old).
**Pediatric: Nausea and/or Vomiting**

**EMERGENCY MEDICAL RESPONDER / EMT STOP**

**EMT**
- ABC
- Apply appropriate oxygen therapy
- Vital signs

**ADVANCED EMT**
- Vascular access; Normal Saline 20 mL/kg IV bolus, as needed
- Cardiac Monitor

**PARAMEDIC**
- Ondansetron (Zofran) 0.1 mg/kg IV/IM/ODT (minimum dose 2 mg for ODT)
  - Patient age should be greater than 6 months of age

**Key Points/Considerations**
- Consult MEDICAL CONTROL physician as soon as possible
**Pediatric: Overdose or Toxic Exposure**

**EMERGENCY MEDICAL RESPONDER**
- For opiate overdose Naloxone administer intranasal Narcan

**EMERGENCY MEDICAL RESPONDER**

**EMT**
- Check blood glucose level normal range 60-80mg-dl, If level is abnormal refer to *Medical: Pediatric Diabetic Emergencies* protocol.
- Decontamination as needed
- ABC
- Apply appropriate oxygen therapy
- Vital signs
- Determine what was taken, when and how much, if possible
- Consider contacting Poison Control **1-800-222-1222** for additional information and treatment options

**EMT STOP**

**ADVANCED EMT**
- Vascular access
- Cardiac Monitor; obtain 12 lead ECG and transmit
  - Opiate overdose: Naloxone (Narcan) 0.1 mg/kg IV, IM, SQ; Repeat to max 2 mg

**ADVANCED EMT STOP**

**PARAMEDIC**
- For *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 or IM
  - 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 (if 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 as soon as possible
- Dystonic reaction is uncontrolled contractions of face, neck or tongue
- Cocaine/Methamphetamine signs and symptoms Seizures, hypertension, tachycardia
- Signs and symptoms of organophosphate poisoning consider SLUDGE
  - Salivation, Lacrimation, Urination, Diarrhea, Gastric cramps, Emesis
**Pediatric: Pain Management**

**EMERGENCY MEDICAL RESPONDER**

- ABC
- Apply appropriate oxygen therapy
- Vital signs

**EMERGENCY MEDICAL RESPONDER / EMT STOP**

**ADVANCED EMT**

- Vascular access
- Cardiac Monitor

**ADVANCED EMT STOP**

**PARAMEDIC**

- Administer **ONE** of the following narcotic analgesics
  - Morphine 0.05 mg/kg IV or IM; repeat once to max 0.1 mg/kg
  - Fentanyl 0.5 – 1 mcg/kg Slow IV, IM, or IntraNasal (IN)
  - Dilaudid 0.01mg/kg IV or IM. Max 0.5 mg (greater than 2 yo)
- 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 as soon as possible
- For patients with:
  - Severe burns without hemodynamic compromise
  - Suspected isolated extremity injuries, fractures or dislocations with severe pain
  - Abdominal pain
  - Back pain
- For 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 *Pediatric: Procedural Sedation* protocol, unless MEDICAL CONTROL physician is consulted.
- Consult MEDICAL CONTROL physician for additional pain or nausea medication
## Pediatric: Procedural Sedation

<table>
<thead>
<tr>
<th><strong>EMERGENCY MEDICAL RESPONDER</strong></th>
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<tbody>
<tr>
<td><strong>EMT</strong></td>
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<tr>
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<tr>
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</tr>
<tr>
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<tr>
<td>o Dilaudid 0.01 mg/kg IV or IM; max of 0.5mg (greater than 2 yo)</td>
</tr>
<tr>
<td>o Fentanyl 0.5 – 1 mcg/kg Slow IV or IM</td>
</tr>
<tr>
<td>• Administer <strong>ONE</strong> of the following benzodiazepines (sedative)</td>
</tr>
<tr>
<td>o Midazolam (Versed) 0.05 mg/kg IV or IM (max 2 mg)</td>
</tr>
<tr>
<td>o Lorazepam (Ativan) 0.05 mg/kg IV or IM (max 2mg)</td>
</tr>
</tbody>
</table>

### Key Points/Considerations
- Consult MEDICAL CONTROL physician as soon as possible
- Consult MEDICAL CONTROL physician for additional pain or nausea medication
**Pediatric: Seizures**

**EMERGENCY MEDICAL RESPONDER**
- ABC
- Apply appropriate oxygen therapy
- Vital signs
- If child is warm, remove blanket or loosen clothing

**EMT**
- Check blood glucose level, normal range 60-80mg-dl, if level is abnormal refer to Pediatric: Diabetic protocol ****DO NOT DELAY TREATMENT OF SEIZURE TO OBTAIN BGL****

**EMERGENCY MEDICAL RESPONDER / EMT STOP**

**ADVANCED EMT**
- Vascular access
- Cardiac Monitor

**ADVANCED EMT STOP**

**PARAMEDIC**

Give one of the Following
- (Ativan) 0.1 mg/kg IV, IM, IN (max 2 mg)
- Midazolam (Versed) 0.05 mg/kg IV, IM, IN (max 2 mg)
- Valium (Diazepam) 0.1 mg/kg IV,IM (max 5 mg)
- Place advanced airway as appropriate

**Key Points/Considerations**
- Consult MEDICAL CONTROL physician as soon as possible
- 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
**OB/Gyn: Childbirth**

<table>
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<tbody>
<tr>
<td>EMT</td>
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<tr>
<td>EMT BA/ADVANCED EMT</td>
</tr>
<tr>
<td>PARAMEDIC</td>
</tr>
</tbody>
</table>

**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 escape of the amniotic fluid. Suction meconium in amniotic fluid if baby is in respiratory distress. Suction oropharynx then nostrils with a bulb syringe. Depress the bulb syringe before placing in the baby’s mouth or nose.
- Gently guide the head downward until the shoulder appears. The other shoulder is delivered by gentle upward traction. The infant’s face should be upward at this point.
- If the cord is around the neck and cannot be easily removed, clamp it with two clamps, cut the cord between the clamps, and unwrap the cord from around the neck. This is an emergency, as the baby is no longer getting any oxygen either through the cord or by breathing.
- Clamp the umbilical cord, >60 seconds after birth, with a clamp at 4 inches and one at 6 inches from umbilicus and cut the cord between them.
- Assess APGAR score. See APGAR Chart on page 2 of OB/Gyn protocol.

**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 or back, as this may cause spine dislocation or adrenal hemorrhage.
- Gently move the infant’s body in the direction of least resistance. By moving anteriorly and posteriorly, both shoulders should deliver posteriorly.
- Splint the humerus bones with your two fingers and apply gentle traction with your fingers.
- Gentle downward compression of the uterus will assist in head delivery. Swing the legs upward until the body is in a vertical position. This will permit delivery of the head.

**Management of Prolapsed Cord or Limb Presentation**

- Place the mother in a face-up position with hips elevated
- Place a gloved hand in the vagina and attempt to hold the baby’s head away from the cord.
- Keep the cord moist using a sterile dressing and sterile water
- Transport as soon as possible
OB/Gyn: Childbirth (continued)

**APGAR Score**

- Score should be recorded at 1 minute and 5 minutes after birth
- Do not withhold resuscitation efforts to determine APGAR score

<table>
<thead>
<tr>
<th>SIGN</th>
<th>0</th>
<th>1</th>
<th>2</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>A</strong> – Appearance</td>
<td>Blue, pale</td>
<td>Body pink, extremities blue</td>
<td>Completely pink</td>
</tr>
<tr>
<td><strong>P</strong> – Pulse</td>
<td>Absent</td>
<td>Below 100 bpm</td>
<td>Above 100 bpm</td>
</tr>
<tr>
<td><strong>G</strong> – Grimace (flick soles of feet)</td>
<td>No response</td>
<td>Grimace</td>
<td>Vigorous cry</td>
</tr>
<tr>
<td><strong>A</strong> – Activity (muscle tone)</td>
<td>Limp</td>
<td>Some flexion</td>
<td>Active motion</td>
</tr>
<tr>
<td><strong>R</strong> – Respirations</td>
<td>No effort</td>
<td>Weak, irregular</td>
<td>Strong cry</td>
</tr>
</tbody>
</table>

**Key Points**

- Determine the estimated date of expected birth, the number of previous pregnancies and number of live births
- Determine if the amniotic sac (bag of waters) has broken, if there is vaginal bleeding or mucous 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 as soon as possible. If delivery is imminent, prepare for an on-scene delivery.
- If multiple births are anticipated but the subsequent births do not occur within 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/or a heart rate less than 100 bpm)
- If baby is born with meconium and has a normal respiratory effort, normal muscle tone, and a heart rate greater than 100 bpm, use bulb syringe to suction mouth and nose. (Mouth before Nose)
**OB/Gyn: Eclampsia**

**EMERGENCY MEDICAL RESPONDER**
- ABC
- Apply appropriate oxygen therapy
- Vital signs

**EMT**
- Check blood glucose level normal range 60-80mg-dl, if level is abnormal refer to *Medical: Diabetic Emergencies* protocol.

**ADVANCED EMT**
- Vascular access, with blood draw
- Cardiac Monitor

**PARAMEDIC**
- If patient is seizing administer Magnesium Sulfate 4 gm over 2 minutes IV (IM buttock if unable to establish IV)
- No response, administer Versed 2 – 5 mg IV

**Key Points/Considerations**
- Pre-eclampsia is defined as BP greater than 140/90 in a pregnant patient (or one who has recently given birth) with severe headache, confusion and/or hyper-reflexia
- Eclampsia includes the above information and includes seizure activity
- Females should be considered pregnant up to 6 weeks after delivery
### OB/Gyn: Pre-term Labor (24 – 37 weeks)

<table>
<thead>
<tr>
<th>EMERGENCY MEDICAL RESPONDER</th>
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<tbody>
<tr>
<td><strong>EMT</strong></td>
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<tr>
<td>• ABC</td>
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<tr>
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<tr>
<td>• Vital signs</td>
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<thead>
<tr>
<th>EMERGENCY MEDICAL RESPONDER / EMT STOP</th>
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<tr>
<td><strong>ADVANCED EMT</strong></td>
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<tr>
<td><strong>PARAMEDIC</strong></td>
</tr>
<tr>
<td>• Vascular access, with blood draw; Normal Saline 500-1000mL IV bolus as needed</td>
</tr>
<tr>
<td>• Cardiac Monitor</td>
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<table>
<thead>
<tr>
<th>Key Points/Considerations</th>
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<tbody>
<tr>
<td>• Transport to the closest appropriate hospital</td>
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<tr>
<td>• Notify destination hospital ASAP</td>
</tr>
<tr>
<td>• If patient unwilling to go to closest hospital, consult MEDICAL CONTROL physician for assistance in determining appropriate destination</td>
</tr>
</tbody>
</table>
GUIDELINES, PROCEDURES AND ADDITIONAL INFORMATION
**Procedure: Airway Management**

**FIRST RESPONDER**

- Oxygen therapy: The goal of oxygen therapy is to achieve adequate tissue oxygenation using the lowest possible FiO₂
  - Non-rebreather mask 12 - 15 lpm, NRB
  - Nasal cannula, 2 - 6 lpm
  - Nasopharyngeal and/or Oropharyngeal airways
  - BVM assisted ventilation

**FIRST RESPONDER STOP**

**EMT**

**ADVANCED**

- Medically approved non-visualized airway
  - Combi-Tube to be phased out by 12/31/16
  - LMA
  - King Airway

**EMT / ADVANCED STOP**

**PARAMEDIC**

- Oral endotracheal intubation in unresponsive Adults and Pediatric patients
  - Waveform and Quantitative Capnography must be used and documented with all intubated patients
- Continuous Positive Airway Pressure (CPAP) or Bi-Level Positive Airway Pressure (BiPAP)
- Medication facilitated intubation
- Surgical airway procedure: (older than 8 yo)
  - Prepare (scalpel, size 6 ET tube or smaller, alcohol preps, and hemostat)
  - Cleanse site, make a vertical ½ inch incision through skin and cricothyroid membrane
  - Insert knife handle and rotate 90 degrees, insert hemostat, spread the opening
  - Insert a size 6 ET tube and inflate cuff
  - Attached BVM and ventilate
  - Observe for signs of subcutaneous emphysema, severe hemorrhage, and poor oxygenation
- Pediatric Needle cricothyrotomy (Less than 8 yo)
  - Prepare (alcohol preps, 14 ga IV catheters, 22mm connector, 3 cc syringe)
  - Extend head and place towel under shoulders
  - Locate spot by marking location with fingernail, cleanse side, insert 14 ga IV catheter, remove needle
  - Attach 22mm connector from a small ET tube or 3 cc syringe to normal ET tube
  - Secure catheter and reassess patient
### Key Points

- **Oxygen therapy:** The goal of oxygen therapy is to achieve adequate tissue oxygenation using the lowest possible $FIO_2$ with consideration for other respiratory function effectors (i.e. $CO_2$ levels, Hypoxic Drive, etc.).

- Always have a BVM available when using a portable transport ventilator.

- Intubation may be attempted on a patient 2 times. If unsuccessful utilize a medically approved non-visualized airway or ventilate with BVM.

- A cervical collar should be placed on all intubated patients to assist secure placement of the airway device.

- Re-confirm endotracheal placement after any patient transfer with at least two assessments and continuous Waveform/Quantitative Capnography documentation.
Procedure: Endotracheal Intubation

PARAMEDIC

- Airway control for unresponsive adults and pediatric patients.
- Confirm endotracheal tube placement with at least two assessment techniques
- Capnography must be used and placed within 1 minute of Intubation.
- Cervical collar placement should be used to assist in secure tube placement.
- If unsuccessful after two (2) attempts, place a non-visualized airway for airway control.

LEMON Airway Assessment
The score with a maximum of 10 points is calculated by assigning 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-3 finger breadths, hyoid-mental distance-3 finger breadths, thyroid-to-mouth distance-2 finger breadths)

**M** = Mallampati (Mallampati score > 3).

**O** = Obstruction (presence of any condition like epiglottitis, peritonsillar abscess, trauma).

**N** = Neck mobility (limited neck mobility)

Patients in the difficult intubation group 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 mouth in fingers
**Procedure: Cricothyrotomy**

**PARAMEDIC**

**INDICATIONS**
- Severe Respiratory Distress in which oropharyngeal and nasopharyngeal intubation attempts have failed.
- Can not intubate, can not ventilate and ALL OTHER RESCUE AIRWAY DEVICES FAIL

**ABSOLUTE CONTRAINDICATIONS**
- Patient can safely be orotracheally or nasotracheally intubated
- Child less than 8 years of age

**CONTRAINDICATIONS**
- Fracture of larynx

**PROCEDURE**
1. Gather Equipment
   - Scalpel
   - Size 6 ET tube or smaller
   - Alcohol prep pads
   - Hemostat
2. Locate incision site
3. Cleanse site
4. Make a vertical ½ inch incision through skin
5. Make small horizontal incision through cricoid membrane
6. Insert hemostats and spread opening
7. Insert ETT and inflate cuff
8. Attach BVM and ventilate
9. Assess:
   a. Breath sounds
   b. Signs of subcutaneous emphysema
   c. Hemorrhage
   d. Poor Oxygenation
Procedure: Pediatric Needle Cricothyrotomy

**PARAMEDIC**

1. Prepare equipment
   a. Alcohol prep pads
   b. 14g IV catheter
   c. 22mm connector
   d. 3cc syringe
2. Extend head
3. Place towel under shoulders
4. Locate spot, mark with fingernail
5. Cleanse site
6. Insert 14g catheter, remove needle
7. Attach 22mm connector from small ETT
8. Ventilate
9. Secure catheter and reassess
**Procedure: Intraosseous Access**

**Advance EMT/PARAMEDIC**

**Indications**
1. Immediate venous access for delivery of fluids, drugs or blood products in children, ages 0-7 years of age including neonates
2. Reliable access site for emergent or resuscitative situations where peripheral venous access is unobtainable

**Contraindications**
1. Open fracture at proposed insertion site
2. Skin infection at proposed insertion site

**Materials**
1. Gloves
2. Prep solution
3. IV solution and tubing
4. Disposable 16- or 18-gauge intraosseous needle
5. Optional: lidocaine 1% for local anesthesia, with 25-or 27-gauge needle on a 3 cc syringe
6. Gauze, tape

**Pre-procedure patient education**
1. Obtain informed consent
2. Inform patient (or parent/guardian) of the possibility of major complications and their treatment
3. Explain the major steps of the procedure

**Procedure**
1. Assess need for placement of an intraosseous line, and obtain consent if appropriate.
2. Identify landmarks: don gloves; prepare IV tubing and fluid
3. Use prep solution to cleanse the skin over the insertion site
4. If appropriate, infiltrate skin and periosteum over insertion site with 1 cc of the lidocaine 1% solution, using the 25- or 27-gauge needle with the 3 cc syringe
5. Open the intraosseous needle
6. Insert the needle through the skin at the selected insertion site, and advance until you reach the periosteum.
7. Advance the needle through the periosteum into the bone. A sudden “give” is felt when you enter the marrow cavity
8. Withdraw needle stylet, and attach IV tubing; open up IV flow

If IV fluid is seen extravasating from around the needle, it is not in the marrow cavity. Remove the needle and reposition it in the marrow cavity.

9. Secure the needle with gauze and tape
Proximal Humerus
- The proximal humerus insertion site is located directly on the most prominent aspect of the greater tubercle. Ensure that the patient’s hand is resting on the abdomen and that 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 1 cm (depending on patient anatomy) above the surgical neck is the insertion site. Vidacare recommends the 45 mm needle on patients >40 kg. 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 (depending on patient anatomy).

Distal Tibia
- The distal tibia insertion site is located approximately 3 cm proximal to the most prominent aspect of the medial malleolus (depending on patient anatomy). Place one finger directly over the medial malleolus; move approximately 3 cm proximal and palpate the anterior and posterior borders of the tibia to assure that your insertion site is on the flat center aspect of the bone.

Complications, 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 including prep, and size of intraosseous needle
- Any complications, or “none”
- Who was notified about any complication (family, attending physician
# Approved Airway and Vascular Access Skills

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<th>EMERGENCY MEDICAL RESPONDER</th>
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<td>Non-Rebreather Mask 12-15 LPM</td>
<td>King Airway</td>
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<td>Nasal Cannula 2-6 LPM</td>
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<td>Nasotracheal Intubation</td>
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<td>Cricothyrotomy (greater than 8 years of age)</td>
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<td>Needle Cricothyrotomy (less than 8 years of age)</td>
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<td>Proximal Tibial IO</td>
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<tr>
<td>IO Tibial</td>
<td>IV Pumps (Optional)</td>
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**Cardiac: Ventricular Assist Device Failure**

### EMT

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

### ADVANCED EMT

- Vascular access, with blood draw
- Cardiac Monitor; obtain 12 lead ECG and transmit
- Controller Alarming (red heart)
  - Treat for cardiogenic shock per Cardiac: Cardiogenic Shock protocol

### PARAMEDIC

- Go to appropriate protocol as needed
  - Patient may be defibrillated/cardioverted and/or paced safely
- Contact Medical Control as soon as possible so they are aware of this special patient
- If the pump has stopped and will not re-start after re-establishing a power source, rapid transport to the nearest facility is indicated
  - Compressions will likely result in dislodgement of the pump and are considered intervention of last resort

---

**Cardiac: Ventricular Assist Device Failure (continued)**
Key Points/Considerations

- Turning the LVAD back on after it has stopped for 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 pulse.
- The patient needs to have their caregiver and all their equipment transported with them. (The caregiver is the expert on the device)
- Obtain BP with Elemano device (in black rescue bag) or with a Doppler.
- The goal mean arterial pressure (MAP) for VAD patients is between 60-90 mmHg.
  MAP = \frac{\text{Systolic BP} + (\text{Diastolic} \times 2)}{3}
- This device is used as a bridge to transplant or 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 of administration, inspect the patient’s nostrils for significant amounts of blood or mucous discharge. The presence of these 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 1 ml of medication per nostril. If a higher volume is required, apply it in two separate doses allowing a few minutes for the initial amount to absorb.
- 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 3 ml syringe and needle, draw the appropriate amount of medication into the syringe.
2. Remove the needle and place the MAD tip onto the syringe. The MAD is a Luer lock device and twists into place.
3. Use your free hand to hold the crown of the head stable. Place the tip of the atomizer 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.
5. Move the device over to the opposite nostril and administer the remainder of the medication as before.
6. If an amount greater than 1 ml per nostril is needed, wait 2 – 3 minutes and administer the remaining medication.
**Intramuscular (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 IV.

**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.
- States 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**

- Utilize Universal Precautions
- Prepare your equipment.
  - **Appropriate needle length:** 5/8 to 1 inch for deltoid and 1 to 1.5 inch for larger muscles.
  - **Appropriate needle gauge:** 22 to 25 gauge needles for aqueous and 21 gauge for oily or thicker medications.
  - 3 or 5 ml syringe
  - Medication
  - Alcohol swabs
  - Band-Aids.
- Check the label, date, and appearance of the medication to be administered.
- Locate the appropriate site for the injection. **Use only the following sites:**
  - **Posterior Deltoid** for injections of 2 mL or less (preferred site) in adults
    - Identify the landmarks of the upper arm. Find the bony portion of the shoulder where the clavicle and scapula meet (the acromioclavicular joint), then measure 3 to 4 fingers-width down the arm from the AC joint. Then slide one to two fingers-width posteriorly on the arm.
    - Cleanse skin with alcohol and allow drying.
    - **Do not** inject large volumes of irritating medications into this muscle (i.e. steroids, etc.).
• **Dorso-gluteal site** for injections of 2 to 5 ml in adults or 2 ml or less in children greater than age 3. •
  - Identify the posterior superior iliac spine. Draw an imaginary line to the head of the trochanter (have the patient lie prone and point his/her toes inward to help relax the muscles); the injection is given lateral and superior to this line.

• **Vastus Lateralis** for injections of 2 mL or less in children and adults. •
  - Sites are located on the anterior and lateral aspects of the thigh. Divide the area into thirds between the greater trochanter of the femur and the lateral femoral condyle. The injection should be given into the middle third (preferred site for epi-pen injections).

• **Vetrogluteal site** for injections of 2 to 5 ml in adults or 2 ml or less in children.

1. Place the heel of your right palm on your patient’s greater trochanter of the femur. Place your index finger on the anterior superior iliac spine and spread your other fingers posteriorly. This injection is **given in the V formed** between the index finger and the second finger.
2. With on hand, stretch or flatten the skin overlying the selected site (this allows for a smoother entry of the needle). Hold the syringe like a dart in the other hand and quickly thrust the needle into the tissue and muscle at a 90-degree angle.
3. Aspirate the syringe to ensure that an inadvertent venous administration is avoided. If any blood is aspirated into the syringe, withdraw the syringe and needle and dispose of the medication. Begin again at a new site. **DO NOT administer any medication mixed with blood.**
4. If no blood is aspirated, slowly inject the medication. After all of the medication is injected, quickly withdraw the syringe, dispose of the sharps in approved container, and gently massage over the injection site to increase absorption and medication distribution. Apply firm pressure and place a Band-Aid over the injection site.
INTRANASAL NARCAN

Patients that present with an opiate overdose

- Attach the atomizer to the syringe
- Screw narcan into the syringe
- Inject half (1ML) into each nostril
- Patient should respond in 2-3 minutes
- No response may be due to large amount of opiate ingestion
- Paramedics need to be in route when OD suspected
- No patient will be signed off if Narcan has been Given
- Law enforcement may have given Narcan Prior to EMS arrival

![Image of Narcan atomizer and syringe]

![Image of Narcan administration]
Dispatch will alert 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.

Medics should don 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 aforementioned countries, or recent contact with an Ebola affected patient.

If Patient is confirmed to be high risk or exposed to Ebola, the ED should be Contacted as soon as possible to allow ED to prepare for patient arrival.

A set of vital signs may be obtained using disposable BP cuff and stethoscope. The EMS crew may provide Oxygen or Ventilate the patient as necessary. You may use any of the Elkhart County Protocols as described above, however the EMS crew does not have to initiate lines or intubate the patient while in route to the hospital to prevent EMS crew contamination. Those procedures will be completed at the hospital by ED staff.

The Ambulance crew will doff their PPE and dispose of ambulance waste per CDC guidelines and procedures. The Ambulance will then need to be taken to the Elkhart County Sheriff’s Department and EMA garage for decontamination of the ambulance.

Note:
EFD has made one of their backup ambulances available to the any EMS agency as well as PPE if needed to transport a suspected case of Ebola.

ANY Questions should be directed to MEDICAL CONTROL immediately.
INFORMED CONSENT AND REFUSAL OF CARE/TRANSPORT

EMT

ADVANCED EMT

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 self or crew
  - Call for law enforcement if needed

- Who may sign for refusal?
  - Patient of legal age
  - Parent
  - Legal Guardian

- Refusal Assessment and Documentation:
  - Complete Assessment
  - Obtain complete set of vital signs
  - Explain risks and dangers
  - Advise them to seek medical attention
  - Complete patient refusal form
  - Review form with signer
  - Have patient sign form if possible
  - Obtain witness signature
  - Complete Patient Care Report
  - IF needed, contact medical control
INTER-FACILITY TRANSPORT

EMT

ADVANCED EMT

- Refer to Medical Device Dependent Transport (Non-Rule Policy Statement)

EMT / ADVANCED EMT STOP

PARAMEDIC

- Paramedics may transport a patient between hospitals with the following IV Infusions, provided the medication is ordered and provided by the transferring physician
- Be certain to clarify orders regarding medication titration prior to departure
- The IV medication must be run on an infusion pump

GP IIb/IIIa RECEPTOR INHIBITORS

- Integritin (eptifibatide): 0.5 - 2 micrograms/kg/min (Or similar agents)
- Monitor patient for signs of bleeding around IV sites, hemoptysis, hematuria, or epistaxis
- Discontinue if any signs or symptoms of bleeding complications

HEPARIN

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

NITROGLYCERIN

- Usual dosage: 10 - 200 mcg/min
- Monitor blood pressure every 5 minutes
- Discontinue and infuse a 500 mL of NS, if systolic blood pressure falls below 90 mm Hg, or if diminishing mental status occurs with diminishing blood pressure.
The Emergency Medical Services Commission recognizes the increasing numbers of medical-device-dependent patients. EMTs and -EMT BA/ADVANCED EMT 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 ADVANCED EMT. EMTs and EMT BA / ADVANCED EMT shall not manipulate these devices unless directed to do so by medical control.

EMTs and EMT BA/ADVANCED EMT 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 NS, Lactated Ringers, Sodium Chloride (0.9% or less), Potassium Chloride (20mEq or less for EMTs, 40mEq or less for Advanced EMTs)

*The provider organization’s medical director may approve additional devices at his/her discretion.*

The following are determined by the Emergency Medical Services Commission to require Paramedic level transportation:
- Medication infusing through a peripheral or central IV or fluid 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:
  - Agency ID, Crew ID
  - Patient Demographics: Name, Date of Birth
  - Initial assessment: chief complaint and past pertinent medical history
  - Interventions: Medications, procedures performed and patient response

ADVANCED EMT

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 key points for labeling
  - Do NOT leave blood tubes on a counter or give them to anyone who is not a licensed healthcare provider

Key Points

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

EMERGENCY MEDICAL RESPOUNDER

EMT

ADVANCED EMT

PARAMEDIC

Standard procedure: After completion of each patient transport, the following information needs to be documented. A copy of the run form needs to be left with the patient chart in Emergency Department.

- **Chief complaint**: The patient’s major presenting problem.

- **History of present illness or injury (HPI)**: This should include events leading up to the chief complaint, a description of the onset of the problem, and further explanation of the chief complaint of presenting symptoms. This would include the; **Onset**, **Provocation or Palliation**, **Quality**, **Radiation**, **Severity**, and **Time**.

- **Past pertinent medical history**: As it relates to the current problem, and any pre-existing conditions of the medical problem, current medications and known allergies. This is the; **Symptoms**, **Allergies**, **Medications**, **Past medical history**, **Last oral intake**, and **Events leading up to the injury or illness**. The events section could be included in the HPI.

- **Physical exam**: This would include the, Initial, Rapid, Focused, and Detailed assessment including, all vital signs and ECG interpretations if appropriate. This should be very complete and detailed to thoroughly describe the condition of the patient. All objective findings along with 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, if pertinent the number of attempts and successes, the patient 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 also required.

- **Transportation**: The position in the mode of transportation. It is recommended that you document the patient was secured on a stretcher and how the patient was secured. When the hospital was contacted and how they were contacted. Any orders received or denied in the patient response to any orders. Make sure document all times with these orders. Any changes in the patient condition or changes would be included. Arrival at the hospital which room the patient was placed in and whom you released care to at the receiving facility.
<table>
<thead>
<tr>
<th>Medication Name</th>
<th>Routes</th>
<th>Volume/unit</th>
<th>Concentration</th>
<th>Mg/unit</th>
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<tr>
<td>Naloxone (Narcan)</td>
<td>IN</td>
<td>2ml</td>
<td>1mg/ml</td>
<td>2mg</td>
<td>2</td>
</tr>
<tr>
<td>Sterile Water bottles</td>
<td>Irrigation</td>
<td>250mL or 500mL at depts. Discretion - total of 4000mL</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>EMT</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Aspirin</td>
<td>Oral</td>
<td>Tablet</td>
<td>81 mg/tab</td>
<td>36 tabs</td>
<td>1</td>
</tr>
<tr>
<td>Epinephrine Auto Injector</td>
<td>IM</td>
<td>1 Epi Pen – Adult (0.3 mg) and 1 Epi Pen - Jr. (0.15 mg)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Glucose (Gel)</td>
<td>Buccal</td>
<td>15 grams</td>
<td>As packaged</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>Glucose (Tablets)</td>
<td>Oral</td>
<td>15 grams</td>
<td>As packaged</td>
<td></td>
<td>1 bottle</td>
</tr>
<tr>
<td><strong>ADVANCED</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Epinephrine 1:1,000</td>
<td>SQ</td>
<td>1 mL</td>
<td>1 mg/mL</td>
<td>1 mg</td>
<td>2</td>
</tr>
<tr>
<td>Glucagon</td>
<td>SQ, IM</td>
<td>1 mL</td>
<td>1 mg/mL</td>
<td>1 mg</td>
<td>2</td>
</tr>
<tr>
<td>Normal Saline 0.9%</td>
<td>IV</td>
<td>1000mL or 500mL at depts. Discretion - total of 7000mL</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>PARAMEDIC</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adenosine (Adenocard)</td>
<td>IV</td>
<td>2 mL</td>
<td>3 mg/mL</td>
<td>6 mg</td>
<td>2</td>
</tr>
<tr>
<td>Adenosine (Adenocard)</td>
<td>IV</td>
<td>4 mL</td>
<td>3 mg/mL</td>
<td>12 mg</td>
<td>4</td>
</tr>
<tr>
<td>Albuterol (Proventil)</td>
<td>Inhalation</td>
<td>3 mL</td>
<td>0.83 mg/mL</td>
<td>2.5 mg</td>
<td>5</td>
</tr>
<tr>
<td>Amiodarone (Cordarone)</td>
<td>IV</td>
<td>3 mL</td>
<td>50 mg/mL</td>
<td>150 mg</td>
<td>4</td>
</tr>
<tr>
<td>Atropine</td>
<td>IV</td>
<td>10mL</td>
<td>0.1 mg/mL</td>
<td>1 mg</td>
<td>5</td>
</tr>
<tr>
<td>Atrovent (Ipratropium bromide)</td>
<td>Inhalation</td>
<td>2.5 mL</td>
<td>0.5 mg/mL</td>
<td>1.25 mg</td>
<td>3</td>
</tr>
<tr>
<td>Cardizem (Diltiazem)</td>
<td>IV</td>
<td>5 mL</td>
<td>5 mg/mL</td>
<td>25 mg</td>
<td>2</td>
</tr>
<tr>
<td>Dextrose 10%</td>
<td>IV</td>
<td>500 mL</td>
<td>100 mg/mL</td>
<td>50 g</td>
<td>2</td>
</tr>
<tr>
<td>Dextrose 25%</td>
<td>IV</td>
<td>10 mL</td>
<td>250 mg/mL</td>
<td>2.5 g</td>
<td>4</td>
</tr>
<tr>
<td>Dextrose 50%</td>
<td>IV</td>
<td>50 mL</td>
<td>500 mg/mL</td>
<td>25 g</td>
<td>4</td>
</tr>
<tr>
<td>Diazepam (Valium)</td>
<td>IV/IM</td>
<td>2 ml</td>
<td>5mg/ml</td>
<td>5mg/ml</td>
<td>2-4</td>
</tr>
<tr>
<td>Dilaudid (Hydromorphone)</td>
<td>IV/IM</td>
<td>1ml</td>
<td>1mg/ml</td>
<td>1mg</td>
<td>2-4</td>
</tr>
<tr>
<td>Medication Name</td>
<td>Routes</td>
<td>Volume/unit</td>
<td>Concentration</td>
<td>Mg/unit</td>
<td>Total</td>
</tr>
<tr>
<td>----------------</td>
<td>--------</td>
<td>-------------</td>
<td>---------------</td>
<td>---------</td>
<td>-------</td>
</tr>
<tr>
<td>Diphenhydramine (Benadryl)</td>
<td>IV, IM</td>
<td>1 mL</td>
<td>50 mg/mL</td>
<td>50 mg</td>
<td>4</td>
</tr>
<tr>
<td>Dopamine HCL, pre-mix infusion</td>
<td>IV</td>
<td>500 mL</td>
<td>1600 mcg/mL</td>
<td>800 mg</td>
<td>2</td>
</tr>
<tr>
<td>DuoNeb (Ipratropium Bromide/Albuterol Sulfate)</td>
<td>Inhalation</td>
<td>(Ipratropium Bromide / Albuterol Sulfate Inhalation Solution 0.5 mg / 3 mg)</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Epinephrine (Racemic)</td>
<td>Inhalation</td>
<td>As packaged</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Epinephrine 1:10,000</td>
<td>IV</td>
<td>10 mL</td>
<td>0.1 mg/mL</td>
<td>1 mg</td>
<td>10</td>
</tr>
<tr>
<td>Etomidate (Amidate)</td>
<td>IV</td>
<td>20 mL</td>
<td>2 mg/mL</td>
<td>40 mg</td>
<td>1-2</td>
</tr>
<tr>
<td>Famotidine (Pepcid)</td>
<td>IV</td>
<td>2 mL</td>
<td>10 mg/mL</td>
<td>20 mg</td>
<td>2</td>
</tr>
<tr>
<td>Fentanyl Citrate (Sublima)</td>
<td>IV, IN</td>
<td>2 mL</td>
<td>50 mcg/mL</td>
<td>100 mcg</td>
<td>2-4</td>
</tr>
<tr>
<td>Haldol Lactate (Haloperidol)</td>
<td>IM</td>
<td>5 mg</td>
<td>5 mg/ml</td>
<td>5 mg</td>
<td>2</td>
</tr>
<tr>
<td>Lidocaine 2% Pre-filled</td>
<td>IV</td>
<td>5 mL</td>
<td>20 mg/mL</td>
<td>100 mg</td>
<td>2</td>
</tr>
<tr>
<td>Lorazepam (Ativan)</td>
<td>IV, IM, IN</td>
<td>1 mL</td>
<td>2 mg/mL</td>
<td>2 mg</td>
<td>3-9</td>
</tr>
<tr>
<td>Magnesium Sulfate</td>
<td>IV</td>
<td>10 mL</td>
<td>500 mg/mL</td>
<td>5 grams</td>
<td>1</td>
</tr>
<tr>
<td>Methylprednisolone (Solu-Medrol)</td>
<td>IV, IM</td>
<td>2 mL</td>
<td>62.5 mg/mL</td>
<td>125 mg</td>
<td>2</td>
</tr>
<tr>
<td>Midazolam (Versed)</td>
<td>IV, IN</td>
<td>5 mL</td>
<td>1 mg/mL</td>
<td>5 mg</td>
<td>1-2</td>
</tr>
<tr>
<td>Morphine</td>
<td>IV</td>
<td>1 mL</td>
<td>10 mg/mL</td>
<td>10 mg</td>
<td>2-5</td>
</tr>
<tr>
<td>Naloxone (Narcan)</td>
<td>IV, IN</td>
<td>2 mL</td>
<td>1 mg/mL</td>
<td>2 mg</td>
<td>3</td>
</tr>
<tr>
<td>Nitroglycerin Tablets</td>
<td>SL</td>
<td>Tablet</td>
<td>0.4 mg/tab</td>
<td>1 bottle</td>
<td>1</td>
</tr>
<tr>
<td>Nitroglycerin Spray</td>
<td>SL</td>
<td>Spray</td>
<td>0.4 mg/spray</td>
<td>1 bottle</td>
<td>1</td>
</tr>
<tr>
<td>Ondansetron ODT (Zofran)</td>
<td>Oral</td>
<td>30 tablets</td>
<td>4 mg/tablet</td>
<td>120 mg</td>
<td>1 bottle</td>
</tr>
<tr>
<td>Ondansetron (Zofran)</td>
<td>IV</td>
<td>2 mL</td>
<td>2 mg/mL</td>
<td>4 mg</td>
<td>4</td>
</tr>
<tr>
<td>Oxymetazoline (Afrin)</td>
<td>IN</td>
<td>As packaged</td>
<td>1 bottle</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sodium Bicarbonate</td>
<td>IV</td>
<td>50 mL</td>
<td>1 mEq/mL</td>
<td>50 mEq</td>
<td>2</td>
</tr>
<tr>
<td>Succinylcholine (Anectine)</td>
<td>IV</td>
<td>10 mL</td>
<td>25 mg</td>
<td>250 mg</td>
<td>2</td>
</tr>
<tr>
<td>Terbutaline (Brethine)</td>
<td>SubQ</td>
<td>1 mL</td>
<td>1 mg/mL</td>
<td>1 mg</td>
<td>2</td>
</tr>
<tr>
<td>Tetracaine Hydrochloride Ophthalmic</td>
<td>Topical</td>
<td>15 mL/multi</td>
<td>0.6 mL/single</td>
<td>0.5%</td>
<td>1 bottle</td>
</tr>
</tbody>
</table>

**ACCEPTABLE MEDICATIONS IDENTIFIED FOR DRUG SHORTAGE SITUATIONS**

<table>
<thead>
<tr>
<th>Medication Name</th>
<th>Routes</th>
<th>Volume/unit</th>
<th>Concentration</th>
<th>Mg/unit</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Procainamide</td>
<td>IV</td>
<td>2 mL</td>
<td>500 mg/mL</td>
<td>1000 mg</td>
<td>4</td>
</tr>
<tr>
<td>Medication Name</td>
<td>Routes</td>
<td>Volume/unit</td>
<td>Concentration</td>
<td>Mg/unit</td>
<td>Total</td>
</tr>
<tr>
<td>---------------------------------</td>
<td>-----------</td>
<td>-------------</td>
<td>-------------------</td>
<td>---------</td>
<td>-------</td>
</tr>
<tr>
<td>Promethazine (Phenergan)</td>
<td>IM</td>
<td>1 mL</td>
<td>50 mg/mL</td>
<td>50 mg</td>
<td>2</td>
</tr>
<tr>
<td>Levalbuterol (Xopenex)</td>
<td>Inhalation</td>
<td>3 mL</td>
<td>1.25 mg/3 mL</td>
<td>1.25 mg</td>
<td>2</td>
</tr>
</tbody>
</table>

Jason Bailey, MD  FACEP
ECEMS Medical Director
**Medication Calculations**

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

<table>
<thead>
<tr>
<th>Infusion Rate</th>
<th>Admin Set: 60 drops/mL</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 mg/min</td>
<td>15 drops/min</td>
</tr>
<tr>
<td>2 mg/min</td>
<td>30 drops/min</td>
</tr>
<tr>
<td>3 mg/min</td>
<td>45 drops/min</td>
</tr>
<tr>
<td>4 mg/min</td>
<td>60 drops/min</td>
</tr>
</tbody>
</table>

**Procainamide Loading Dose**

Dilute 1 g Procainamide in 50 mL NS (concentration 20 mg/mL)
Using a 60 gtts set, infuse at a rate of one (1) gtt every second
Continue until: arrhythmia suppressed
Hypotension ensues
QRS widens by > 50%
17 mg/kg is given or 1 g is given

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

<table>
<thead>
<tr>
<th>Drip rates/min, using a 60-drops/mL-administration set</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weight in kilograms (micrograms/kg/min)</td>
</tr>
<tr>
<td>50</td>
</tr>
<tr>
<td>5</td>
</tr>
<tr>
<td>10</td>
</tr>
<tr>
<td>15</td>
</tr>
<tr>
<td>20</td>
</tr>
</tbody>
</table>

**Dopamine quick calculation:**
Patient’s weight in lbs. (round to a 2 digit number and subtract 2) = gtts/min or mL/hr for 5 mcg/kg/min
Example: 168 lbs = 17 - 2 = 15 gtts/min or 15 mL/hr

**Amiodarone - Adult Tachycardia**

**Loading Dose:**
150 mg in 100 mL (1.5 mg/mL)
Give over 10 min (100 gtts/min with 10 gtts/mL tubing)

**Maintenance Infusion:**
150 mg in 100 mL (1.5 mg/mL) - 1 mg/min (40 gtts/min with 60 gtt set is (2) gtt every 3 seconds)
150 mg in 50 mL (3 mg/mL) - 1 mg/min (20 gtts/min with 60 gtt set is (1) gtt every 3 seconds)
CERTIFICATION/LICENSURE – LOCAL CREDENTIAL - IN-SERVICE REQUIREMENTS

EMERGENCY MEDICAL RESPONDER

EMT

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

1. Initial Elkhart County EMS Credentialing:
   1.1. Affiliation with either an Elkhart General Hospital or IU Health Goshen Hospital affiliated service provider.
   1.2. ECEMS Provider must submit a letter of intent to credential individual to the Medical Director. Include copies of all EMS certifications.
   1.3. Become familiar with Elkhart County EMS Patient Care Protocols.
   1.4. The candidate must complete the Elkhart County EMS Patient Care Protocol exam with a minimum score of 80% for successful completion.
   1.5. Once 80% success has been achieved on the protocol exam, the candidate must complete five (5) patient contacts as lead patient care provider. An additional credentialed personnel certified/licensed 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 as prescribed in 1.3 above. The department may, at their discretion, require more runs based on performance of candidate.
   1.6. 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 60 days before reapplying for credentials in the ECEMS system.
   1.7. The Medical Director at his/her discretion may determine additional requirements.
   1.8. Candidate may appeal to the Medical Director or the EMS coordinator for any grievances with the department in reference to affiliation process.

2. Affiliated provider requirements for continued Credentialing:
   2.1. Maintain AHA Healthcare Provider CPR or American Red Cross Professional Rescuer CPR certification
   2.2. Maintain Continuing Ed. didactic hours as required for continued State of Indiana certification/Licensure
   2.3. Maintain Minimum number of Audit & Review hours as required for certification/licensure level. A minimum of one (1) of those audit and reviews must be attended at the provider’s primary supervising hospital.
   2.4. 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.
   2.5. Must have 4 airway managements per calendar year, which can be done with your department.
3. Initial Elkhart County EMS Patient Care Protocol provider Credentialing:
   3.1. Complete an additional ten (10) patient care contacts utilizing Elkhart County EMS Patient Care Protocols at the ADVANCE or PARAMEDIC Level.
4. Affiliated provider requirements for continued Paramedic Local Credentials:
   4.1. Current Advanced Cardiac Life Support (ACLS) Certification
   4.2. Current Pediatric Advanced Life Support (PALS) or Pediatric Emergencies for Pre-Hospital Professionals (PEPP) Certification – (Or educational objective equivalent)
   4.3. Current Pre-Hospital Trauma Life Support (PHTLS) or International Trauma Life Support (ITLS) – (Or educational objective equivalent)
   4.4. Current Advanced Medical Life Support (AMLS) – (Or educational objective equivalent)
   4.5. ADVANCE EMT’s must do four airway managements per calendar year, and may be done at their departments
   4.6. PARAMEDICS must maintain 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 patient care report documentation. Four (4) must be live or high fidelity simulator.
   4.7. Validation of ALS Skill Competencies as required by State 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. 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 Medical Director if remediation is needed prior to resuming duties.
6. Disciplinary action may be taken for violation of any these requirements including suspension and is at the discretion of the Medical Director and will be on a case-by-case basis.

**Paramedic Skills** must be signed by members of the educational staff of the supervising hospitals as identified by the Medical Director and per Indiana Rules and Regulations. These individuals can only sign for skills that do not exceed their certification level.
<table>
<thead>
<tr>
<th>EMERGENCY MEDICAL RESPONDER</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>EMT</td>
<td></td>
</tr>
<tr>
<td>ADVANCED EMT</td>
<td></td>
</tr>
<tr>
<td>PARAMEDIC</td>
<td></td>
</tr>
</tbody>
</table>