

**Pulaski County Ambulance District**  
**Adult Protocol Index**

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# Medical Assessment Protocol

## Confirm Scene Safety

## Appropriate Body Substance Isolation Precautions

Nature of Illness

Number of Patients

## Evaluate Need for Assistance

<b><u>B.L.S.</u></b>		<b><u>A.L.S.</u></b>	
ABC's & LOC, BGL & TEMP Focused History & Physical Exam		ABC's & LOC, BGL & TEMP Focused History & Physical Exam	
<b><u>RESPONSIVE</u></b>	<b><u>UNRESPONSIVE</u></b>	<b><u>RESPONSIVE</u></b>	<b><u>UNRESPONSIVE</u></b>
S.A.M.P.L.E. History	<b>CALL</b> <b>A.L.S.</b> Rapid Assessment	S.A.M.P.L.E. History	Rapid Medical Assessment
Focused Assessment	Baseline Vital Signs	Focused Assessment	Baseline Vital Signs
Baseline Vital Signs	S.A.M.P.L.E History	Baseline Vital Signs	S.A.M.P.L.E. History
Treatment Decision BLS/ALS	Treat per Appropriate Protocol	Treatment Decision BLS/ALS	Treatment Decision ALS
Treat per Appropriate Protocol		Treat per Appropriate Protocol	Treat per Appropriate Protocol
Transport		Transport	Transport

# **GENERAL MEDICAL PROTOCOL**

## **PATIENT CRITERIA**

Upon arrival, all equipment should be taken to the scene, with intent to transport.

- Monitor
- ALS Bag
- Airway bag

These can easily be placed on the cot before initial patient contact.

**Adult medical patients with any one of the following signs or symptoms should be transported ALS:**

### **Signs**

Systolic Blood Pressure <100  
Pulse Rate <60 or >120  
Respiratory Rate <12 or >30  
Clinical Signs of Shock  
Pulse Oximeter reading <90

- On room air or prescribed O<sub>2</sub>

Need for IV fluids or medications

### **Symptoms**

Altered Mental Status  
Respiratory Distress  
Chest Discomfort  
Pain requiring analgesics

These Protocols are guidelines to appropriate patient care.

- Medications and procedures requiring Medical Control are shaded in black boxes.
- In the event that Medical Control cannot be established, these protocols should be considered standing orders, as approved by Medical Director
- On-line Medical Control should be provided by the receiving facility

A saline lock may be placed if the medic:

- anticipates a need for later drug administration
- needs to draw blood or
- determines that IV fluids are not necessary or contraindicated as in CHF

# Asystole

**EMT**

**Paramedic**

1. Confirm Pulselessness & Apnea
  - a. Attempt to Determine Down Time, Prior CPR, History, & Code Status\*
2. Begin CPR (Consider Mechanical Compression device if available.)
  - a. Compressions should not be delayed more than 5 sec for any procedure
3. Apply cardiac monitor
  - a. Quick Combo pads / limb leads (defibrillate if appropriate)
4. Establish / Maintain Airway. Intubate the pt thru & CPR Ventilate 100% O<sub>2</sub>
  - a. Monitor capnography. Consider supraglottic airway for initial airway until intubation.

During CPR  
Push hard and fast (at 120/min)  
Ensure full chest recoil, or 80/min with ResQ CPR device if available

Minimize interruptions in chest compressions. Do not delay CPR for intubation (Consider supraglottic airway initially).

CPR Cycle=  
Compressions:Ventilation  
30:2 unless a secured airway then continuous compressions and ventilate at 8- 10 breaths per minute

Avoid hyperventilation

Rotate compressors every 2 minutes with rhythm checks

Search for and treat possible causes

Confirm in 2 leads

Consider early transcutaneous pacing

**Establish IV/IO**

**Consider bolus of normal saline if appropriate**

Consider **Sodium Bicarb 1mEq/kg IV/IO** in Tricyclic OD  
Or  
Hyperkalemia  
Be sure patient is being ventilated well.

**Epinephrine 1:10,000 1mg IV/IO**  
Repeat every 3-5 minutes

2 minutes CPR  
Check rhythm

**Consider & correct treatable causes**

Hypovolemia  
Hypoxia  
Hydrogen Ion (Acidosis)  
Hypo / Hyperkalemia  
Hypothermia  
Tension Pneumothorax  
Tamponade, cardiac  
Toxins  
Thrombosis, Pulmonary  
Thrombosis, Coronary

Monitor Capnograph, ETCO<sub>2</sub> < 10 for 10 minutes has a very poor prognosis  
If no response after 20 minutes, Pt intubated, H's & T's addressed  
**CONTACT MEDICAL CONTROL**  
For possible termination of resuscitation\*\*  
Address decision to terminate with family and all personnel involved in resuscitative efforts

Refer to Protocol Policies  
\*“Withholding of Resuscitation”  
\*\* “Termination of Resuscitation in the Field”

# Pulseless Electrical Activity

EMT	Paramedic
<ol style="list-style-type: none"> <li>1. Confirm Pulselessness &amp; Apnea                             <ol style="list-style-type: none"> <li>a. Attempt to Determine Down Time, Prior CPR, History, &amp; Code Status*</li> </ol> </li> <li>2. Begin CPR (Consider Mechanical Compression device if available.)                             <ol style="list-style-type: none"> <li>a. Compressions should not be delayed more than 5 sec for any procedure</li> </ol> </li> <li>3. Apply cardiac monitor                             <ol style="list-style-type: none"> <li>a. Quick Combo pads / limb leads (defibrillate if appropriate)</li> </ol> </li> <li>4. Establish / Maintain Airway. Intubate thru CPR Ventilate 100% O<sub>2</sub> <ol style="list-style-type: none"> <li>a. Monitor capnography. Consider supraglottic airway for initial airway until intubation.</li> </ol> </li> </ol>	

During CPR  
 Push hard and fast (at 120/min)  
 Ensure full chest recoil, or 80/min with ResQCPR device if available

Minimize interruptions in chest compressions. Do not delay CPR for intubation (Consider supraglottic airway initially).

CPR Cycle=  
 Compressions:Ventilation  
 30:2 unless a secured airway then continuous compressions and ventilate at 8- 10 breaths per minute

Avoid hyperventilation

Rotate compressors every 2 minutes with rhythm checks

Search for and treat possible causes

**Establish IV/IO**

**Consider bolus of normal saline if appropriate**

**Epinephrine 1:10,000 1mg IV/IO**  
 Repeat every 3-5 minutes

2 minutes CPR  
 Check rhythm

If no response after 20 minutes, The pt is intubated, IV access, & H's & T's addressed  
 CONTACT MEDICAL CONTROL for possible termination of resuscitation.  
 Address decision to terminate with family and all personnel involved in resuscitative efforts\*\*

**Consider & correct treatable causes**

Hypovolemia  
 Hypoxia  
 Hydrogen Ion (Acidosis)  
 Hypo / Hyperkalemia  
 Hypothermia  
 Tension Pneumothorax  
 Tamponade, cardiac  
 Toxins  
 Thrombosis, Pulmonary  
 Thrombosis, Coronary

\*Refer to Protocol Policies  
 \*\*"Withholding of Resuscitation"  
 \*\*Termination of Resuscitation in the Field"

# V-Fib / Pulseless V- Tach

**EMT**

**Paramedic**

1. Confirm Pulselessness & Apnea
  - a. Attempt to Determine Down Time, Prior CPR, History, & Code Status\*
2. Begin CPR (Consider Mechanical Compression device if available.)
  - a. Compressions should not be delayed more than 5 sec for any procedure
3. Apply cardiac monitor
  - a. Quick Combo pads / limb leads (defibrillate if appropriate)
4. Establish / Maintain Airway. Intubate thru CPR Ventilate 100% O<sub>2</sub>
  - a. Monitor capnography. Consider supraglottic airway for initial airway until Intubation.

During CPR  
Push hard and fast (At Least 120/min) or 80/min with ResQ CPR device if available

Ensure full chest recoil

Minimize interruptions in chest compressions. Initially, do not delay CPR for intubation. (Consider supraglottic airway initially).

CPR Cycle=  
Compressions:Ventilation 30:2 unless a secured airway then continuous compressions and ventilate at 8- 10 breaths per minute

Avoid hyperventilation

Rotate compressors every 2 minutes with rhythm checks

Search for and treat possible causes

If witnessed arrest, defibrillate immediately per **Defibrillation Procedure**. If unwitnessed arrest perform 2 minutes of CPR followed by defibrillation. Immediately do CPR for 2 minutes after the shock, before rhythm or pulse checks.

If still V-Fib/Pulseless V-Tach, defibrillate once per **Defibrillation procedure** Immediately do CPR for 2 minutes after shock, before rhythm or pulse checks.

**Establish IV/IO. Consider bolus of normal saline, if appropriate.**

**Epinephrine 1: 10,000, 1mg IV/IO**  
May repeat every 3-5 minutes

If still V-Fib/Pulseless V-Tach, defibrillate once per **Defibrillation procedure** Immediately do CPR for 2 minutes after shock, before rhythm or pulse checks.

**Amiodarone, 300mg IV/IO**  
OR  
**Lidocaine, 1-1.5mg/kg IV/IO**

Consider **Mag-Sulfate 1-2 g IV/IO** for Torsades de pointes

If V-Fib/Pulseless V-Tach persists, continue rounds of defibrillation and CPR. You may repeat:  
**Amiodarone, 150mg IV/IO** one time  
OR  
**Lidocaine, 0.5-1.0mg/kg IV/IO** to a total of 3 doses or 3mg/kg max  
3-5 minutes after initial dose.

If V-Fib/Pulseless V-Tach persists past 5 rounds of defibrillation, consider **Dual Sequential Defibrillation**.

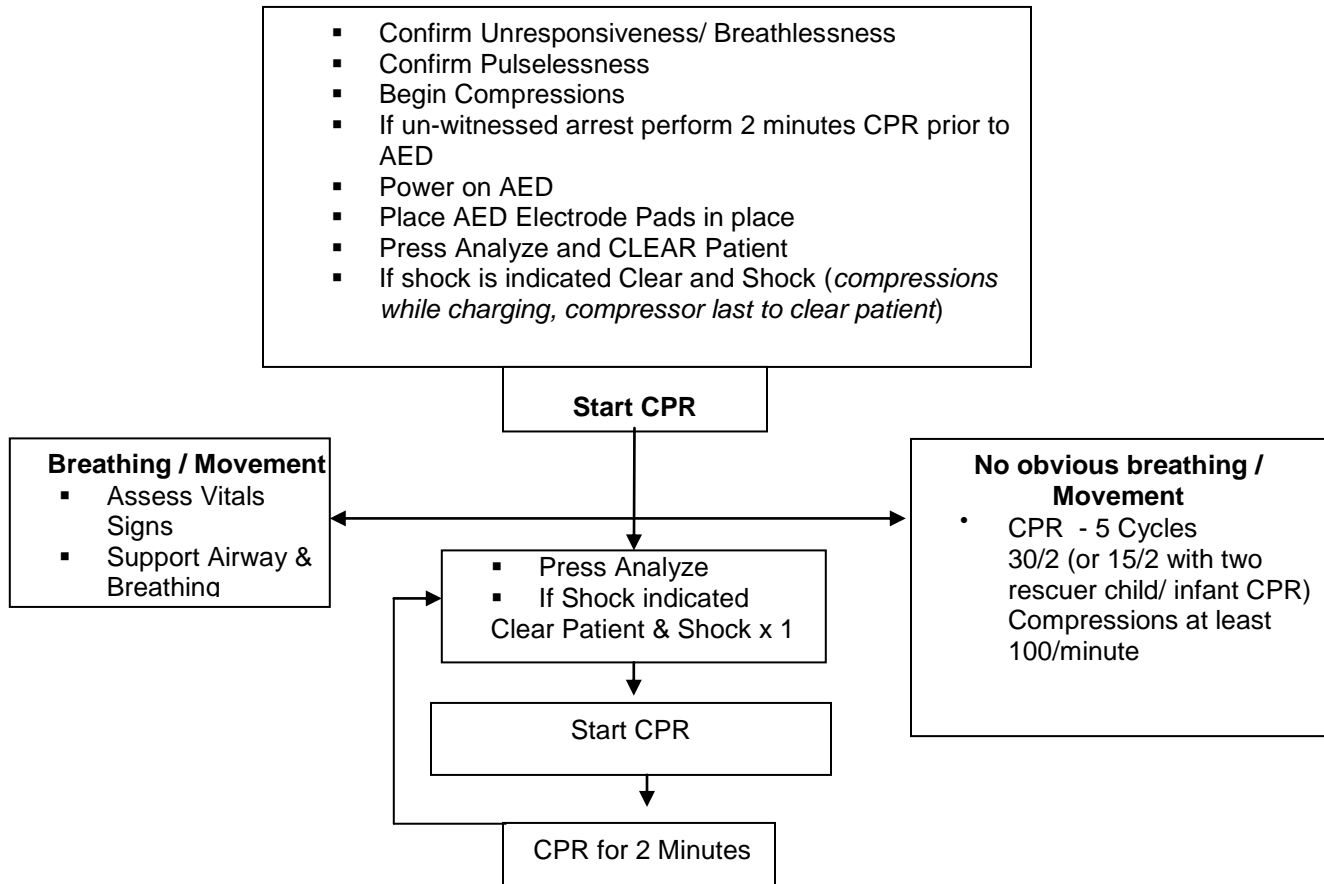
**Consider & correct treatable causes**

Hypovolemia  
Hypoxia  
Hydrogen Ion (Acidosis)  
Hypo / Hyperkalemia  
Hypothermia  
Tension Pneumothorax  
Tamponade, cardiac  
Toxins  
Thrombosis, Pulmonary  
Thrombosis, Coronary

Refer to Protocol Policies  
\*Withholding of Resuscitation

## Automated External Defibrillation (AED)

Request Advanced Life Support, if not already enroute.





# Post Resuscitative Care

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**EMT**

**Paramedic**

Establish & Maintain Airway & Ventilate 100% O<sub>2</sub>  
Apply Cardiac Monitor, Quick Combo Pads  
Apply Capnography, O<sub>2</sub> sat  
Obtain Vital Signs  
Obtain 12 lead ECG

Secure Airway if Necessary

**Establish IV/IO of Normal Saline**  
if not already accomplished

Titrate FiO<sub>2</sub> to maintain  
oxyhemoglobin saturation  
greater than or equal to  
94%; if possible wean  
FiO<sub>2</sub> if saturation is 100%

If Patient remains hypotensive, assess lung sounds for possible pulmonary edema. If clear, administer fluid challenge of

**250-500cc's of NS.**

**Consider Push dose Epi 0.5-2 cc's**

If ineffective, presence of pulmonary edema or B/P <70-100 systolic consider:

**Levophed 0.02 - 0.2mcg/kg/min drip**  
Or

**Dopamine 5 - 20mcg/kg/min drip**

**\*\*Not to be used for hypovolemic shock\*\***

Transport rapidly to the nearest  
appropriate facility with frequent  
reassessment of vitals.

**Consider Procedural Tolerance  
Procedure**

## **2010 ACLS Guidelines:**

There is no evidence to support continued prophylactic administration of antiarrhythmic medications once the patient achieves ROSC.

# Chest Discomfort (Cardiac)

**EMT**

**Paramedic**

Calm and reassure the patient. **NO EXERTION**  
 12 Lead EKG acured within 5 Min of Pt contact  
 O<sub>2</sub> via appropriate delivery device, EtCO<sub>2</sub>  
 Attach ECG monitor & pulse oximetry  
 Give **Aspirin 324 mg (4 baby Aspirin-chewable)**

\* 15 lead EKG Is indicated in all  
 • Normal EKGs  
 • Inferior MI's  
 • ST segment depression in V-leads.

IF RVI or Inferior MI give 500 cc fluid bolus to increase preload ASAP

Obtain and Transmit 12 Lead ECG  
 Consider 15 lead ECG\*

**NS IV/IO**  
 Treat unstable dysrhythmias per protocols.  
 Draw Blood for labs and Cardiac Status-test

**Nitroglycerin 0.4mg SL**  
**1 spray, or 1 tablet**  
 (If BP is >100)

Thrombolytic Checklist

Consider pain management per **Pain management procedure**

Consider Nausea/Vomiting management per **Nausea/Vomiting procedure**

**CONTACT MEDICAL CONTROL**  
**Heparin Bolus**  
**Max dose 5,000 units**

Consider the use of air ambulance to expedite transport.

**IF STEMI, Time Critical Diagnosis (TCD)**

**Start NTG infusion at 10mcg/min(if inferior or RV MI start at 5mcg/min) titrate 10mcg/min till desired effect**

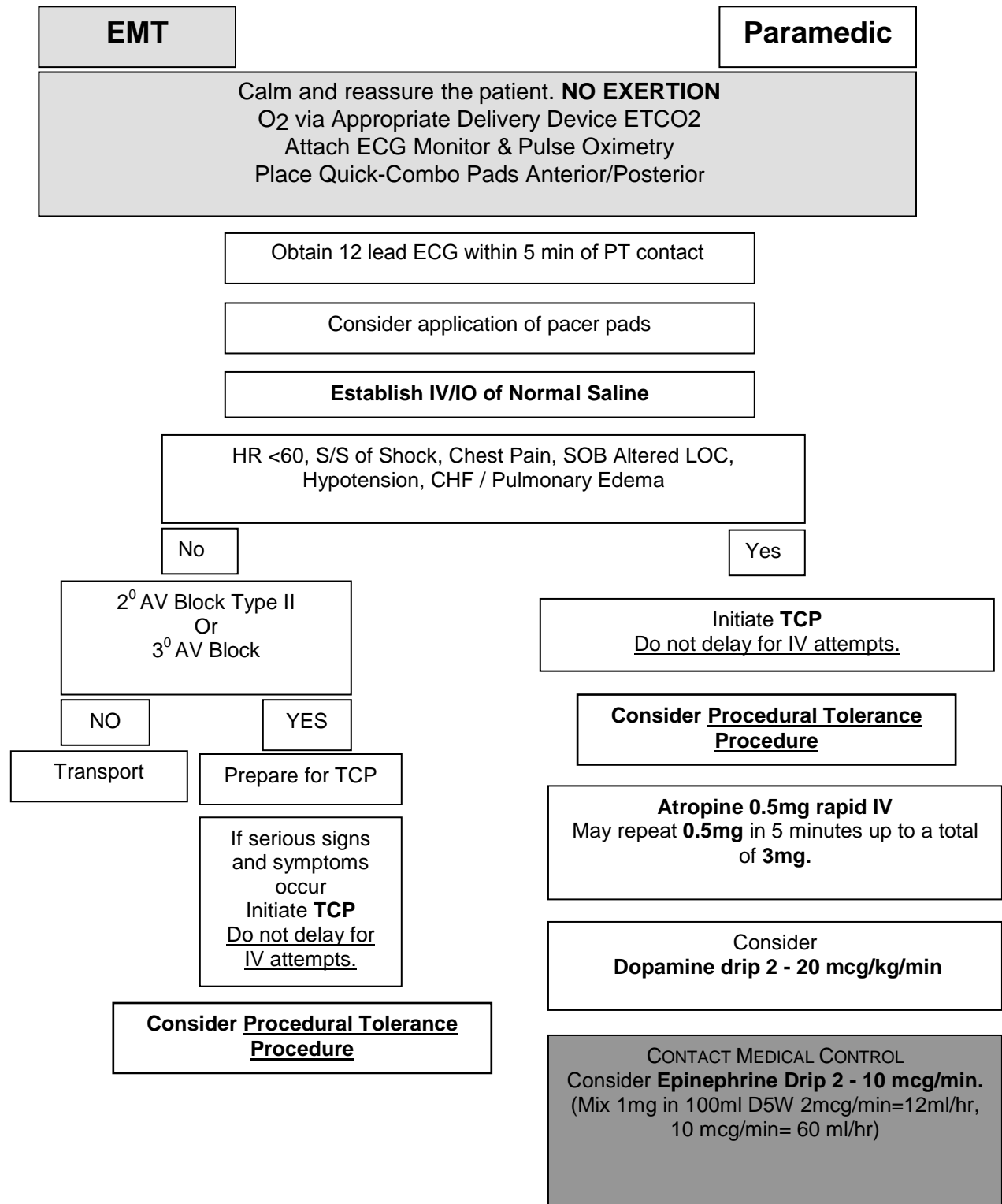
**OR**

**Follow NTG spray with 1 inch Nitro PASTE, (if RVI or Inferior MI use 1/2 inch NTG Paste)**

Continue with NTG spray q 5 minutes until pain is relieved assuring adequate blood pressure above 100 systolic.

If hypotension occurs during transport, remove paste and wipe skin with alcohol or equivalent. NTG effect should quickly subside.

# Bradycardia



# Tachycardia Narrow Complex

<b>EMT</b>	<b>Paramedic</b>
Calm and reassure the patient. <b>NO EXERTION</b> O <sub>2</sub> via Appropriate Delivery Device ETCO <sub>2</sub> Attach ECG Monitor & Pulse Oximetry Place Quick-Combo Pads Anterior/Posterior	

Obtain 12 lead ECG within 5 min of PT contact

**Establish IV/IO Normal Saline**

**Stable**  
 Ventricular Rate >150  
 Hemodynamically stable  
 Conscious Alert Oriented

Attempt vagal maneuvers (REVERT, etc.) if not contraindicated (CAD).

**Adenosine 6mg rapid IV**, may repeat in 2 minutes at **12mg**

Pulmonary Edema

NO      YES

**A-Fib / A-Flutter**  
 Rate  $\geq$  130

Pulmonary Edema

NO      YES

**Diltiazem 0.25mg/kg**  
 Max **20 mg**  
 IVP over 2 min.

May repeat after 15 minutes  
**0.35mg/kg**  
 Max **25 mg**  
 IVP over 2 minutes

**Amiodarone 150mg** over 10 min.  
 May repeat **150mg** over 10 minutes if rhythm returns

**WPW**

**Critically Unstable**  
 Ventricular Rate > 150

Do not delay cardioversion  
 Perform synchronized cardioversion per **Cardioversion procedure**

Consider **Procedural Tolerance Procedure**

A brief trial of **medication** can be used if the patient can tolerate it. Do not delay cardioversion if needed.

Monitor patient and transport immediately. If patient becomes critically unstable, perform synchronized cardioversion per **Cardioversion procedure**

**Diltiazem 0.25mg/kg**  
 Max **20 mg**  
 IVP over 2 min.  
 May repeat after 15 minutes  
**0.35mg/kg**  
 Max **25 mg**  
 IVP over 2 minutes

**Amiodarone 150mg** over 10 min.  
 May repeat **150mg** over 10 minutes if rhythm returns

**Amiodarone 150mg** in 100cc of **D<sub>5</sub>W** dripped in over 10 minutes may repeat as needed to a maximum of **2.2gm** over 24 hours

# TACHYCARDIA WIDE COMPLEX

<b>EMT</b>	<b>Paramedic</b>
Calm and reassure the patient. <b>NO EXERTION</b> O <sub>2</sub> via appropriate delivery device ETCO <sub>2</sub> Attach ECG monitor & pulse oximetry Place quick-combo pads anterior/posterior	
<b>Obtain and transmit 12-lead ECG</b> If supraventricular in origin use narrow complex tachycardia protocol	

**Establish IV/IO of Normal Saline**

<u>Stable</u> Ventricular Rate > 150	<u>Torsades de Pointes</u>	<u>Critically Unstable</u> Ventricular rate >150
If ventricular tachycardia is unclear administer <b>Adenosine 6 mg IV/IO</b>  If after Adenosine, SVT with aberrancy is demonstrated may repeat <b>Adenosine 12 mg IV/IO</b>	IF Stable <b>Mag Sulfate 1-2 Grams</b> over 5 minutes, mix <b>1-2 gm</b> in <b>100ml D<sub>5</sub>W.</b>	Do not delay cardioversion Perform <u>synchronized</u> Cardioversion Per <b><u>Cardioversion procedure</u></b>
<b>Amiodarone 150mg IV</b> over 10 minutes ( <b>150 mg in 100cc of D<sub>5</sub>W</b> dripped in over 10 minutes) may repeat as needed to a maximum of <b>2.2gm</b> over 24 hours <b>OR</b> <b>Lidocaine, 1-1.5mg/kg IV/IO</b> may repeat in 3-5 minutes at <b>0.5-1 mg/kg</b> . Total of 3 doses or <b>3mg/kg</b> max	If Unstable cardiovert per <b><u>Cardioversion procedure</u></b>	<b>Consider <u>Procedural Tolerance Procedure</u></b>  A brief trial of medication can be used if the patient can tolerate it. Do not delay cardioversion if needed.

# VENTRICULAR ECTOPY

**EMT**

**Paramedic**

Calm and reassure the patient. **NO EXERTION**  
O<sub>2</sub> via appropriate delivery device ETCO<sub>2</sub>  
Attach ECG monitor & pulse oximetry  
Place quick-combo pads anterior/posterior

Obtain 12-lead ECG

**Establish IV/IO of Normal Saline**

**Treat the causes of the ectopy  
(hypoxia, infarction, ischemia)**

IF NEEDED  
CONTACT MEDICAL CONTROL

# Near Drowning/ Drowning

<b>EMT</b>	<b>Paramedic</b>
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Remove from water  
 Open & maintain airway  
 Begin CPR if necessary  
 Dry and warm patient  
 O<sub>2</sub> via appropriate delivery device  
 Attach cardiac monitor, ETCO<sub>2</sub> and pulse oximetry  
 Be prepared to suction the patient.  
 Consider indications for C-spine precautions

## Near Drowning

## Drowning

Establish IV/IO of Normal Saline  
 Intubate if necessary

Monitor for respiratory compromise  
 Treat per appropriate protocol

If patient is in V-fib,  
 Defibrillate one time per  
**Defibrillation procedure**

Check body core temperature  
 Treat for hypothermia  
**DO NOT DELAY TRANSPORT**

Treat cardiac dysrhythmias per specific protocol

Core temp  $\geq$  86°F  
 Code per protocol  
 Core temp  $\leq$  85°F CPR only  
 IV's may be attempted if warm IV fluids are available.

Consider CPAP

An internal core temp is the goal, utilize the Rectal/Oral probe in T1 spot to monitor the PT temp, can utilize the other contact probes if unable to place rectal probe

Rapid transport to closest appropriate facility  
 Passive rewarming enroute

# Cold Injury: Frostbite / Hypothermia

122  
123

EMT	Paramedic
<p>Attempt to determine time of exposure Remove patient from exposure</p> <p>Remove wet or constrictive clothing from the site O<sub>2</sub> via appropriate delivery device (warmed if possible)ETCO<sub>2</sub> Obtain core temperature via rectum Do not attempt to thaw frozen tissue if there is a chance of refreezing. Cover the affected tissue with a loose, dry, sterile dressing.</p> <p>Transport to the hospital. (Do not delay to thaw injured part.) Pulse oximetry monitor, attach Cardiac Monitor</p>	

Frostbite	Hypothermia
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Establish IV/IO of warmed normal saline, if possible

Consider pain management per Pain management procedure

Consider Nausea/vomiting management per Nausea/vomiting procedure



# Hypothermic Cardiac Arrest

EMT	Paramedic
<p>Attempt to determine time of exposure Remove patient from exposure</p> <p>Remove wet or constrictive clothing from the site O<sub>2</sub> via appropriate delivery device (warmed if possible) ETCO<sub>2</sub> Obtain core temperature via rectum Pulse oximetry monitor, attach cardiac monitor Consider ambient temperature in the patient compartment</p>	

If patient is in V-fib, defibrillate one time per  
**Defibrillation procedure.**

Core temp  $\geq 86^{\circ}$  F, work  
code per Protocol.

Core temp  $\leq 85^{\circ}$  F,  
continue CPR.

Rapid transport to the hospital  
Do not attempt rewarming in the field.

IV's may be attempted if warm IV fluids are available.

**Remember that a moderately  
hypothermic patient requires  
longer intervals between drugs due  
to slower absorption rate.**

# Heat Exhaustion/ Heat Stroke

<b>EMT</b>	<b>Paramedic</b>
Remove patient from hot environment O <sub>2</sub> via appropriate delivery device ETCO <sub>2</sub> Attach cardiac monitor pulse oximetry Monitor core temperature via rectum	

<b><u>Heat Exhaustion</u></b>	<b><u>Heat Stroke</u></b>
Body temp $\leq 105^{\circ}$ F	Body temp $\geq 105^{\circ}$ F
Treat specific complaints per protocol	Rapid cooling is indicated. Attempt to reduce temperature to 102 <sup>o</sup> F
<b>Establish IV/IO of Normal Saline or Lactated Ringers</b> Bolus therapy as needed for hypotension.	
Monitor ECG closely for arrhythmias, Treat per protocol.	

Thermometer must be in "Monitor" mode. After you remove the probe, while the thermometer is doing its self check, push and hold the "Pulse Timer" button until "Monitor mode" appears.

When cold water immersion is available at a sporting event, AND patient has signs and symptoms of heat STROKE, ensure patient remains in cold water immersion until core temperature lowers to 102<sup>o</sup>, or mental status improves.

# Abdominal Pain / Nausea

EMT	Paramedic
<p>Identify possible causes O<sub>2</sub> via appropriate delivery device, ETCO<sub>2</sub> Attach cardiac monitor and Obtain 12 Lead EKG Attach cardiac monitor and pulse oximetry</p>	
<p><b>Establish IV/IO of Normal Saline</b></p>	
<p>Consider pain management per <b><u>Pain management procedure</u></b></p>	
<p>Consider nausea/vomiting management per <b><u>Nausea/vomiting procedure</u></b></p>	

# Altered Mental Status

<b>EMT</b>		<b>Paramedic</b>
Medical Assessment Protocol, Airway Management O <sub>2</sub> via appropriate delivery device, ETCO <sub>2</sub> Attach cardiac monitor, Obtain 12 Lead, pulse oximetry, glucometry, Temperature,		
<b><u>Hypoglycemia</u></b>	<b><u>Narcotic Overdose</u></b>	<b><u>STROKE</u></b>
<b>Establish IV/IO of Normal Saline</b> Draw blood samples and perform glucose check		
Glucose <70 mg/dL	Glucose >70 mg/dL	Complete approved Stroke Scale Facial droop, arm drift, speech Time Critical Diagnosis (TCD) <b>Confirm accurate time of onset/discovery and contact number of witness</b>
Consider <b>Oral Glucose</b>	<b>Naloxone indicated for respiratory depression 0.4mg (1ml) increments. Usual dose is 2 mg total, may require more in some cases. If done by BLS crew, naloxone must be administered intranasally.</b>	
<b>Thiamine 100mg IV</b>		
<b>D<sub>50</sub>W 25gm IV/IO (50 ml)</b> Or If D50W is unavailable <b>D<sub>10</sub>W 25gm IV (250 ml)</b> Or <b>Oral Glucose</b> Dependant on LOC  If IV Glucose is unavailable, or IV access failed, oral glucose should be given via NG/OG tube	Obtain 12-lead ECG	
If unable to obtain venous access <b>Glucagon 1 mg IM</b> Patient must be transported after administration. Patient should eat after administration if not contraindicated.	Per Dr. Wilson, No Patient that has received Narcan will be allowed to sign out AMA.	Consider rapid transport and advise hospital early of possible stroke.
<b>Transport considerations</b>  If patient is on oral hypoglycemic or long acting insulin, and treated with D <sub>50</sub> , patient should be transported. If PRC is obtained patient must be left with a responsible adult for follow up.  If oral glucose or naloxone is administered by BLS crew, ALS must be enroute, or patient must be transported as soon as possible.  If IV or IO was inserted, patient should be transported.		

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133  
134  
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# Anaphylaxis/Allergic Reaction

**EMT**

**Paramedic**

Medical Assessment and General Medical Protocol  
 Airway Management Consider RSI  
 Identify possible causes Remove allergen  
 O2 via appropriate delivery device Attach cardiac monitor,  
 pulse oximetry Apply capnography

**EMT**  
 If anaphylaxis

Use the Auto-Injector with epinephrine. Remove the cap on the back of the pen hold the pen firmly, and push the auto-injector against the patient's thigh anterolaterally. Hold the pen against the patient's thigh for 10 seconds to allow the medication to inject.

If the Auto-Injector is used, an ALS unit **MUST** be enroute, or patient transported as soon as possible if ALS unavailable.

Although in the emergency setting there is no absolute contraindication for the use of the Auto-Injector, precaution should be used in patients over 55 years old or with patients who have coronary artery disease.

As needed consider

**Establish IV/IO of Normal Saline Titrated to B/P**

**No shock or compensated shock**

**Uncompensated shock**

**Epinephrine 1:1,000, 0.3 to 0.5mg IM**  
 (Caution in Pt's >55, w/CAD, Cardiac History)

**Epinephrine 1:10,000, 0.3mg slow IV**  
 (Caution in Pt's >55, w/CAD, Cardiac History)

**Benadryl 25-50mg IM/IV**

**Albuterol 2.5 mg**  
 Via nebulizer for wheezing/ obstructed capnography waveform, repeat as needed.  
 May repeat as tolerated

**Duoneb 3 ml nebulized (0.5 mg Ipratropium 2.5mg Albuterol)**  
 Given 1 x only

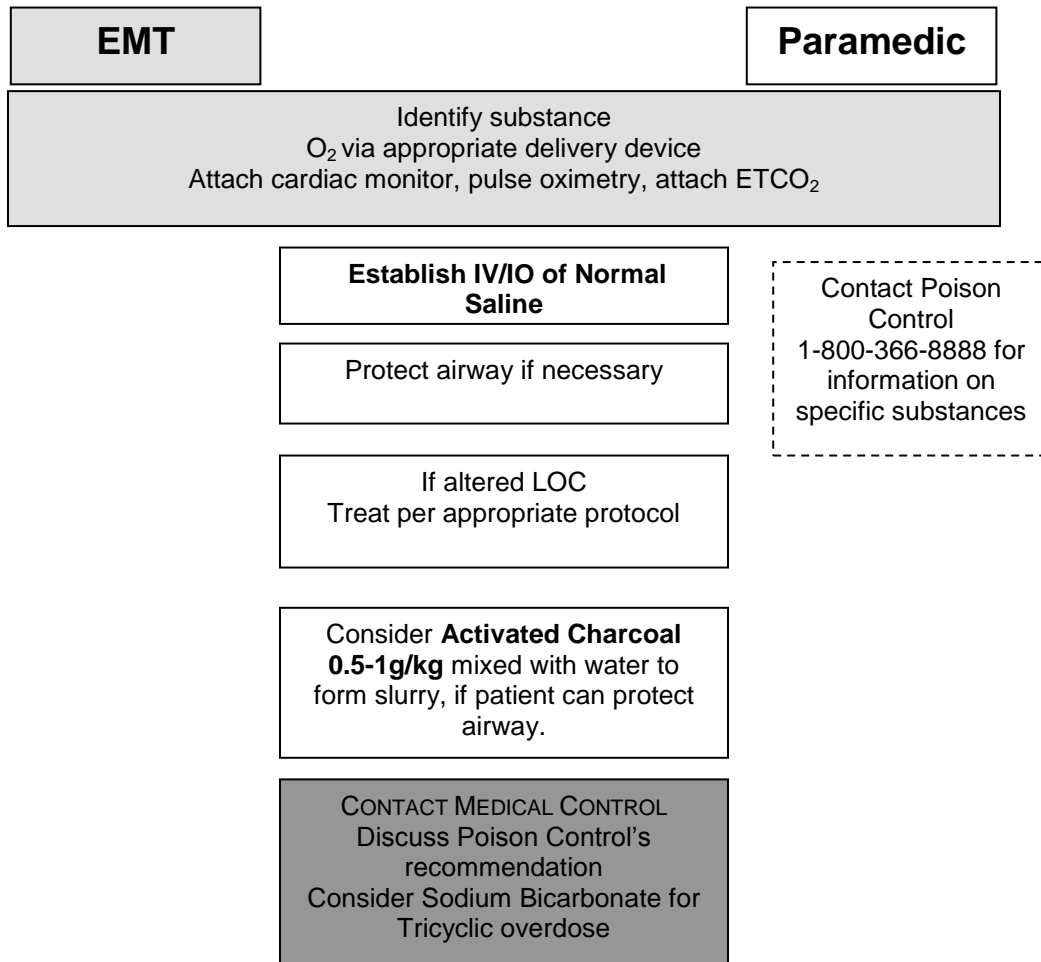
**Solu-Medrol 125mg IV**

Decadron 12 mg nebulizer (ped 4-6mg)

# Behavioral Health Disorders

EMT	Paramedic
<p>Verbal de-escalation            Scene safety - law enforcement for physical restraint, if necessary            If etiology of altered LOC determined, follow appropriate protocol            Obtain history of current event, crisis, toxic exposure, drugs, ETOH, suicidal or homicidal ideations            Obtain history of past medical/psychiatric illnesses            Patient should be transported with cot manufacturer safety restraint system in full view above sheets and or blankets.            If a 96 hour hold is in effect, law enforcement escort should be requested.</p>	
<p>In the event a patient's intent to elope is expressed or observed, the crew should take every effort to stop the ambulance in a safe location, notify local law enforcement via dispatch, and maintain visual contact with the patient where possible until law enforcement arrives.</p>	
<p><b><u>Mild</u></b>            Responds to verbal de-escalation, police standby, and/or family            Mild agitation/anxiety            Oppositional            Confused</p>	<p><b><u>Moderate to Severe</u></b>            Requires restraint for crew/patient safety, adequate evaluation, treatment, and/or transport            Agitation/anxiety with potential for violence, agitated delirium</p>
<p><b>Establish IV/IO or Normal Saline</b> when safe and appropriate to do so.</p>	
<p>Evaluate for medical or traumatic etiology transport</p>	<p>4-point soft restraints*</p>
<p>CONTACT MEDICAL CONTROL            consider  <b>Ketamine 0.5-1 mg/kg IV 4mg/kg IM</b>  <b>Versed 2 mg IV/IM/IN</b> for anxiety  <b>Haldol 2.5-5mg IV/IM</b> for agitation</p>	<p><b>Haldol 5 mg IM/IV may repeat x 1</b> for agitation  <b>Consider Versed 2.5 - 5mg IM/IV/IN</b> for anxiety, <b>may repeat as needed</b>            For severe Agitated Delirium consider  <b>Ketamine 1 mg/kg IV/IO or 4mg/kg IM</b> may repeat at 0.5 mg/kg <u>IV/IO</u></p>
<p>Transport in position of comfort</p>	<p>Evaluate for medical or traumatic etiology            Transport in position of safety</p>
<p>CONTACT MEDICAL CONTROL            Patients requiring physical restraint or pharmacologic intervention must be transported            Pt. must be monitored            Consider 12-lead ECG, assess QT</p>	
<p>*See restraint policy  <b>Post restraint consideration</b>            Patients actively resisting restraint should be treated for agitation and or anxiety</p>	

# Poisoning / Overdose



# Hypertensive Emergencies

**EMT**

**Paramedic**

Identify possible causes  
 O<sub>2</sub> via appropriate delivery device  
 Attach cardiac monitor, pulse oximetry

**Establish IV/IO of Normal Saline**

Diastolic B/P over 115 mm/hg  
 Accompanied by nausea/vomiting, confusion, or blurred vision. More severe symptoms include severe headache, chest pain, visual disturbances, paralysis, stupor, and coma.

**CONTACT MEDICAL CONTROL**  
 Consider **Labetalol** (Normodyne)  
**20mg** slow IVP over 2 minutes

Transport with the patient's head slightly elevated  
 Carefully monitor ECG and vitals  
 Treat other complaints per protocol or medical control orders



# Epistaxis

**EMT****Paramedic**

O<sub>2</sub> via appropriate delivery device (warmed if possible)  
Inspect for active bleeding both nasal and oropharynx  
Estimate blood loss if possible  
Pulse oximetry monitor, attach cardiac monitor  
Obtain Vital signs  
Transport upright in position of comfort  
If traumatic avoid lying flat on back board (Selective Cervical Splinting) and place collar

Establish IV of Normal Saline if indicated to support B.P.

Neo-Synephrine Nasal Spray 1%, 2 squirts each nostril if BP <160/95  
If hypertension exists contact medical control prior to Neo-Synephrine  
Apply nasal clamp  
Suction oropharynx as needed for active bleeding  
Visualize oropharynx to assess for persistent nose bleed (posterior epistaxis)  
Consider non emergency transport

# Suspected Sepsis / Hypotension of unknown etiology

**EMT**

**Paramedic**

Identify possible causes  
 O<sub>2</sub> via NRB mask  
 Attach cardiac monitor, pulse oximetry  
 Apply capnography  
 Obtain temperature

Sepsis can be identified when the following markers of Systemic Inflammatory Response are present (SIRS) are present in a patient with:

- Suspected infection (or recent history of)
- Temperature > 100.4° or < 96.8°
- Respiratory Rate > 20 breaths/min.
- Heart rate > 90 beats/min
- Known Lactate levels > 4 (interfacility transport)

**Establish IV/IO (large bore) of Lactated Ringer's x 2** and administer up to 3 liters of L.R. (do not give N.S. which can lead to worsening acidosis)

Monitor for respiratory compromise  
 Treat per appropriate protocol, CPAP, BiPAP or intubate as necessary

Monitor continuous ETCO<sub>2</sub> through nasal cannula if not intubated as CO<sub>2</sub> is likely to be lower than anticipated and a decreasing ETCO<sub>2</sub> could mean worsening Sepsis

If Patient remains hypotensive after 1-2 liters of LR  
 Consider  
**Levophed 0.02 - 0.2mcg/kg/min drip**

**Dose mcg/kg/min converted to ml/hr**

Weight in Kg	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.09	0.1	0.2
50	3.8	5.6	7.5	9.4	11.3	13.1	15.0	16.9	18.8	37.5
55	4.1	6.2	8.3	10.3	12.4	14.4	16.5	18.6	20.6	41.2
60	4.5	6.8	9.0	11.3	13.5	15.8	18.0	20.3	22.5	45.0
65	4.9	7.3	9.8	12.2	14.6	17.1	19.5	21.9	24.4	48.7
70	5.3	7.9	10.5	13.1	15.7	18.4	21.0	23.6	26.2	52.5
75	5.6	8.4	11.3	14.1	16.9	19.7	22.5	25.3	28.1	56.2
80	6.0	9.0	12.0	15.0	18.0	21.0	24.0	27.0	30.0	60.0
85	6.4	9.6	12.8	15.9	19.1	22.3	25.5	28.7	31.9	63.8
90	6.8	10.1	13.5	16.9	20.2	23.6	27.0	30.4	33.7	67.5
95	7.1	10.7	14.3	17.8	21.4	24.9	28.5	32.1	35.6	71.2
100	7.5	11.2	15.0	18.7	22.5	26.2	30.0	33.7	37.5	75.0
105	7.9	11.8	15.8	19.7	23.6	27.6	31.5	35.4	39.4	80.0
110	8.3	12.4	16.5	20.6	24.7	28.9	33.0	37.1	41.2	82.5
115	8.6	12.9	17.3	21.6	25.9	30.2	34.5	38.8	43.1	86.2
120	9.0	13.5	18.0	22.5	27.0	31.5	36.0	40.5	45.0	90.0
125	9.4	14.0	18.8	23.4	28.1	32.8	37.5	42.2	46.9	93.7
130	9.8	14.6	19.5	24.4	29.2	34.1	39.0	43.9	48.7	97.5
135	10.1	15.2	20.3	25.3	30.4	35.4	40.5	45.5	50.6	101.2
140	10.5	15.7	21.0	26.2	31.5	36.7	42.0	47.2	52.5	105.0
145	10.9	16.3	21.8	27.2	32.6	38.0	43.5	48.9	54.4	108.7
150	11.3	16.8	22.5	28.1	33.7	39.4	45.0	50.6	56.2	112.5

# Respiratory Emergencies

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EMT		Paramedic
<p>O<sub>2</sub> via appropriate delivery device Attach cardiac monitor, pulse oximetry, and ETCO<sub>2</sub></p>		
<p>Assess the need to intubate</p>		
<b><u>ASTHMA</u></b>	<b><u>Congestive Heart Failure</u></b>	<b><u>C.O.P.D.</u></b>
<p><b>Establish IV/IO of Normal Saline</b></p>	<p>Obtain 12-lead ECG <b>Establish IV Saline Lock</b></p>	<p><b>Establish IV/IO of Normal Saline</b></p>
<p><b>Albuterol, 2.5 mg in 3cc Normal Saline</b> via nebulizer over 5-15 min. Repeat continuously as needed.</p>	<p><b>Nitroglycerin 0.4mg SL.</b> If B/P is &gt;100</p>	<p>Obtain 12-Lead ECG</p>
<p><b>Duoneb 3 ml Nebulized (0.5 mg Ipratropium 2.5mg Albuterol)</b> Given 1 x only</p>	<p><b>Captopril 25 mg SL</b> if SBP&gt; 110 or <b>12.5 mg SL</b> if SBP 90-110</p>	<p><b>Albuterol 2.5 mg in 3cc saline</b> via nebulizer over 5-15 min. Repeat continuously as needed.</p>
<p><b>Epinephrine 1:1000, 0.3-0.5 mg SC.</b> Caution in Pt's &gt;55, w/CAD, Cardiac history</p>	<p>Consider CPAP or BiPAP if available</p>	<p><b>Duoneb 3 ml Nebulized (0.5 mg Ipratropium 2.5mg Albuterol)</b> Given 1 x only</p>
<p>Consider <b>Solu-Medrol 125 mg</b> slow IV</p>	<p>If SBP&gt;100: give Nitroglycerin 0.4mg SL. q5 min x3. If SBP&gt;100: start Nitroglycerin Infusion at 50 mcg/min and titrate to maintain SBP&gt;100 (if IV NTG unavailable continue dosing via SL spray q 5 min. as needed if SBP &gt; 100). or Nitroglycerin Paste 1 inch,. Maintain SBP &gt; 100 if possible. If hypotension occurs, continue Nitroglycerin and refer to Dopamine as below.</p>	<p>Consider <b>Solu-Medrol 125 mg</b> slow IV</p>
<p>Consider <b>Decadron 16mg</b> via nebulizer</p>	<p><b>Albuterol 2.5 mg</b> via nebulizer if capnography shows obstructive waveform.</p>	<p>Consider <b>Decadron 16mg</b> via nebulizer</p>
<p>Consider <b>Magnesium Sulfate 1-2 gm IV/Nebulization</b></p>	<p><b>Dopamine infusion 2-15 mcg/kg/min</b> for SBP&lt;100</p>	
	<p><b>Furosemide (Lasix) 40 mg IV</b> or <b>80mg IV</b> for patients currently on Diuretics</p>	

# OB/GYN Emergencies

<b>EMT</b>	<b>Paramedic</b>
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O<sub>2</sub> via appropriate delivery device  
 Inspect for active bleeding / crowning determine amount of blood loss  
 Attach cardiac monitor as needed pulse oximetry  
 Orthostatic Vital Signs  
 Consider transport in left lateral recumbent position to reduce risk of Vena Cava compression

## Vaginal Bleeding

## Hypertension

**Establish IV/IO of Normal Saline**

Titrated to B/P

B/P over 140/90, abnormal weight gain, edema in face, hands and ankles, headache.

Calm and reassure the patient.

If pregnant patient is actively seizing, give **Magnesium Sulfate 4 grams IM** or Slow IV (Over 5 minutes) and manage seizure per seizure protocol

**CONTACT MEDICAL CONTROL**  
 If patient is not seizing  
 Consider **Magnesium Sulfate**  
 Dosage per medical control  
 Consider **Labetalol**  
 Dosage per medical control

Dim the lights in the ambulance, avoid loud noises.

Consider non emergency transport.

# OB / GYN Emergencies

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<b>EMT</b>	<b>Paramedic</b>
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O<sub>2</sub> via appropriate delivery device  
 Inspect for active bleeding / crowning, determine amount of blood loss  
 Attach cardiac monitor as needed pulse oximetry  
 Orthostatic vital signs  
 Consider transport in left lateral recumbent position to reduce risk of vena cava compression

<b><u>Preterm Labor</u></b>	<b><u>Postpartum Hemorrhage</u></b>	<b><u>Emergency Birth</u></b>
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**Establish IV/IO of Normal Saline**

<b>500 –1000 ml Fluid Bolus</b>	Rapidly infuse IV fluids, treat for shock Titrate IV's to B/P	If crowning deliver infant per procedure
	Massage the fundus	Normal Saline Titrated to B/P
	Put the baby to nurse	Deliver infant suction airway and assess APGAR scores 1 & 5 minutes Ensure infant warmth
	<b>CONTACT MEDICAL CONTROL</b> Consider <b>Pitocin (Oxytocin) IV Drip</b> <b>10-20 units in 1000ml NS</b> run wide open	Reevaluate mother and infant Treat any problems per appropriate protocol

<b>APGAR</b>		
<b>Appearance</b>		
• Body and extremities blue		= 0
• Body pink extremities blue		= 1
• Completely pink		= 2
<b>Pulse Rate</b>		
• Absent		= 0
• <100		= 1
• >100		= 2
<b>Grimace</b>		
• No Response		= 0
• Grimace		= 1
• Cough Sneeze Cry		= 2
<b>Activity</b>		
• Limp		= 0
• Some flexion of extremities		= 1
• Active motion		= 2
<b>Respiratory effort</b>		
• Absent		= 0
• Slow or irregular		= 1
• Strong Cry		= 2

# Status Seizures

**EMT**

**Paramedic**

Clear area to decrease chance of injury  
 O<sub>2</sub> via appropriate delivery device  
 Attach cardiac monitor as needed pulse oximetry, capnography

## **Establish IV/IO of Normal Saline**

Draw a blood samples, perform a glucose test  
 If Glucose <70mg/dl Treat Per Hypoglycemia

### **If actively seizing:**

**Diazepam (Valium) 5-10 mg IV/IO**, may repeat as needed to stop seizure;

**Ativan (Lorazepam) 2mg q5 min**, max 6mg if intubated give the full 6mg in one dose

Or

If no IV access, **Midazolam (Versed) 5mg IN**,  
 may repeat as needed to stop seizure;

Or

If **Diazepam (Valium)** is unavailable, **Midazolam (Versed) 2.5-5mg IV/IO**,  
 may repeat as needed to stop seizure.

Benzodiazepines should be used to break status seizures. Airway control may be necessary due to respiratory distress/arrest from high doses of these drugs.

Use RSI with caution in seizure patients. Paralysis only masks the manifestation of seizures. The actual seizure may still be ongoing.

# General Pain Protocol

<b>EMT</b>		<b>Paramedic</b>
Identify possible causes O <sub>2</sub> via appropriate delivery device Attach cardiac monitor and pulse oximetry		
<p style="text-align: center;"><b><u>ACUTE</u></b>  <b>Non traumatic</b>                  (Flank pain, back pain,                  possible kidney stones                  etc...)</p>	<p style="text-align: center;"><b><u>CHRONIC with</u></b>  <b><u>acute</u></b>  <b><u>exacerbation</u></b>                  (With autonomic signs and                  symptoms; pallor,                  diaphoresis. N/V etc...)</p>	<p style="text-align: center;"><b><u>CHRONIC</u></b>                  Backache, headache,                  tooth pain, chronic                  pelvic pain (Without                  tachycardia and                  significant hypertension)</p>
<b>Establish IV/IO of Normal Saline</b>		Transport in position of comfort
Consider pain management per <b><u>Pain management procedure</u></b>		
Consider treating Nausea/vomiting per <b><u>Nausea/vomiting procedure</u></b>		
<b>ANY PATIENT RECEIVING PAIN MEDICATION MUST BE                  TRANSPORTED!</b>		

# TRAUMA ASSESSMENT PROTOCOL

Confirm scene safety and use of appropriate Body Substance Isolation procedures.

Mechanism of Injury    Number of Patients    Evaluate need for assistance

<b><u>B.L.S.</u></b>		<b><u>A.L.S.</u></b>	
ABC's & LOC		ABC's & LOC	
Focused History and Exam		Focused History & Physical Exam	
<b><u>No Significant M.O.I.</u></b>	<b><u>Significant M.O.I.</u></b>	<b><u>No Significant M.O.I.</u></b>	<b><u>Significant M.O.I.</u></b>
Focused Trauma Assessment	<b>A.L.S. PATIENT</b>	Focused Trauma Assessment	Rapid Trauma Assessment
Baseline Vital Signs		Baseline Vital Signs	Baseline Vital Signs
S.A.M.P.L.E. History		S.A.M.P.L.E. History	S.A.M.P.L.E. History
Transport Decision		Transport Decision	Transport Decision
Detailed Assessment		Detailed Assessment	Detailed Assessment
Treat per Appropriate Protocol		Treat per Appropriate Protocol	Treat per Appropriate Protocol

Upon arrival, all equipment should be taken to the scene, with intent to transport.

- Monitor
- ALS bag
- Airway bag

These can easily be placed on the cot before initial patient contact

**When called to the scene of a trauma patient, consider your proximity to the nearest trauma facility. When 10 minutes or less from a trauma facility consider rapid transport rather than time consuming interventions at the scene. If transport to the nearest facility is in the patient's best interest, then consider loading the patient and treating in transit.**



# TRAUMA TRIAGE PROTOCOL

1

**Measure vital signs and level of consciousness**  
 GCS <14 or  
 Systolic BP <90 mmHg or  
 Respiratory rate <10 or > 29 BPM (<20 in infant)

YES

**Take to trauma center with the highest level of care in the system.**

NO

2

**Assess anatomy of injury**

- All Penetrating Injuries to Head neck torso and extremities proximal to the elbow and knee.
- Flail chest
- Two or more proximal long-bone fractures
- Crushed de-gloved or mangled extremity
- Amputation proximal to the wrist or ankle
- Pelvic fractures
- Open or depressed skull fractures
- Paralysis

YES

**Take to trauma center with the highest level of care in the system.**

NO

3

**Assess mechanism of injury and evidence of high energy impact**

**Falls**

- Adults >20 ft.
- Children > 10 ft.

**High Risk Auto Crash**

- Intrusion: > 12 in occupant site; >18 in. any site
- Ejection from automobile (Partial or complete)
- Death in same passenger compartment
- Vehicle telemetry data consistent with high risk of injury

**Auto v. pedestrian/bicyclist thrown, run over, or significant (>20 mph) impact**  
**Motorcycle crash > 20 mph**

YES

**Transport to closes appropriate trauma center.**  
 Depending on the trauma system this need not be the highest level trauma center.

NO

4

**Assess special patient or system considerations**

**Age**

- Older adults: Risk of injury death increase after age 55
- Children: Should be triaged preferentially to pediatric capable trauma centers

**Anticoagulation and bleeding disorders**

**Burns**

- Without other trauma mechanism: triage to burn center
- With trauma mechanism: triage to trauma center

**Time sensitive extremity injury**

**End-stage renal disease requiring dialysis**

**Pregnancy > 20 weeks**

YES

**Contact medical control and consider transport to a trauma center or a specific resource hospital.**

**As recommended by:**



# SPECIFIC TRAUMA

EMT	Paramedic	
Control bleeding / bandage / splint as required O <sub>2</sub> via appropriate delivery device Assist ventilations as needed Apply cardiac monitor, pulse oximetry Selective Cervical Splinting Stabilize any impaled objects		
<u>Abdominal Trauma</u>	<u>Chest Trauma</u>	<u>Extremity Trauma</u>
Cover eviscerations with moist sterile dressings	Stabilize flail segments; on open wounds apply occlusive dressing	If pelvic fractures are suspected use pelvic binder or sheet wrap and secure feet together. Splint extremities as indicated
<b>Establish IV/IO of Lactated Ringer's</b> Titrated to B/P 90 systolic or radial pulses		
Support ventilations Intubate if necessary		
Consider pain management per <b><u>Pain management procedure</u></b>		
Consider treating nausea/vomiting per <b><u>Nausea/vomiting procedure</u></b>		
Consider <b>Cefazolin</b> IV if open fracture Weights > 120 kg give 3000 mg Weights ≥ 20-120 kg give 2000 mg		
Consider <b>Tranexamic Acid (TXA)</b> administration if patient exhibits signs or symptoms of hemorrhagic shock or hypovolemia (BP<90, HR>115, Pallor, diaphoresis).		
Mix <b>TXA 1 GM</b> in 100 cc/D5W and run in over 10 minutes  <u>Maintenance infusion</u> <b>TXA 1 GM</b> in 250cc N.S. and run in at 31 ml/hr on IV pump		

# SPECIFIC TRAUMA

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<b>EMT</b>	<b>Paramedic</b>
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Control bleeding / bandage / splint as required  
 O<sub>2</sub> via appropriate delivery device  
 Assist ventilations as needed  
 Apply cardiac monitor, pulse oximetry  
 Selective Cervical Splinting  
 Stabilize any impaled objects

**Establish IV/IO of Lactated Ringer's**  
 Titrated to B/P 90 systolic or radial pulses

Intubate as necessary  
 Consider RSI

## Head Trauma

## Spinal Trauma

## Burns

**Lidocaine 1.5 mg/kg IV**  
 2-3 min. prior to  
 intubation

**BE ALERT FOR AIRWAY  
 BURNS**

Consider pain management per Pain management procedure

Consider treating nausea/vomiting per Nausea/vomiting procedure

If patient shows signs of herniation (GCS < 9 and unequal pupils or a drop of two in the GCS)  
 maintain ET<sub>CO</sub><sub>2</sub>  
 35-40 mmHg

**If Narcotics used for burns**  
 Consider **Versed 2.5-5 mg** slow IVP every 5 minutes. Repeat as needed maintaining a systolic B/P above 100mm/Hg

**Major Burn**  
 Fluid replacement as follows:  
 0 – 10% BSA  
**2ml/kg x BSA/ 2 = 8hr**  
 11 – 20% BSA  
**3ml/kg x BSA/2= 8hr**  
 21–100% BSA  
**4ml/kg x BSA /2= 8hr**

Water Gel Pads on  
 Minor burns 1<sup>o</sup> or 2<sup>o</sup> of <3% BSA  
**only (No openings through the Skin)**

# SPECIFIC TRAUMA

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**EMT**

**Paramedic**

Control bleeding / bandage / splint as required  
O<sub>2</sub> via appropriate delivery device  
Assist ventilations as needed  
Apply cardiac monitor, pulse oximetry  
Selective Cervical Splinting as required  
Stabilize any impaled objects

**Establish IV/IO of Lactated Ringer's**  
Titrated to B/P 90 Systolic or Radial Pulses

Intubate as Necessary

## EYE INJURY

Trauma

Foreign Substance

Cover open wounds with protective cover.  
Do not apply ANY pressure to eye.  
If impaled object, leave it in and secure the object from unnecessary movement.  
Cover both eyes to limit sympathetic movement of the un-affected eye.

**Consider Tetracaine** 1-2 drops in affected eye.

Flush eye with at least 1 liter of Lactated Ringers. Consider Morgan lens  
If unknown substance or alkali flush at least for 20 minutes.

Consider pain management per Pain management procedure

Consider treating nausea/vomiting per Nausea/vomiting procedure

# SPECIFIC TRAUMA

EMT	Paramedic
CPR Control bleeding / bandage / splint as required O <sub>2</sub> via appropriate delivery device Assist ventilations as needed Apply cardiac monitor, pulse oximetry Selective Cervical Splinting as required Stabilize any impaled objects	

- TRAUMA ARREST**
- Transport immediately
- Establish IV/IO of Lactated Ringer's**  
Wide Open x 2 Large Bore
- Inline intubation or Supraglottic airway device
- Treat rhythm per protocol
- Bilateral chest decompression if  
chest trauma etiology
- CONTACT MEDICAL CONTROL AS  
NEEDED**

**See Protocol Policy  
“Termination of resuscitation in the field”**

# Interfacility Transport of a Trauma Patient

**EMT**

**Paramedic**

Control bleeding / bandage / splint as required  
 O<sub>2</sub> via appropriate delivery device  
 Assist ventilations as needed  
 Apply cardiac monitor, pulse oximetry  
 Selective Cervical Splinting as required  
Backboards should be utilized for extrication only  
 Stabilize any impaled objects  
 Patients with penetrating traumatic injuries should NOT be cervically splinted unless a focal neuro deficit is noted, then apply cervical splinting

Patient presents in full Spinal motion stabilization (backboard, c-collar, spider straps)  
 • Remove patient from board using scoop stretcher or CombiCarrier and place on cot with c-collar for transport.

Patient presents with c-collar only.  
 • Leave c-collar in place and transfer to cot using scoop or CombiCarrier for transport.

Patient presents with no c-collar.  
 • Selective Cervical Splinting as required

**Establish IV/IO of Lactated Ringer's**  
 Titrated to B/P 90 systolic or radial pulses if not already accomplished

Support ventilatory status  
 Intubate as necessary

Treat per specific protocol

# Crush Injury/Crush Syndrome

**EMT**

**Paramedic**

Control bleeding / bandage / splint as required  
O<sub>2</sub> via appropriate delivery device  
Assist ventilations as needed  
Apply cardiac monitor, pulse oximetry and capnography  
Selective Cervical Splinting as required  
Stabilize any impaled objects  
Serial 12 leads may be warranted  
Consider early activation of Air Transport if applicable

**Establish IV/IO Normal Saline X 2** if possible  
Titrated to B/P 90 systolic or radial pulses

Intubate as necessary  
Consider RSI

Consider **Pain Management procedure**

Consider **Nausea/vomiting procedure**

Constant crush injuries greater than 30 minutes duration:  
(Including limbs and/or chest and abdomen)

If signs of hyperkalemia are present (peaked t-waves, no p waves, QRS widening, arrhythmias)

administer:  
**Sodium Bicarbonate 1 mEq/kg IV, IO.**

AND  
Immediately prior to release of pressure administer

**Normal Saline W/O  
And  
Sodium Bicarbonate 1 mEq/kg IV, IO**

If extremities are involved, do NOT elevate. Keep at or below the level of the heart

Consider **Tranexamic Acid (TXA)** administration if patient exhibits signs or symptoms of hemorrhagic shock or hypovolemia (BP<90, HR>115, Pallor, diaphoresis).

Mix **TXA 1 GM** in 100 cc/D5W and run in over 10 minutes.

Maintenance infusion  
1 GM in 250cc N.S. and run in at 31 ml/hr on IV pump