



# Cardiac Arrest Management

FIELD TREATMENT GUIDELINE C-01

INDICATION	<ul style="list-style-type: none"> <li>• Management of adult non-traumatic cardiac arrest resuscitation.</li> </ul>
BLS	<ul style="list-style-type: none"> <li>• Follow <b><u>General Medical Care M-01</u></b>.</li> <li>• Begin CPR:             <ul style="list-style-type: none"> <li>• Push hard (at least 2”) and fast (100 – 120/minute) and allow for full recoil of the chest.                 <ul style="list-style-type: none"> <li>▪ Efforts should be directed at high-quality and continuous chest compressions with limited interruptions and early defibrillation when indicated.</li> <li>▪ Team (“Pit Crew”) performance of CPR is the standard of care for cardiac arrest.</li> </ul> </li> <li>• Use the cardiac monitor metronome until a mechanical chest compression device is available and placed on the patient.</li> </ul> </li> <li>• Initiate <b><u>Airway/Respiratory Management BP-01</u></b>.</li> <li>• Initiate use of an Automated External Defibrillator (AED) or cardiac monitor. Provide defibrillation per AED or paramedic interpretation of heart rhythm and appropriate Treatment Guideline(s).             <ul style="list-style-type: none"> <li>• LP15 cardiac monitors should be placed in “Paddles” mode for duration of cardiac arrest.</li> </ul> </li> <li>• If indicated, initiate use of <b><u>Mechanical Chest Compression BP-02</u></b>.</li> <li>• If patient regains return of spontaneous circulation (ROSC):             <ul style="list-style-type: none"> <li>• <b><u>12-Lead ECG BP-03</u></b>.</li> <li>• Maintain an open airway and administer oxygen to maintain oxygen saturation per <b><u>General Medical Care M-01</u></b>.</li> <li>• Transport to a STEMI receiving facility.</li> <li>• If re-arrest occurs during transport, resume high-quality CPR/resuscitation.</li> </ul> </li> </ul>

ALS	<p>If indicated:</p> <ul style="list-style-type: none"> <li>• Perform necessary ALS Interventions: <ul style="list-style-type: none"> <li>• <b><u>Endotracheal Intubation AP-01:</u></b> <ul style="list-style-type: none"> <li>▪ In the presence of a patent BLS airway, do not intubate unless able to do so without interrupting chest compressions.</li> <li>▪ Once patient is placed on mechanical compression device, consider intubation.</li> <li>▪ Rescue airway (King Tube) should only be used if BLS airway is not patent and endotracheal intubation is not successful.</li> </ul> </li> <li>• <b><u>Waveform Capnography AP-12.</u></b> <ul style="list-style-type: none"> <li>▪ Capturing ETCO2 at first breath is the standard of care. Maintain throughout arrest.</li> </ul> </li> </ul> </li> <li>• Initiate intravenous therapy and/or <b><u>Intraosseous Infusion AP-08.</u></b></li> <li>• Administer medications in accordance with the specified Field Treatment Guideline.</li> <li>• <b><u>Fluid Challenge AP-09.</u></b></li> <li>• If return of spontaneous circulation (ROSC) and it is clinically indicated: <ul style="list-style-type: none"> <li>▪ Initiate <b><u>Targeted Temperature Management AP-10.</u></b></li> </ul> </li> <li>• Transport to the nearest appropriate STEMI receiving facility as defined in Napa County Patient Destination/Point of Entry Policy.</li> <li>• Notification to the receiving facility should occur as early as possible.</li> </ul>
KEY CONCEPTS	<ul style="list-style-type: none"> <li>• EMS personnel should not transport patients by ambulance where resuscitative efforts have been discontinued.</li> <li>• EMS personnel should initiate rapid transport and continue resuscitation when the following factors are present: <ul style="list-style-type: none"> <li>• ROSC following cardiac arrest (5 minutes of palpable pulses) <ul style="list-style-type: none"> <li>▪ If pulses are lost enroute, resume high-quality CPR/resuscitation and continue transport to receiving facility.</li> </ul> </li> <li>• Drowning.</li> <li>• Hypothermia.</li> <li>• Pulmonary Embolism.</li> <li>• Resistant ventricular fibrillation.</li> </ul> </li> <li>• EMS personnel shall follow <b><u>Determination of Death 7006</u></b> when making decision to discontinue resuscitation efforts.</li> </ul>

## OPTIMAL TEAM (PIT CREW) ROLES

PIT CREW

### (P1) Compression Leader: (ALS or BLS)

- ✓ If BLS, operates AED
- ✓ Assists with CPR / performs compressions as needed
- ✓ Assists with setup (mechanical compression device and other devices)
- ✓ Ventilates during off cycle

### (P2) Airway Leader: (Usually ALS)

- ✓ Assists with setup (mechanical compression device and other devices)
- ✓ Performs appropriate airway techniques/procedures.
- ✓ Supervises airway decisions and ensure utilization of confirmatory adjuncts
- ✓ Utilize waveform capnography throughout resuscitative efforts
- ✓ Defibrillates if medication leader not available
- ✓ Defer advanced airway insertion rather than interrupt chest compressions. Use ET or King Tube as indicated. Once established, give continuous chest compressions without pauses for ventilations.
- ✓ Avoid hyperventilation.
- ✓ Communicates with law/family as needed

### (P3) Team Assistant: (ALS or BLS)

- ✓ Serves as assistant to compression leader
- ✓ Performs compressions as needed
- ✓ Assists airway leader

### (P4) Medication Leader: (Always ALS)

- ✓ Defibrillates
- ✓ Initiates IV/IO (IO preferred)
- ✓ Administers (or supervises) medications
- ✓ Tracks and notifies team of all monitor changes
- ✓ Sets up/monitor mechanical CPR device
- ✓ Communicates with family/law as needed
- ✓ Terminates resuscitative efforts (with pit crew leader)

### (P5) Pit Crew Leader: (ALS or BLS)

- ✓ Responsible for overall conduct of resuscitation / team leader
- ✓ Assigns roles
- ✓ Monitors time intervals (2 min. CPR, drug intervals, etc.)
- ✓ Assures consistent and high quality COMPRESSIONS/CPR
- ✓ Assures use of proper equipment and adjuncts, e.g., waveform capnography
- ✓ Supervises and assigns crowd control as appropriate
- ✓ Serves as scribe (field notes) if resources allow
- ✓ Supervises DNR/POLST issues

### (P6) CPR Leader (optional): (ALS or BLS)

- ✓ Supervises and performs CPR (with team leader)
- ✓ Performs compressions as needed
- ✓ Assists with equipment/medication setup
- ✓ Assists in all patient treatment decisions



# Asystole/Pulseless Electrical Activity

FIELD TREATMENT GUIDELINE C-02

INDICATION	<ul style="list-style-type: none"> <li>Asystole is defined as a cardiac arrest rhythm in which there is no discernible electrical activity on the ECG monitor.</li> <li>Pulseless electrical activity (PEA), also known as electromechanical dissociation, refers to cardiac arrest in which the electrocardiogram shows a heart rhythm that should produce a pulse, but does not.</li> </ul>		
BLS	<ul style="list-style-type: none"> <li>Follow <b>General Medical Care M-01</b>.</li> <li>Follow <b>Cardiac Arrest Management C-01</b>.</li> </ul>		
ALS	<ul style="list-style-type: none"> <li><b>Epinephrine (1:10,000):</b> <i>Adult:</i> 1mg IV/IO, repeat every 3-5 minutes.</li> <li>Treat Reversible Causes             <ul style="list-style-type: none"> <li>If hypovolemia is suspected, consider <b>Fluid Challenge AP-09</b>.</li> <li>If hyperkalemia is suspected consider:                 <ul style="list-style-type: none"> <li><b>Calcium Chloride:</b> <i>Adult:</i> 500 mg IV/IO.</li> <li><b>Sodium Bicarbonate:</b> <i>Adult:</i> 1 mEq/kg IV/IO, may repeat once in 5 minutes</li> </ul> </li> </ul> </li> </ul>		
KEY CONCEPTS	<ul style="list-style-type: none"> <li>Continue resuscitation efforts until return of spontaneous circulation (ROSC) occurs or resuscitation efforts fail. Efforts should continue for <math>\geq 30</math> minutes. At termination of efforts, capnography value should be <math>\leq 10</math> mmHg.</li> <li>EMS personnel should initiate rapid transport and continue resuscitation when the following factors are present:             <ul style="list-style-type: none"> <li>With a PEA rate <math>&gt; 40</math>, capnography value <math>&gt; 10</math> mmHg, and a suspected pulmonary embolism.</li> <li>ROSC following cardiac arrest (5 minutes of palpable pulses)</li> <li>Drowning.</li> <li>Hypothermia.</li> </ul> </li> <li>EMS personnel should attempt to identify possibly reversible cause of asystole/PEA:             <table border="0" style="width: 100%;"> <tr> <td style="vertical-align: top;"> <ul style="list-style-type: none"> <li>Hypovolemia</li> <li>Hypoxia or ventilation problem</li> <li>Hydrogen Ion (acidosis)</li> <li>Hypo/Hyperkalemia</li> <li>Hypothermia</li> </ul> </td> <td style="vertical-align: top;"> <ul style="list-style-type: none"> <li>Toxins</li> <li>Tamponade (cardiac)</li> <li>Tension pneumothorax</li> <li>Thrombosis (coronary / pulmonary)</li> <li>Trauma (hypovolemia or elevated ICP)</li> </ul> </td> </tr> </table> </li> </ul>	<ul style="list-style-type: none"> <li>Hypovolemia</li> <li>Hypoxia or ventilation problem</li> <li>Hydrogen Ion (acidosis)</li> <li>Hypo/Hyperkalemia</li> <li>Hypothermia</li> </ul>	<ul style="list-style-type: none"> <li>Toxins</li> <li>Tamponade (cardiac)</li> <li>Tension pneumothorax</li> <li>Thrombosis (coronary / pulmonary)</li> <li>Trauma (hypovolemia or elevated ICP)</li> </ul>
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# Ventricular Fibrillation/ Pulseless Ventricular Tachycardia

FIELD TREATMENT GUIDELINE C-03

INDICATION	<ul style="list-style-type: none"> <li>Cardiac arrest patient presenting in ventricular fibrillation or pulseless ventricular tachycardia.</li> </ul>
BLS	<ul style="list-style-type: none"> <li>Follow <b><u>General Medical Care M-01</u></b>.</li> <li>Follow <b><u>Cardiac Arrest Management C-01</u></b>.</li> </ul>
ALS	<ul style="list-style-type: none"> <li><b><u>Defibrillate at 360J</u></b>.             <ul style="list-style-type: none"> <li>Defibrillation should not be delayed for any patient presenting in ventricular fibrillation/pulseless ventricular tachycardia.</li> <li>Should be repeated at 360J after each 2 minutes of CPR if patient remains in ventricular fibrillation/pulseless ventricular tachycardia.</li> <li>Minimize perishock pauses – consider pre-charging the defibrillator</li> </ul> </li> <li><b><u>Epinephrine (1:10,000)</u></b>: <i>Adult:</i> 1mg IV/IO after second defibrillation. Repeat every 3-5 minutes.</li> <li><b><u>Amiodarone</u></b>: <i>Adult:</i> 300 mg IV/IO after <u>third</u> defibrillation. If patient remains in ventricular fibrillation/pulseless ventricular tachycardia, administer a second dose of 150 mg IV/IO.</li> <li>If patient is resistant to 3 consecutive shocks (including from AED), without a rhythm change:             <ul style="list-style-type: none"> <li><b><u>Double Simultaneous External Defibrillation AP-06</u></b>.                 <ul style="list-style-type: none"> <li>If ventricular fibrillation/pulseless ventricular tachycardia persist after first DSED, transport to the closest STEMI receiving center for further treatment.</li> </ul> </li> </ul> </li> </ul>
KEY CONCEPTS	<ul style="list-style-type: none"> <li>CPR should not be interrupted for placement of IV/IO, airway, or medication administration.</li> <li>If after ROSC the patient rearrests, shock with the energy level that converted the patient.</li> <li>EMS personnel should initiate rapid transport and continue resuscitation when the following factors are present:             <ul style="list-style-type: none"> <li>ROSC following cardiac arrest (5 minute of palpable pulses)</li> <li>Near drowning.</li> <li>Hypothermia.</li> <li>Double simultaneous external defibrillation.</li> </ul> </li> <li>Patients in recurrent ventricular fibrillation may benefit from transport to hospital for additional antiarrhythmic therapy.</li> <li>NOTE: Further treatment at the hospital may include one or more of the following: ECMO, thrombolytics, or percutaneous intervention (PCI).</li> </ul>



# Symptomatic Bradycardia

FIELD TREATMENT GUIDELINE C-04

INDICATION	<ul style="list-style-type: none"> <li>Symptomatic Bradycardia: Heart rate &lt; 60 with serious signs and symptoms. Patient must demonstrate a systolic blood pressure &lt; 90 mmHg <u>and</u> one or more of the following:             <ul style="list-style-type: none"> <li>Chest pain.</li> <li>Shortness of breath.</li> <li>Pulmonary Edema.</li> </ul> </li> </ul>																		
BLS	<ul style="list-style-type: none"> <li>Follow <b>General Medical Care M-01</b>.</li> <li>Identify and Treat Underlying Cause.</li> <li><b>12-Lead ECG BP-03</b>. (Do not delay therapy for 12-Lead ECG).</li> </ul>																		
ALS	<ul style="list-style-type: none"> <li><b>MODERATE SYMPTOMATIC BRADYCARDIA:</b> Alert with serious signs and symptoms:             <ul style="list-style-type: none"> <li><b>Atropine:</b> <i>Adult:</i> 0.5 mg IV/IO. Repeat every 5 minutes, MAX total dose of 3 mg.</li> <li>If patient doesn't respond to atropine or there is difficulty gaining IV/IO access:</li> <li><b>External Cardiac Pacing AP-07.</b> <ul style="list-style-type: none"> <li>Consider <b>Sedation AP-14</b> if patient is awake and aware.</li> </ul> </li> <li>If patient doesn't respond to atropine and external cardiac pacing:</li> <li><b>Dopamine:</b> <i>Adult:</i> Titrate to systolic blood pressure of 90 mmHg, based on weight range of Dopamine Dose Chart.</li> </ul> </li> <li><b>SEVERE SYMPTOMATIC BRADYCARDIA:</b> Altered mental status with serious signs and symptoms:             <ul style="list-style-type: none"> <li><b>External Cardiac Pacing AP-07</b> should be first line therapy for treating severe symptomatic bradycardia.                 <ul style="list-style-type: none"> <li>Consider <b>Sedation AP-14</b> if patient is awake and aware.</li> </ul> </li> <li>If patient doesn't respond to external cardiac pacing:</li> <li><b>Dopamine:</b> <i>Adult:</i> Titrate to systolic blood pressure of 90 mmHg, based on weight range of Dopamine Dose Chart.</li> </ul> </li> </ul>																		
KEY CONCEPTS	<ul style="list-style-type: none"> <li>Begin immediate transport if unable to establish IV/IO; continue treatment while transporting.</li> <li>Bradycardia is often seen in patients with STEMI or ischemia. 12-lead should be obtained.</li> <li>Sedation prior to starting pacing is not required. Critical patients should be paced first.</li> <li>Sedation in pacing is to decrease discomfort, not to decrease level of consciousness.</li> <li>Atropine is not often effective for wide-QRS third degree block and in heart-transplant patients.</li> </ul>																		
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# Wide-Complex Tachycardia

FIELD TREATMENT GUIDELINE C-05

<b>INDICATION</b>	<p>Stable or unstable patient presenting with a wide-complex tachycardia:</p> <ul style="list-style-type: none"> <li>QRS <math>\geq</math> 0.12 seconds as documented in two (2) leads. Rate is typically regular, but may be irregular.</li> </ul>
<b>BLS</b>	<ul style="list-style-type: none"> <li>Follow <b><u>General Medical Care M-01</u></b>.</li> <li><b><u>12-Lead ECG BP-03</u></b>.</li> </ul>
<b>ALS</b>	<p><b>STABLE:</b> Systolic blood pressure above 90 mmHg in the absence of chest pain, shortness of breath, or acutely altered mental status.</p> <ul style="list-style-type: none"> <li><b><u>Amiodarone:</u></b> <i>Adult:</i> 150 mg IV/IO, infuse over 10 minutes. If dysrhythmia continues, may repeat once in 10 minutes.</li> </ul> <p><b>UNSTABLE :</b> Systolic blood pressure below 90 mmHg or chest pain, shortness of breath, or acutely altered mental status.</p> <ul style="list-style-type: none"> <li>Synchronized Cardioversion: <ul style="list-style-type: none"> <li>Consider <b><u>Sedation AP-14</u></b> if patient is awake and aware.</li> <li>Initial energy setting: 100J</li> <li>If no response: 200J</li> <li>If no response: 300J</li> <li>If no response: 360J</li> </ul> </li> <li>Contact base hospital for consideration of additional therapy (i.e. extended transport times requiring ongoing amiodarone infusion).</li> </ul>
<b>KEY CONCEPTS</b>	<ul style="list-style-type: none"> <li>Rhythm analysis should be based on review of printed ECG strip, not monitor screen or computerized readout of 12-lead ECG.</li> <li>Caution with administration of amiodarone. Rapid infusion may cause hypotension.</li> <li>Amiodarone should not be used in unstable patients. This includes hypotensive patients.</li> <li>Amiodarone should not be administered to patients experiencing ventricular ectopy. Use of amiodarone should be restricted to ventricular tachycardia.</li> </ul>



# Supraventricular Tachycardia (SVT)

FIELD TREATMENT GUIDELINE C-06

<b>INDICATION</b>	<p>Stable or unstable patient presenting with supraventricular tachycardia (SVT):</p> <ul style="list-style-type: none"> <li>Regular heart rate &gt; 150 with QRS &lt; 0.12 seconds as documented in two (2) leads.</li> </ul>
<b>BLS</b>	<ul style="list-style-type: none"> <li>Follow <b><u>General Medical Care M-01</u></b>.</li> <li>Identify and treat underlying cause</li> <li><b><u>12-Lead ECG BP-03</u></b>.</li> </ul>
<b>ALS</b>	<p><b>STABLE:</b> Systolic blood pressure above 90 mmHg in the absence of severe chest pain, severe shortness of breath, or acutely altered mental status.</p> <ul style="list-style-type: none"> <li>Valsalva maneuver.</li> <li><b><u>Adenosine:</u></b> <i>Adult:</i> 6 mg IV/IO rapid push followed by 10 mL normal rapid saline flush.</li> <li>If no response after two minutes: <i>Adult:</i> 12 mg rapid IV push followed by 10 mL normal saline flush.</li> </ul> <p><b>UNSTABLE:</b> Systolic blood pressure below 90 mmHg or severe chest pain, severe shortness of breath, or acutely altered mental status.</p> <ul style="list-style-type: none"> <li>Synchronized Cardioversion: <ul style="list-style-type: none"> <li>Consider <b><u>Sedation AP-14</u></b> if patient is awake and aware.</li> <li>Initial energy setting: 100J</li> <li>If no response: 200J</li> <li>If no response: 300J</li> <li>If no response: 360J</li> </ul> </li> </ul>
<b>KEY CONCEPTS</b>	<ul style="list-style-type: none"> <li>Rhythm analysis should be based on review of P and QRS waves on printed ECG strip, not monitor screen or computerized readout of 12-lead ECG.</li> <li>Hypoxia is a common cause of tachycardia. Initial evaluation should focus on determining if oxygenation is adequate.</li> </ul>





# Rapid Atrial Fibrillation/Atrial Flutter

FIELD TREATMENT GUIDELINE C-07

<b>INDICATION</b>	<p>Atrial Fibrillation: Appearance of irregularly irregular rhythm with variations in both R wave to R wave interval and amplitude.</p> <p>Atrial Flutter: Appearance of classic saw-tooth pattern rhythm with ventricular response rates rarely &gt; 150 to 180.</p>	
<b>BLS</b>	<ul style="list-style-type: none"> <li>Follow <b><u>General Medical Care M-01</u></b>.</li> <li><b><u>12-Lead ECG BP-03</u></b>.</li> </ul>	
<b>ALS</b>	<p><b>UNSTABLE:</b> Systolic blood pressure below 90 mmHg or severe chest pain, severe shortness of breath, or acutely altered mental status.</p> <ul style="list-style-type: none"> <li>Administer <b><u>Fluid Challenge AP-09</u></b>.</li> <li>Synchronized Cardioversion:             <ul style="list-style-type: none"> <li>Consider <b><u>Sedation AP-14</u></b> if patient is awake and aware.</li> </ul> </li> </ul>	
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<b>KEY CONCEPTS</b>	<ul style="list-style-type: none"> <li>Rhythm analysis should be based on review of P and QRS waves on printed ECG strip, not monitor screen or computerized readout of 12-lead ECG.</li> <li>Atrial fibrillation and atrial flutter are typically well-tolerated rhythms that do not require aggressive therapy. Assess patient for other possible causes if symptomatic. Attempts to covert the rhythm should be reserved for the patient in extremis.</li> </ul>	



# Cardiogenic Shock

FIELD TREATMENT GUIDELINE C-08

<b>INDICATION</b>	<p>Systolic blood pressure &lt; 90 mmHg. Shock-like appearance suggestive of cardiac origin. May have:</p> <ul style="list-style-type: none"> <li>• History of congestive heart failure,</li> <li>• Chest pain,</li> <li>• Rales or clear lung sounds,</li> <li>• Shortness of breath, or</li> <li>• Pedal edema.</li> </ul>																									
<b>BLS</b>	<ul style="list-style-type: none"> <li>• Follow <b>General Medical Care M-01</b>.</li> <li>• <b>12-Lead ECG BP-03</b>. <ul style="list-style-type: none"> <li>• If acute ST elevation myocardial infarction (STEMI) detected on 12-Lead ECG, e.g., <b>***MEETS ST ELEVATION MI CRITERIA***</b>: <ul style="list-style-type: none"> <li>• Transmit 12-Lead ECG with direct transport to the closest authorized STEMI receiving center.</li> </ul> </li> </ul> </li> <li>• Contact receiving facility ASAP.</li> </ul>																									
<b>ALS</b>	<ul style="list-style-type: none"> <li>• Administer <b>Fluid Challenge AP-09</b>.</li> <li>• If patient doesn't respond to the above treatment: <ul style="list-style-type: none"> <li>• <b>Dopamine</b>: <i>Adult</i>: Titrate to systolic blood pressure of 90 mmHg, based on weight range of Dopamine Dose Chart.</li> </ul> </li> </ul>																									
<b>KEY CONCEPTS</b>	<ul style="list-style-type: none"> <li>• Rapid transport with early notification to receiving facility should be considered early in the management of cardiogenic shock.</li> <li>• Sepsis should be considered as a possible cause of atraumatic shock.</li> <li>• Place multifunction defibrillator/pacer pads on patient in case of cardiac arrest.</li> <li>• Use Dopamine with caution in cardiogenic shock with accompanying congestive heart failure.</li> </ul>																									
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# Suspected Acute Coronary Syndrome

FIELD TREATMENT GUIDELINE C-09

INDICATION	<p>Retrosternal chest discomfort, heaviness, squeezing, burning or tightness; pain radiating or isolated to jaw, shoulders or back; nausea; diaphoresis; dizziness; dyspnea; anxiety; or back pain. Patient may have a history of coronary artery disease (CAD).</p>
BLS	<ul style="list-style-type: none"> <li>• Follow <b><u>General Medical Care M-01</u></b>.</li> <li>• <b><u>12-Lead ECG BP-03</u></b>.             <ul style="list-style-type: none"> <li>• If acute ST elevation myocardial infarction (STEMI) detected on 12-Lead ECG, e.g., <b>***MEETS ST ELEVATION MI CRITERIA***</b>:                 <ul style="list-style-type: none"> <li>▪ Transmit 12-Lead ECG with direct transport to the closest authorized STEMI receiving center.</li> <li>▪ Contact receiving facility ASAP.</li> </ul> </li> </ul> </li> <li>• <b><u>Aspirin</u></b>: <i>Adult</i>: 162 mg PO. Have patient chew if possible. Do not use enteric coated tablets.</li> </ul>
ALS	<ul style="list-style-type: none"> <li>• <b><u>Nitroglycerine</u></b>: Sublingual <i>Adult</i>: 0.4 mg SL. Repeat every 3-5 min if discomfort persists and systolic blood pressure remains <math>\geq</math> 100 mmHg.</li> <li>• <b><u>Nitroglycerine</u></b>: 2% Paste <i>Adult</i>: If transport time is &gt; 1 hour, administer ½ inch of 2% paste to anterior chest wall. If discomfort is relieved and systolic blood pressure remains <math>\geq</math> 100 mmHg, continue the use of paste.</li> <li>• <b><u>Fentanyl</u></b>: Administer according to <b><u>Pain Management AP-13</u></b>.</li> <li>• If patient is a STEMI, consider establishing a second IV NS TKO during transport.</li> </ul>
KEY CONCEPTS	<ul style="list-style-type: none"> <li>• Do not administer nitroglycerine before establishing IV access.</li> <li>• Many STEMI's evolve during prehospital care and may not be noted on the initial 12-Lead.</li> <li>• If no STEMI detected in ECG interpretation and providers have additional concerns about the patient, consider base hospital consultation with transmission of the 12-Lead ECG.</li> <li>• Do not administer nitroglycerine to patients who have recently taken erectile dysfunction drugs: Viagra, Staxyn, Levitra, or Stendra with 24 hours, or Cialis within 36 hours.</li> <li>• Consider an aortic dissection/aneurysm if unequal pulses in extremities, tearing pain, pain radiating to back (hypertensive or hypotensive), transport immediately.</li> <li>• Oxygen, IV, and initial treatment of dysrhythmias (for frequent couplets or repeated non-sustained V-tach) should be started prior to transport.</li> <li>• Myocardial ischemia is a frequent cause of chest pain, but consider other life-threatening causes: pneumothorax (particularly in asthmatics, COPD, trauma); pulmonary embolus (women on birth control pills, or pregnant, or patients with immobilized lower extremities); dissecting aneurysm (atherosclerotic disease); or pericarditis.</li> <li>• Etiology of chest pain is frequently difficult to diagnose. If any doubt exists, assume the pain arises from a life-threatening condition.</li> <li>• Patients who take other blood thinners (Lovenox, Coumadin [warfarin], Pradaxa [dabigatran], etc.) SHOULD still receive aspirin.</li> </ul>