Chest Pain of Suspected Cardiac Origin or Suspected Angina Equivalent Symptoms

BASE GUIDELINES

1. Determine ALS Standing Order treatments/procedures provided prior to Base Hospital contact. Use ALS Standing Order as guidelines for treatments/procedures not initiated prior to Base Hospital contact.
2. If 12-Lead ECG is reported to show **bundle branch block** (right or left) or pacemaker rhythm, assume chest pain is the result of cardiac ischemia and may be an acute MI, refer to an open CVRC.
3. For patients with suspected cardiac chest pain and **low BP**, hold Nitroglycerin and if lungs are clear to auscultation, give 250 mL normal saline bolus (this situation is not uncommon with right coronary ischemia and infarcts).
4. OCEMS paramedics may contact a Base for suspected acute MI based on the internal reading of the 12-Lead recorder or based on their own reading of the ECG.
5. Before assigning a CVRC destination, assure that there is an open Cath lab at the proposed receiving CVRC and that the ED is not closed on the ReddiNet.
6. If a **patient requests** a CVRC that is not the closest and transport time is 20 minutes or less, such a request can be honored if the patient is stable (primarily BP greater than 90 systolic).
7. Supplemental oxygen should be held if the pulse oximetry reading is 95% or above on room air.
8. Consider administering **Nitroglycerin** to a chest pain patient with a BP above 100 systolic as the IV is being established or if an IV cannot be established.

ALS STANDING ORDER

1. Monitor Cardiac Rhythm
2. Obtain **12-Lead ECG** as soon as possible prior to leaving scene; if acute MI indicated or suspected make Base Hospital contact for CVRC destination with cardiac catheterization lab open and available.
3. Administer aspirin if none of the following contraindications exists:
   - If pain directly in the mid-back, mid-line region, hold aspirin as this may be a symptom of a dissecting aorta, particularly in a patient with a history of hypertension.
   - Patient is on anticoagulant ("blood thinners") medication such as Coumadin, Pradaxa®, Effient®, and Lovenox® or antiplatelet medications such as Plavix®.
   - Patient reports history of aspirin allergy

   ▶ Aspirin 4 (four) 81 mg chewable tablets (chew) or one 325 mg regular tablet (chew).
4. Pulse oximetry; if room air 0_2 saturation less than 95%:

   ▶ *Administer Oxygen by mask or nasal cannula at 6 L/min flow rate as tolerated.*
5. For initial management of suspected cardiac pain give:

   ▶ *Nitroglycerin 0.4 mg SL if systolic BP above 100 mm/Hg; repeat approximately every 3 minutes for continued discomfort; maximum total of 3 doses if systolic BP above 100 mm/Hg (*Do not include possible doses patient took prior to ALS arrival as part of 3 EMS doses).

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ALS STANDING ORDER TREATMENT GUIDELINES

If AAA suspected, patient should be routed to the nearest open Trauma Center.

►Signs of Abdominal Aortic Aneurysm (AAA) disruption include:

- Sudden onset abdominal, back or flank pain
- Shock (hypotension, poor skin signs)
- Bradycardia or tachycardia
- Pulsating mass, loss of distal pulses are not always observed

►Patients considered at risk of AAA disruption include:

- Male
- Age >50 years
- History of hypertension
- Known AAA
- Family history of AAA
- Coronary artery disease or other vascular disease

If a patient is wearing a LifeVest®,

- Proceed with standard evaluation and treatment measures.
- CPR can be performed as long as the device is not broadcasting, "press the response buttons," or "electrical shock possible, do not touch patient," or "bystanders do not interfere"
- If external defibrillation is available, remove the LifeVest® and monitor/treat the patient with the external equipment. Providers can defibrillate with the vest in place AFTER disconnecting the battery.
- To remove the LifeVest®, first pull out the battery, then remove the garment from the patient.
- Take vest, modem, charger, and extra battery to the hospital.

ALS STANDING ORDER

6. If **pain unrelieved with 3 doses of nitroglycerin** or nitroglycerin cannot be administered, give:

   ► *Morphine Sulfate: 5 mg (or 4 mg carpuject) IV, may repeat once after approximately 3 minutes (*hold if BP is less than or drops below 90 systolic)
   OR,
   ► *Fentanyl 50 mcg IV, may repeat once after approximately 3 minutes for continued pain (*hold if BP less than or drops below 90 systolic).

7. For nausea or vomiting and not known or suspected to be pregnant:
   ► *Ondansetron (Zofran®): ODT 8 mg (two 4 mg tablets) orally to dissolve inside of cheek, once;*
   OR,
   ► *4 mg IV, may repeat 4 mg IV in approximately 3 minutes if symptoms persist.*

8. Contact Base Hospital if acute MI (STEMI) for CVRC Destination or if acute MI not suspected, paramedic escort to an appropriate ERC.

CAUTION: AN ECG THAT IS "NORMAL" OR NEGATIVE FOR STEMI DOES NOT RULE OUT AN ACUTE MI OR SERIOUS ANGINA.

TREATMENT GUIDELINES:

- The following 12-Lead monitor interpretations should be triaged to a CVRC:
  1. ***ACUTE MI***
  2. ***STEMI***
  3. Acute ST Elevation Infarct
  4. Probable Acute ST Elevation Infarct
  5. Acute Infarction
  6. Infarct, Probably Acute
  7. Infarct, Possible Acute

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ALS STANDING ORDER

- Do not administer nitroglycerin if Viagra® (sildenafil, Levitra® (vardenafil), or Cialis® (tadalafil) were used by the patient in the past 24 hours).
- Intraosseous lines should be avoided for potential CVRC patients because such lines may allow for uncontrolled bleeding without the ability to compress the bleeding site if a patient receives thrombolytics.
- Angina equivalent symptoms can include, but are not limited to:
  - Unexplained sweating or diaphoresis
  - Sudden onset of general weakness
  - Unexplained shortness of breath
  - Anxiety, or vague feeling of panic
- Chest Discomfort presenting as heartburn, pleuritic, or musculoskeletal pain does not rule out heart disease or acute MI. A field 12-lead ECG should be obtained as soon as possible, preferably prior to leaving scene, on any adult 45 years-old or greater who complains of the following symptoms:
  - Known history of heart disease with chest pain, chest discomfort, shortness of breath, or syncope-weakness.
  - Chest pain or chest discomfort (unrelated to injury or strain) as chief symptom.
  - Radiation of chest pain or chest discomfort to arm, shoulder, neck, jaw or back.
  - Diaphoresis.
- Base Hospital contact should be made prior to leaving scene for all patients who have a 12-Lead performed and elect to sign out AMA.
- ***See Base Guidelines for information regarding LifeVest®.***

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