
PURPOSE: To provide a process for the assessment and management of chest pain of various sources. This protocol may be used in conjunction with other dysrhythmia protocols.

- M B S P** **I. Assessment Information for Differential Diagnosis**
- A. FOR CHEST PAIN OF CARDIAC ORIGIN:**
1. Quality:
 - a) Substernal location
 - b) Dull to tight sensation i.e., "heaviness or weight on chest"
 - c) Radiation to the arm, neck, or jaw
 - d) Worsened with activity, but may or may not be relieved by rest
 - e) Duration of pain usually constant
 - f) Activity during onset - at rest or with exertion
 - g) Usually not changed with respiration or palpation of chest wall
 2. Associated symptoms and signs:
 - a) Diaphoresis
 - b) Shortness of breath
 - c) Nausea or vomiting
 - d) Feelings or verbalizations of impending doom
 3. Identify risk factors for coronary disease:
 - a) Previous cardiac history
 - b) Hypertension
 - c) Smoker
 - d) Diabetic
 - e) Family history
 - f) Elevated cholesterol
 - g) Obesity
 - h) Sedentary lifestyle
- M B S P** **B. FOR CHEST PAIN SECONDARY TO PNEUMONIA:**
1. Quality of pain:
 - a) May be pleuritic
 - b) Usually gradual onset
 - c) Duration usually constant
 2. Associated symptoms and signs:
 - a) Fever
 - b) Shortness of breath
 - c) Productive cough
 - d) Rales, rhonchi, or diminished breath sounds (localized)
 - e) Nausea and/or vomiting
 - f) Associated flu-like symptoms
- M B S P** **C. FOR CHEST PAIN SECONDARY TO PULMONARY EMBOLUS:**
1. Quality of pain:
 - a) May be pleuritic

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- b) Usually sudden onset
- c) Usually constant duration
2. Associated symptoms and signs:
 - a) Tachycardia
 - b) Tachypnea
 - c) Productive cough (may have blood tinged sputum)
 - d) Shortness of breath
 - e) Associated leg pain
3. Risk Factors:
 - a) Birth control pills
 - b) Clotting disorders
 - c) Pregnancy
 - d) Recent surgery or extended travel
 - e) Prolonged immobilization (including casts)

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D. FOR CHEST PAIN SECONDARY TO AORTIC DISSECTION:

1. Quality of pain:
 - a) Usually sudden onset
 - b) Usually constant duration
2. History of aneurysm
3. Associated symptoms and signs:
 - a) Associated back pain
 - b) Associated neurological signs
 - c) Hypotension
 - d) Unequal peripheral pulses

II. General Management

- A. Utilize universal precautions.
- B. Evaluate and maintain airway, provide oxygen and support ventilations as needed.
- C. Evaluate circulation:
 1. Pulse and blood pressure
 2. Determine skin color, temp and moisture.
 3. Listen and evaluate heart and lungs for:
 - a) Dysrhythmias
 - b) Rales in lungs consistent with CHF
 4. Assess for JVD
- D. For chest pain associated with inadequate perfusion, go to Cardiogenic Shock Protocol.
- E. Monitor EKG. **If a dysrhythmia** is present, go to the appropriate protocol.
- F. Obtain vascular access.

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III. Specific Management

A. Patient with CHEST PAIN OF CARDIAC ORIGIN:

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1. Administer **ASA 324** mg PO (4 x 81mg tablets) to be chewed and swallowed (may be administered earlier).

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2. Administer **Nitroglycerine** SL 0.4 mg (1/150 gr)

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- a. May repeat every three to five minutes, until pain is totally relieved, or to a total of 6 doses.
- b. Do not administer if patient is or becomes hypotensive (systolic BP <90), or has taken sildenafil (Viagra®) within previous 24 hours, or in pediatric patients.
- c. If vascular access has been attempted but cannot be established without delay, nitroglycerin may be administered prior to establishing vascular access if:
 - 1) The patient has a history of prior nitroglycerine use
 - 2) The patient's systolic BP is \geq 140. Attempts at obtaining vascular access should continue during nitroglycerine administration

- P 3. IF PVCs ARE PRESENT in the patient with chest pain:
 - a. With bradycardia - Go to Bradycardia Protocol
 - b. With ventricular tachycardia - Go to V-Tach Protocol.
 - c. With multifocal or numerous PVC's - Go to Ventricular Ectopy protocol.

- B S P 4. Immediate transport
- P 5. Complete the "Considerations for Thrombolytic Therapy" Checklist.



- P 6. Possible orders post-radio contact:
 - a. Additional nitroglycerine 0.4 mg (1/150 gr) SL.
 - b. For chest pain unrelieved by nitroglycerine:
 - 1) Morphine sulfate 2-10 mg IV slowly titrated to pain.
 - a) Do not administer if patient hypotensive or respirations are compromised.
 - c. If patient is hypotensive, administer 300ml fluid bolus with repeat as needed, titrating to signs of adequate perfusion.

- S P B. Patient with CHEST PAIN SECONDARY TO PNEUMONIA:
 - 1. Place infection control mask over patient's mouth and nose.
 - 2. Transport patient in position of comfort.

C. **Patient with CHEST PAIN SECONDARY TO PULMONARY EMBOLUS:**

1. Transport patient in position of comfort.
2. Assist ventilations as needed.

3CONTACT MEDICAL CONTROL

3. **Possible orders post radio contact:**

- a. Nitroglycerin
- b. Thrombolytic Check list completion

D. **Patient with CHEST PAIN SECONDARY TO AORTIC DISSECTION:**

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1. Start a second IV in a manner not to delay transport. Rate to be determined by patient's clinical condition.

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2. **Possible orders post radio contact:**

- a. Nitroglycerine
- b. Morphine sulfate
- c. Fluid bolus