

**REGION I EMERGENCY MEDICAL SERVICES  
STANDING MEDICAL ORDERS  
EMT – Basic**

**SMO: Chest Pain of Suspected Cardiac Origin**

**Overview:** Patients with acute nontraumatic chest pain are among the most challenging patients cared for in EMS. They may appear seriously ill or completely well and yet remain at significant risk of sudden death or acute myocardial infarction. Sorting out which patient is experiencing chest pain of cardiac origin represents a tremendous challenge. This protocol should be utilized whenever cardiac chest pain is suspected. Whenever there is question as to whether or not you should utilize this protocol, contact medical control for further guidance.

**INFORMATION NEEDED**

- Discomfort or pain: OPQRST, Previous episodes
- Associated symptoms: Weakness, nausea, vomiting, diaphoresis, dyspnea, dizziness, palpitations, “indigestion”
- Medical history (cardiac history, other medical problems, including hypertension, diabetes or stroke)

**OBJECTIVE FINDINGS**

- General appearance: level of distress, skin color, diaphoresis
- Signs of CHF (peripheral edema, respiratory distress, distended neck veins)
- Lung sounds
- Assessment of pain
- Vital Signs

**TREATMENT**

- Reassure patient and place in position of comfort, or supine if patient’s systolic BP is < 90.
- Pulse oximetry
- Oxygen 2-6 L/min by nasal cannula or Non-rebreather mask at 10-15 L/min
- Assess patient: primary, secondary and history
- Assist patient with taking their own NTG if SBP is >90; repeat q 5 min. to a max of three, or stop if SBP becomes less than or equal to 100
- BABY ASA 81 mg FOUR tablets** chew and swallow
- Routine Medical Care

**Documentation for Adherence to Protocol:**

- Presence of PQRST history
- Vital signs before/after NTG administration
- Oxygen administration
- NTG unless hypotension or Viagra or Levitra w/in past 12 hrs. Documented
- ASA unless allergy documented

### Medical Control Contact Criteria

- Contact Medical Control if any question exists as to whether or not this protocol should apply i.e. atypical sounding chest discomfort.
- For permission to assist patient with taking their own **NTG**
- Additional treatment for ongoing pain when BP<100

### PRECAUTIONS AND COMMENTS

- Minimize scene time and notify the receiving hospital.
- Suspicion of Acute Coronary Syndrome (ACS) is based upon patient history. Be alert to patients likely to present with atypical symptoms or “silent AMI’s”: women, elderly and diabetics.
- **Nitroglycerin** is contraindicated in patients who have taken Viagra or Levitra within the past 12 hours.
- Consider other potential causes of chest pain: pulmonary embolus, pneumonia, aortic aneurysm and pneumothorax.
- If transport time permits, ask the following questions to assist in determining eligibility for thrombolytic therapy:

7/04

Reviewed:

Revised:

EMS/ Region1 SMOs

**REGION I EMERGENCY MEDICAL SERVICES  
STANDING MEDICAL ORDERS  
EMT – Paramedic**

**SMO: Chest Pain of Suspected Cardiac Origin**

**Overview:** Patients with acute nontraumatic chest pain are among the most challenging patients cared for in EMS. They may appear seriously ill or completely well and yet remain at significant risk of sudden death or acute myocardial infarction. Sorting out which patient is experiencing chest pain of cardiac origin represents a tremendous challenge. This protocol should be utilized whenever cardiac chest pain is suspected. Whenever there is question as to whether or not you should utilize this protocol, contact medical control for further guidance.

**INFORMATION NEEDED**

- Discomfort or pain: OPQRST, Previous episodes
- Associated symptoms: Weakness, nausea, vomiting, diaphoresis, dyspnea, dizziness, palpitations, “indigestion”
- Medical history (cardiac history, other medical problems, including hypertension, diabetes or stroke)

**OBJECTIVE FINDINGS**

- General appearance: level of distress, skin color, diaphoresis
- Signs of CHF (peripheral edema, respiratory distress, distended neck veins)
- Lung sounds
- Interpretation of EKG rhythm
- Assessment of pain
- Vital Signs

**TREATMENT**

- Reassure patient and place in position of comfort, or supine if patient’s systolic BP is < 90.
- Pulse oximetry
- Oxygen 2-6 L/min by nasal cannula or Non-rebreather mask at 10-15 L/min
- Assess patient: primary, secondary and history
- IV NS with standard tubing at KVO rate (NO microdrip/minidrip tubing)
- Cardiac Monitor
- NTG** 0.4 mg lingual spray or sublingual tablet, repeat q 5 min. if SBP > 100 mmHg (IV not required prior to 1<sup>st</sup> dose of NTG administration but IV should be started before subsequent doses of NTG)
- BABY ASA 81 mg FOUR** tablets chew and swallow
- If discomfort persists; give **Morphine Sulfate** 2-4 mg slow IV push (unless allergy exists), repeat as indicated if SBP > 100mmHg, to total dose of 10 mg.
- If dysrhythmia is present, and persists after treatment above, see **DYSRHYTHMIA** Protocol(s)

**TREATMENT (cont)**

- If hypotension develops, give 500cc fluid challenge, and **Dopamine** 5 to 20 mcg/kg/min IV infusion; titrate to SBP>90 mm Hg. (Start at 10mcg/kg/minute and titrate up in increments of 5mcg/kg/minute until SBP >90 or maximum of 20 mcg/kg/minute reached.
- 12 lead EKG, if available

**Documentation for Adherence to Protocol:**

- Presence of PQRST history
- Vital signs before/after NTG administration
- Cardiac rhythm documentation
- Oxygen administration
- IV placement
- NTG unless hypotension or Viagra or Levitra w/in past 12 hrs. Documented
- ASA unless allergy documented
- Prehospital screening for thrombolytic therapy administered

**Medical Control Contact Criteria**

- Contact Medical Control if any question exists as to whether or not this protocol should apply i.e. atypical sounding chest discomfort.
- Contact Medical Control if any question exists as to the best option for the patient
- Additional treatment for ongoing pain when BP<100

**PRECAUTIONS AND COMMENTS**

- Minimize scene time and notify the receiving hospital as soon as possible.
- Suspicion of Acute Coronary Syndrome (ACS) is based upon patient history. Be alert to patients likely to present with atypical symptoms or “silent AMI’s”: women, elderly and diabetics.
- **Nitroglycerin** is contraindicated in patients who have taken Viagra or Levitra within the past 12 hours.
- Administer **Morphine** slowly IV to avoid respiratory depression and/or hypotension; be ready to support ventilations and have naloxone available.
- Consider other potential causes of chest pain: pulmonary embolus, pneumonia, aortic aneurysm and pneumothorax.
- See next page:

- If transport time permits, ask the following questions to assist in determining eligibility for thrombolytic therapy:

**PREHOSPITAL SCREENING FOR THROMBOLYTIC THERAPY\*:**

***HAVE YOU HAD ANY OF THE FOLLOWING CONDITIONS WITHIN THE LAST MONTH?***

**Stroke** YES\_\_ NO\_\_

**Surgery** YES\_\_ NO\_\_

**Bloody Stools or Vomit** YES\_\_ NO\_\_

**Black Stools** YES\_\_ NO\_\_

**Coffee Ground Vomitus** YES\_\_ NO\_\_

**Are you pregnant?** YES\_\_ NO\_\_

**Do you have a bleeding tendency (e.g. hemophilia)** YES\_\_ NO\_\_

**Do you take a blood thinner such as Coumadin?** YES\_\_ NO\_\_

**Do you have a brain aneurysm or brain cancer?** YES\_\_ NO\_\_

**Did your symptoms start more than 2 hours ago?** YES\_\_ NO\_\_

*\*A “no” answer to all of the above questions makes the patient a stronger candidate for thrombolytic therapy.*

**PHYSICAL:**

**Is the patient’s blood pressure persisting ( >15 minutes) SBP > 180 or DBP > 120?**

YES\_\_ NO\_\_

**Is the patients GCS < 15?** YES\_\_ NO\_\_

*\* A “no” answer to the above two questions makes the patient a stronger candidate for thrombolytic therapy.*