

**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 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
- Low Dose- **ASA 81 mg X FOUR tablets** chew and swallow
- Routine Medical Care

Documentation for Adherence to Protocol:

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

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, Levitra, or Cialis 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:

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

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, 12 lead EKG, if available
- NTG** 0.4 mg lingual spray or sublingual tablet, repeat q 5 min. if SBP > 100 mmHg (IV not required prior to 1st dose of NTG administration but IV should be started before subsequent doses of NTG)
- Low Dose **ASA 81 mg X FOUR** tablets chew and swallow
- If discomfort persists and 12 Lead Show STEMI contact Medical Control for permission to 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 Non-STEMI chest pain is present contact Medical Control for permission to give Morphine.
- If dysrhythmia is present, and persists after treatment above, see DYSRHYTHMIA Protocol(s)

TREATMENT (cont)

__ If hypotension develops, give 500cc fluid challenge, titrate to SBP>90 mm Hg.

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, Cialas or Levitra w/in past 12 hrs. Documented
- __ ASA unless allergy documented
- __ Correct doses of medications administered if indicated
- __ 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.
- __ Prior to administration of Morphine Sulfate
- __ 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 , Cialas or Levitra within the past 12 hours.
- **DO NOT ADMINISTER MORPHINE UNLESS 12 LEAD SHOWS STEMI.** If Non-STEMI chest pain is present contact Medical Control for permission to give Morphine.
- 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.***

**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, 12 lead EKG, if available
- NTG** 0.4 mg lingual spray or sublingual tablet, repeat q 5 min. if SBP > 100 mmHg (IV not required prior to 1st dose of NTG administration but IV should be started before subsequent doses of NTG)
- Low Dose **ASA 81 mg X FOUR** tablets chew and swallow
- If discomfort persists and 12 lead confirms STEMI; 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 discomfort persists and 12 lead DOES NOT confirm STEMI; **CALL MEDICAL CONTROL BEFORE GIVING 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.

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, Cialis, or Levitra w/in past 12 hrs. Documented
- __ ASA unless allergy documented
- __ Prehospital screening for thrombolytic therapy administered
- __ Correct doses of medications administered if indicated

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.
- **DO NOT ADMINISTER MORPHINE UNLESS 12 LEAD SHOWS A STEMI.** If Non-STEMI chest pain is present contact Medical Control for permission to give Morphine.
- 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.*