



MIAMI TOWNSHIP FIRE & EMS CLERMONT COUNTY, OHIO *MEDICAL PROTOCOLS*



ACUTE CORONARY SYNDROMES (CHEST PAIN)

Historical Findings

1. Age \geq 30 years. **If age < 30 years, consult with Medical Command.**
2. Chest pain description suggests cardiac origin (heaviness, pressure, tightness, dull) and *may* be accompanied by shortness of breath, diaphoresis, nausea, vomiting or weakness.
3. Pain is not clearly pleuritic or musculoskeletal. If any doubt exists, treat as cardiac.
4. Evaluate risk factors.

Physical Findings

1. Pulse between 60 and 130 beats per minute.

Differential Diagnosis

- | | |
|---------------------------|-----------------------|
| 1. Non-cardiac chest pain | 5. Pulmonary Embolism |
| 2. COPD | 6. Pneumonia |
| 3. Cardiogenic shock | 7. Pleurisy |
| 4. Arrhythmia | 8. Pericarditis |

Protocol

1. Initiate contact; reassure, and explain procedures.
2. Assess and secure the patient's airway and provide oxygen per the airway, oxygen and ventilation protocol.
3. Perform patient assessment, obtain vital signs and begin cardiac monitoring.
4. Acquire a 12 Lead ECG and maintain cardiac monitoring at all times.
 - A. Notify the receiving emergency physician if an Acute Myocardial Infarction (AMI) is suspected.
 - B. Transmit the 12 Lead ECG to the receiving hospital if possible for Cath Lab activation.



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5. Initiate IV access with a saline lock or 0.9 % normal saline KVO.
 - A. The left arm is the site of choice to facilitate Cardiac Cath Lab procedures and two IV lines are preferred.
6. Administer aspirin (ASA) 324 mg PO (chewed).
 - A. Withhold aspirin for any of the following:
 - i. Allergy to ASA or NSAIDS.
 - ii. Recent GI bleeding.
 - iii. Acute hemorrhagic stroke.
7. If an acute MI (STEMI) is suspected, administer clopidogrel (Plavix) 300 mg or 600 mg PO per receiving hospital STEMI order protocol.
8. If an acute MI (STEMI) is suspected, administer atorvastatin (Lipitor) 80 mg PO.
9. Administer nitroglycerin (Nitrolingual) 0.4 mg SL every 3-5 minutes for a total of 3 doses.
 - A. Withhold or discontinue **all** nitrates for any of the following:
 - i. Systolic blood pressure \leq 100 mmHg.
 - ii. Recent erectile dysfunction drug use:
 1. Viagra \leq 24hrs.
 2. Cialis, levitra \leq 48 hrs.
 - B. Use nitrates with caution in patients with right ventricular infarction (RVI).
10. Patients who have no relief of pain after three doses of nitroglycerin (Nitrolingual) SL and NO obvious acute ECG changes do not require administration of additional nitroglycerin.
11. Administer nitroglycerin paste (Nitro-bid) TD 1 inch to the left chest if:
 - A. ST elevation consistent with an acute injury pattern is present on 12 Lead ECG. This can be administered with the first SL dose.

OR

 - B. Patients have partial or complete relief of pain after three doses of nitroglycerin SL and if blood pressure remains \geq 100 mmHg systolic.
12. If the patient experiences any change in level of consciousness remove the nitroglycerin paste (Nitro-bid).



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13. If systolic blood pressure drops below 100 mmHg and lung sounds are clear administer a 500 cc normal saline bolus and reevaluate. Discontinue the use of nitrates at this point and manage hypotension per the cardiogenic shock protocol.
14. Administer fentanyl (Sublimaze) 50 micrograms IV for ischemic chest pain.
 - A. Fentanyl (Sublimaze) 25 micrograms IV can be titrated every 5 minutes to a max total dose of 100 micrograms IV if systolic blood pressure remains above 100 mmHg.
 - B. Withhold or discontinue fentanyl (Sublimaze) if systolic blood pressure \leq 100 mmHg.
15. Morphine sulfate 2 mg IV can be substituted for fentanyl (Sublimaze) in patients who have a hypersensitivity to fentanyl (Sublimaze).
 - A. Morphine sulfate 2 mg IV can be repeated every 5 minutes to a total dose of 10 mg if systolic BP remains above 100 mmHg.
 - B. Withhold or discontinue morphine sulfate if systolic blood pressure \leq 100 mmHg.
16. Naloxone (Narcan) 0.5 mg IV titrated up to 2 mg or 2 mg IN/IM may be administered for respiratory depression associated with fentanyl/morphine.
17. Ondansetron (Zofran) 4 mg slow IV over 2 minutes.
 - A. If IV access is unavailable, administer ondansetron (Zofran) 4 mg solutab PO.
18. Lorazepam (Ativan) 1 mg IV diluted 1:1 with 0.9% NS may be administered for anxiety.
19. Nitroglycerin (Nitrolingual) 0.4 mg SL can be continued up to a total of 6 doses, continued as outlined in line 9 of this protocol.