

## Chest Pain

Inclusion Criteria: Chest pain suspected to be ischemic in nature even when caused by stimulant toxicity. This may include classic presentations or anginal equivalents, e.g. epigastric pain/pressure, shoulder, neck or jaw pain/pressure, indigestion, shortness of breath, diaphoresis, or altered mental status. Acute coronary syndrome in diabetic patients may not present with classic symptoms. Ischemic chest pain is a very unusual presentation in pediatric patients. Contact BioTel for all pediatric care under this guideline.

Note: Do NOT administer nitroglycerin to any patient who has taken Viagra® (sildenafil) or similar drugs (Cialis®, tadalafil, Levitra®, vardenafil) in the past 24 hours.

### Basic Level

1. Assess and support ABCs.
2. Place the patient in position of comfort. Minimize patient exertion. Place supine if hypotensive and treat according to Shock guidelines.
3. Administer oxygen as needed to maintain a SpO<sub>2</sub> of at least 96%.
4. Administer aspirin 324 mg (4 baby aspirin) or 325 mg (one adult aspirin) by mouth (chewed before swallowing) regardless of whether patient has taken aspirin prior to EMS arrival.
5. Begin transport as soon as possible.

### Advanced Level

6. Apply ECG and monitor continuously until patient care is transferred to hospital staff. Treat arrhythmias under the appropriate guideline. Provide EtCO<sub>2</sub> monitoring for every patient.
7. Obtain 12-Lead ECG and consult with BioTel, as needed. Obtain a 12-lead ECG BEFORE giving any nitroglycerin.
8. Establish IV access at a TKO rate or use a saline lock. Do not delay nitro administration while attempting to establish an IV. However, in patients with ECG evidence of an inferior wall MI, medics MUST establish an IV before administering the first nitroglycerin.
9. 12-lead interpretation: Search for ST-elevation myocardial infarction (STEMI) patients
  - a. Inferior Wall Infarction (ST elevation - leads II, III, aVF) with a systolic blood pressure (SBP)
    - i. less than 110 mmHg:
      - a. Position patient flat or in Trendelenburg, if tolerated
      - b. Administer 250 mL fluid bolus IV. If SBP remains below 110 mmHg and no pulmonary edema is present, repeat fluid bolus as needed to keep SBP greater than 110 mmHg. Medics may administer up to 1-liter total fluid volume under standing orders.
      - c. BioTel may authorize the administration of morphine or fentanyl in this patient.
    - ii 110 mmHg or greater
      - a. Obtain IV access prior to nitro administration

- b. Administer nitroglycerin 0.4 mg SL; may repeat every 5 minutes for a total of 3 doses. Observe for hypotension.
    - c. Morphine 2 mg - 4 mg increments to a maximum of 20 mg SLOW IVP for pain unrelieved by 3 doses of nitroglycerin. Do not administer if SBP falls below 110 mmHg. **NOTE: There is no uniform requirement for all departments to carry morphine; it is considered optional.**
    - d. Fentanyl 1 mcg/kg to 2 mcg/kg via IN or slow IVP. May repeat every 15 minutes. Do not exceed 200 mcg. **NOTE: There is no uniform requirement for all departments to carry fentanyl; it is an optional medication.**
  - b. Normal ECG and all other infarctions:
    - i. Do not delay nitro administration for IV attempts.
    - ii. Administer nitroglycerin 0.4 mg SL; may repeat every 5 minutes for total of 3 doses as long as SBP remains above 110 mmHg.
    - iii. Morphine 2 mg - 4 mg increments to a maximum of 20 mg SLOW IVP for pain unrelieved by 3 doses of nitroglycerin, as long as SBP remains above 110 mmHg.
    - iv. Fentanyl 1 mcg/kg to 2 mcg/kg via IN or slow IVP. May repeat every 15 minutes. Do not exceed 200 mcg. **NOTE: There is no uniform requirement for all departments to carry fentanyl; it is an optional medication.**
10. If the systolic blood pressure falls below 110 mmHg in response to nitro, morphine, or fentanyl therapy:
- a. Position patient flat or in Trendelenburg, if tolerated
  - b. Do not administer additional nitroglycerin or morphine (under standing orders).
  - c. Administer 250 mL fluid bolus IV; If SBP remains below 110 mmHg and no pulmonary edema is present, repeat fluid bolus as needed to keep SBP greater than 110 mmHg. Medics may administer up to 1 liter total fluid volume under standing orders.
  - d. BioTel may authorize the administration of morphine or fentanyl in this patient.
11. If the chest pain is thought to be stimulant-induced (cocaine, amphetamine, ecstasy), administer
- a. Slow IVP diazepam in 2.5 mg - 5 mg increments to a maximum of 10 mg, or
  - b. Midazolam in 2.5 mg - 5 mg increments slow IVP (Max 5 mg) or intranasal (Max 10 mg)
12. Monitor patient's temperature frequently. Be prepared to cool patient aggressively but do not allow shivering.
13. For additional patient care considerations not covered under standing orders, consult BioTel.