

**SECTION: C-3**

**PROTOCOL TITLE: GENERAL CARDIAC CARE/ACS**

**REVISED: October 15, 2014**

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**GENERAL COMMENTS:** The community standard of care for AMI is rapid catheterization. A key component of this would be the rapid assessment of the patient, 12 lead EKG acquisition, and transmission of all pertinent data to the appropriate hospital to allow for decreased door to cath lab time. In the case of likely MI (manifested by 12 lead changes, unstable angina patterns, or failure to respond to treatment) care should be focused with this goal in mind.

#### **BLS SPECIFIC CARE:**

- Basic BLS care and assessments including oxygen administration and v/s every 5 minutes
- AED at patient side. Pads may be placed (but do not turn AED on unless pulses are lost) if patient appears in extreme distress
- Consider assisted ventilations with signs of severe respiratory distress
- **Assistance with administration of patient's prescribed sublingual nitroglycerin (NTG.):**
  - Determine how many doses the patient has already self-administered
  - If the patient has not already administered/received a total of 3 doses, EMT-B may assist patient with sublingual administration of up to a total of 3 doses waiting 5 minutes between doses.
  - **DO NOT** administer if:
    - Patient's systolic BP < 90 mmHg
    - The patient's medication has expired
    - The patient has taken a total of 3 doses prior to EMS arrival
    - The patient presents with altered mental status
    - The patient has taken medications for erectile dysfunction in the preceding 24 hours

*Pharmacologic therapy:*

- **Aspirin:**
  - *Four (4) 81 mg chewable tabs (324 mg total.)*
  - *Administer even if patient has received normal daily dose within the past 24 hours*
  - *Do not administer if patient is taking other anticoagulants/platelet aggregation inhibitors*
  - *Do not administer if:*
    - *Patient history of aspirin allergy*
    - *Recent history of GI or other internal bleeding/disorders*

**ILS SPECIFIC CARE:**

- IV access (to a max of 3 attempts) only if needed due to severity of underlying injury or illness, otherwise defer until arrival of ALS providers
- *Limit fluid administration unless symptomatic, hypotensive, and with clear lung sounds*
- An end goal of 3 IV lines (2 single lumen and 1 single multi-lumen. Always have at least 2 single lumen established) is a desirable goal to facilitate cath lab/thrombolytic care. Avoid right wrist if possible.

**ALS SPECIFIC CARE:**Nitrates:

- NTG Spray: For discomfort suspicious of cardiac origin
  - SL: 0.4 mg SL spray/tab every 3-5 minutes PRN
  - Hold for B/P <90, or Viagra use (or similar drug) within previous 24 hours. Use with caution in suspected right-sided MI
- NTG Paste: Initiate if NTG is successful in reducing discomfort
  - TD: 0.5-1.5 inches applied topically (TD) to non-hairy area of trunk. Hold for B/P <90, or Viagra use (or similar drug) within previous 24 hours. Use with caution in suspected right-sided MI
  - Wipe off if hypotension develops
- Aspirin:
  - PO: 324 mg ASA PO, chewed and swallowed. Hold if sensitivity/allergy to ASA, or in setting of recent bleeding or at risk for bleeding issues.
  - Administer ASA even if pt has received a normal daily dose within 24 hours.

Analgesics and/or sedatives:

- Discontinue or do not administer if:
  - Signs and symptoms of hypoperfusion are present or develop
  - Respiratory rate, SpO<sub>2</sub> and/or mental status diminishes
  - Contact OLMC to exceed maximum doses
  - The paramedic MAY reduce the dose of any analgesic/sedative to achieve needed results

- Morphine Sulfate IV/IM/IO:  
For discomfort suspicious of cardiac origin. Use with caution in patients with unstable angina.
  - 0.1 mg/kg as initial dose (max initial dose 10 mg)
  - Give slowly over 2 min
  - May repeat every 10 minutes as needed with 0.05 mg/kg (max dose of 20 mg)
    - Hold for B/P <90

If morphine allergy use:

- Fentanyl IV/IM/IO:
  - 1 mcg/kg initial dose (max initial dose 100 mcg)
  - Give slowly over 2 minutes (with the exception of IN route)
  - May repeat every 10 minutes as needed (max total dose of 200 mcg)

OR

- Dilaudid:  
Adult: IV/IM: 0.5 mg slow IV push over 2-3 minutes, Q 10 minutes PRN for pain. Max 2 mg.

Anti-emetics:

- Zofran (ondansetron) IV/IM/IO:
  - 4 mg
  - Repeat one time in 15 minutes, if needed
- Benadryl (diphenhydramine) IV/IM/IO:
  - Adults: 25-50 mg

**PHYSICIAN PEARLS:**

Remember that many patients will have atypical presentations, including female patients, diabetics, the elderly, and those with a history of hyper-dynamic drug use. Many recent studies also suggest that women and younger patients are under-triaged, and under-treated for cardiac events. The provider should keep a high index of suspicion for potential cardiac events and assess/treat accordingly.

12 lead ECG transmission is a crucial component of decreasing “E to B” (Emergency 911 to Balloon) time. All 12 lead ECGs shall be transmitted to the receiving hospital whenever there is a suspected STEMI or Physician consult on EKG.

Protocol

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General Cardiac Care/A.C.S.

The 12-lead ECG will include patient name, DOB, and cardiologist if available. If 12 lead is interpreted as an ST segment elevation MI, the receiving facility shall be informed of an incoming STEMI patient as soon as possible.

The goal of NTG administration is not only to reduce pain through increased coronary artery perfusion, but also to improve cardiac hemodynamics secondary to increased venous capacitance. Patients with ACS should receive SL NTG spray (Followed by transdermal NTG paste) as long as systolic BP remains above 90 mm/Hg. (Even if pain is resolved with less than 3 SL NTG spray, follow with transdermal NTG paste as long as hemodynamic status is maintained) Use nitrates with caution in patients with a suspected right ventricular infarction.