Chest Pain – Suspected Acute Coronary Syndrome (ACS)

The term ACS includes unstable angina (UA), non-ST elevation MI (NSTEMI), and ST elevation MI (STEMI).
Assess and treat life-threatening arrythmias prior to utilizing this protocol

[2]Remember to look for Posterior STEMIs!

- You will see ST depressions (often >2mm) in V1-V3.
- Posterior EKG (leads V7-V9) with ST elevation will confirm the diagnosis.

Isolated LBBB in a stable patient is not an indication for STEMI activation

NTG Contraindications

- SBP < 100mmHg
- Recent use of erectile dysfunction medication (Viagra/ Levitra within 24 hours, Cialis within 48 hrs)

Suspected RV infarct[3] is a relative contraindication (monitor for hypotension)

Routine Medical Care

Aspirin 162-325mg[1] PO

12-Lead EKG

EKG shows ST elevation MI[2]?

Yes

- Minimize scene time (<15 min)
- Alert receiving hospital and transmit EKG as early as able

No

If SBP > 100 mmHg:
SL Nitroglycerin 0.4mg SL q3min prn for chest pain (max 3 doses)
after 3rd dose of Nitroglycerin SL
consider applying 1 inch **Nitro Paste** TD

Consider analgesia for severe, unrelieved chest pain:

Fentanyl 25-50mcg IV/IO/IN/IM q2min prn (max 200mcg)
- or -
Morphine 2-4mg IV/IO/IM q2min prn (max 10mg)
- or -
Ketorolac [Toradol] 30mg IV/IM **Do Not Utilize on RENAL or GI Bleed Patients**

Consider Ondansetron 4 mg IV/IO/PO prn (max 8mg) for nausea/vomiting with active pain

Give oxygen if SpO_2 <90%, dyspnea, or signs of CHF (goal SpO_2 = 90-94%)

Consider IV **Nitroglycerin** at 5mcg/min, increase by 5 mcg every 5 minutes until pain free or asymptomatic, if IV pump is available.
Be cautious with NTG administration in Inferior or right sided STEMI

Transport to a hospital with cardiac catheterization capability

Perform serial EKGs while en route to hospital

Observe and treat patient for signs of clinical deterioration (e.g. dysrhythmias, SOB, shock) – apply defib pads if not already done

- ACS can present atypically – consider a cardiac etiology when patients reports SOB, sweating, nausea/vomiting, dizziness, syncope, or vague/generalized complaints. Atypical symptoms are most common in women, the elderly and diabetic patients.
- Document the patient's cardiac risk factors (outlined in the Cardiac Preambles) in the EMS Run Report.

[1] Document patient's own aspirin use within the last 24 hours. **Aspirin (ASA)** is contraindicated in patients with current and recent GI bleeding. The term "recent" includes bleeding requiring hospitalization or blood product transfusion within the last 6 months.

[2] **Nitroglycerin (NTG) -** If blood pressure drops significantly after a single NTG dose, discontinue NTG use. Treat NTG-induced hypotension (SBP <100) with **Crystalloid fluid bolus** 250 ml IV.

[3] Consider an RV infarct in all inferior STEMIs (leads II, III, AvF) with hypotension. ST elevation in lead V4R (obtain a right sided EKG) helps to make this diagnosis. Hypotension and bradycardia are common.

[4] Morphine use in NSTEMI is controversial and may inhibit antiplatelet medications. Use opiates judiciously.