

Acute Coronary Syndromes

Low Risk UA/NSTEMI (Low risk is TIMI Score 0-2, Intermediate risk is 3-4)

Unstable Angina is cardiac pain usually due to non-occlusive thrombus at the site of plaque rupture and the release of vasoconstrictive substances, which reduce coronary blood flow.

- Normal or nondiagnostic changes, or ST segment depression < 0.5 mm (< 0.05 mV), or T wave inversion ≤ 2 mm (≤ 0.2 mV).
- Cardiac biomarkers are normal.
- PCI usually not indicated. Antiplatelet meds (Aspirin and/or Clopidogrel) are effective.
- Low risk NSTEMI pts are **not** candidates for fibrinolytic therapy
- Usually observe, plan stress test, discharge.

High risk UA/NSTEMI (TIMI score ≥ 5)

Non-ST-Elevation Myocardial Infarction is due to a partially or intermittently occluding thrombus (the pain may correlate with clot formation and degradation -> waxing and waning of symptoms).

High risk pts are at risk for MACE (major adverse cardiac event).

- ST depression ≥ 0.5 mm (≥ 0.05 mV) (increases risk for MACE), or Dynamic T wave inversion with pain/discomfort, or Transient ST elevation ≥ 0.5 mm (≥ 0.05 mV) for < 20 minutes.
- Cardiac biomarkers are elevated (increases risk for MACE)
- High risk factors are present (transient mitral regurgitation, hypotension, bradycardia, tachycardia, diaphoresis, CHF)
- NSTEMI patients are *not* candidates for fibrinolytic therapy.
- Due to the high risk for death, immediate PCI is required.

STEMI: ST-Elevation Myocardial Infarction occurs when a thrombus completely occludes a coronary artery.

- ST-Elevation of > 1 mm (> 0.1 mV) in 2 or more contiguous precordial leads or 2 or more adjacent limb leads (mortality rate increases with the number of ECG leads showing ST-Elevation) or new LBBB.
- Cardiac biomarkers are elevated.
- The extent of necrosis with STEMI patients can be limited by prompt reperfusion with fibrinolytic, PCI, or CABG.
- If it is < 12 hrs from symptom onset, STEMI patients should be assessed for fibrinolytic therapy.
- STEMI patients who also have cardiogenic shock require emergency hemodynamic support, sometimes IABP support, and emergency PCI or CABG.

The Coronary Arteries:

