Syndromes Suggestive of Ischemia or Infarction

EMS assessment and care and hospital prepartion*

- **Aspirin** 160–325 mg
- **Oxygen** (If O₂ sat< 94% or O₂ Sat>90% with COPD)
- **12-Lead ECG**
- **Activate Cardiac Cath Lab**
- **Pain Control**

Concurrent ED assessment (<10 minutes)
- **Check Vital Signs**
- **IV Access**
- **Cardiac Marker Levels**
- **Chest X-ray (<30 mins)**
- **12-Lead ECG**

Immediate ED general treatment
- **Aspirin** 160–325 mg (If not already taken)
- **Pain Control**
- **Nitroglycerin** Sublingual or spray

- **O₂** If O₂ sat<94% Start Oxygen

ECG Interpretation**

- **ST-elevation MI (STEMI)**
  - Start adjunctive therapies as indicated
  - Do not delay reperfusion
  - Time from onset of symptoms ≤ 12 hours
  - Reperfusion goals:
    - Door-to-balloon inflation (PCI):***
      - goal of 90 minutes
    - Door-to-needle (fibrinolysis) goal of 30 minutes

- **High-risk unstable angina/non-ST-elevation MI (UA/NSTEMI)**
  - Troponin elevated or high-risk patient
    - Consider early invasive strategy if:
      - Refractory ischemic chest discomfort
      - Recurrent/persistent ST deviation
      - Ventricular tachycardia
      - Hemodynamic instability
      - Signs of heart failure
    - Start adjunctive treatments as indicated
    - Nitroglycerin
    - Heparin (UFH or LMWH)
    - Consider: PO β-blockers
    - Consider: Clopidogrel
    - Consider: Glycoprotein IIb/IIIa inhibitor
  - Admit to monitored bed Assess risk status Continue ASA heparin, and other therapies as indicated
    - ACE inhibitor/ARB; HMG CoA reductase inhibitor (statin therapy)
    - Not at high risk: cardiology to risk stratify

- **Low-/Intermediate-risk ACS**
  - Develops 1 or more:
    - Clinical high-risk features
    - Dynamic ECG changes consistent with ischemia
    - Troponin elevated
  - Consider admission to ED chest pain unit or to appropriate bed and follow:
    - Serial cardiac markers (including troponin)
    - Repeat ECG/continuous ST-segment monitoring
    - Consider noninvasive diagnostic test

- **Time from onset of symptoms >12 hours**

- **Possible ED assessment (<10 minutes)**
  - **Activate Cardiac Cath Lab**
  - **Chest X-ray (<30 mins)**
  - **12-Lead ECG**

- **Emergency department assessment and care**
  - **Check Vital Signs**
  - **IV Access**
  - **Cardiac Marker Levels**
  - **Physical Exam**
  - **12-Lead ECG**


** Afolabi BA, Novaro GM, Pinski SL, Fromkin KR, Bush HS. Use of the prehospital ECG improves door to balloon times in ST segment elevation myocardial infarction irrespective of time of day or day of week. Emerg Med J. 2007;24:588-591


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