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)

* O/C assessment and care and hospital prepartion*

**Check Vital Signs**

**IV Access**

**Physical Exam**

**Activate Cardiac Cath Lab**

**Cardiac Marker Levels**

**Chest X-ray (<30 mins)**

**12-Lead ECG**

 EMS assessment and care and hospital prepartion*

**Concurrent ED assessment (<10 minutes)**

**If O₂ sat<94%**

**Start Oxygen**

**Aspirin 160–325 mg**

**If not already taken**

**Activate Cardiac Cath Lab**

**Cardiac Marker Levels**

**Chest X-ray (<30 mins)**

**12-Lead ECG**

EMS assessment and care and hospital prepartion*

**Immediate ED general treatment**

**O₂**

**If O₂ sat<94%**

**Start Oxygen**

**Aspirin 160–325 mg**

**If not already taken**

**Activate Cardiac Cath Lab**

**Cardiac Marker Levels**

**Chest X-ray (<30 mins)**

**12-Lead ECG**

**Nitroglycerin Sublingual or spray**

**ECG Interpretation**

**ST-elevation MI (STEMI)**

Start adjunctive therapies as indicated

Do not delay reperfusion

**Time from onset of symptoms ≤12 hours?**

**≤12 hours**

**Reperfusion goals:**

Door-to-balloon inflation (PCI)***

goal of 90 minutes

Door-to-needle (fibrinolysis)

goal of 30 minutes

**>12 hours**

**Troponin elevated or high-risk patient**

**Consider early invasive strategy if:**

Dynamic ECG changes consistent with ischemia

Troponin elevated

Develops 1 or more:

- Clinical high-risk features
- Dynamic ECG changes consistent with ischemia

**Low-/Intermediate-risk ACS**

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

**Concurrent ED assessment (<10 minutes)**

**Immediate ED general treatment**

**Aspirin 160–325 mg**

**If not already taken**

**Activate Cardiac Cath Lab**

**Cardiac Marker Levels**

**Chest X-ray (<30 mins)**

**12-Lead ECG**

**Pain Control**

**Nitroglycerin**

**Heparin (UFH or LMWH)**

**Consider:**

- PO β-blockers
- Clopidogrel
- Glycoprotein IIb/IIIa inhibitor

**Start adjunctive treatments as indicated**

**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

**Abnormal diagnostic noninvasive imaging or physiologic testing?**

**Y**

If no evidence of ischemia or infarction by testing, can discharge with follow-up

**N**

**Syndroms Suggestive of Ischemia or Infarction**

**Emergency Department**

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**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

**High-risk unstable angina/non-ST-elevation MI (UA/NSTEMI)**

**Start adjunctive treatments as indicated**

**Admit to monitored bed**

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** Afolabi BA, Novaro GM, Pinski SL, Fromkin KR, Bush HS. Use of the prehoapital 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