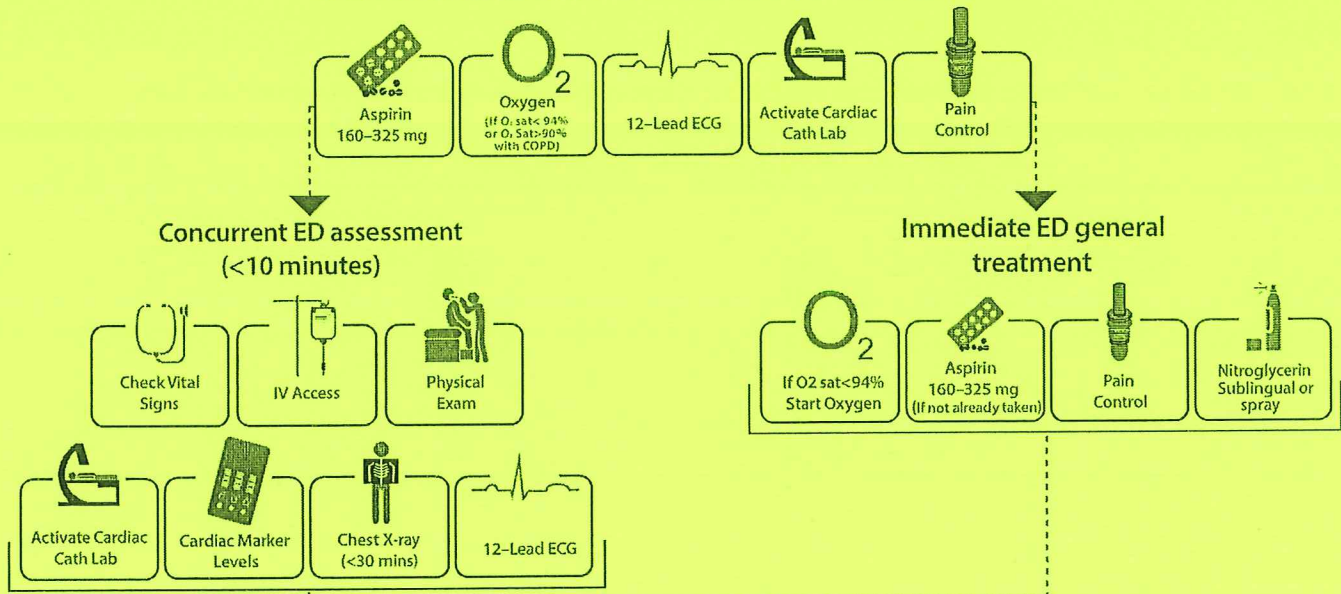


# Acute Coronary Syndromes Algorithm

## Syndromes Suggestive of Ischemia or Infarction

### EMS assessment and care and hospital preparation\*



### ECG Interpretation\*\*

#### ST-elevation MI (STEMI)

Start adjunctive therapies as indicated  
Do not delay reperfusion

Time from onset of symptoms  
≤ 12 hours?

> 12 hours

≤ 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  $\beta$ -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

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

##### Develops 1 or more:

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

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

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

\* O'Connor RE, Brady W, Brooks SC, Diercks D, Egan J, Ghaemmaghami C, Menon V, O'Neill BJ, Travers AH, Yannopoulos D. "Part 10: acute coronary syndromes: 2010 American Heart Association Guidelines for Cardiopulmonary Resuscitation and Emergency Cardiovascular Care". *Circulation*. 2010;122(suppl 3):S787-S817. [http://circ.ahajournals.org/content/122/18\\_suppl\\_3/S787](http://circ.ahajournals.org/content/122/18_suppl_3/S787)

\*\* Alolabi 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:S88-S91

\*\*\* O'Connor, RE AL, Brady, WJ, Ghaemmaghami CA, Menon V, Welsford M, Shuster M. Part 9: acute coronary syndromes: 2015 American Heart Association Guidelines Update for Cardiopulmonary Resuscitation and Emergency Cardiovascular Care. *Circulation* 2015;132(suppl2):S483-S500