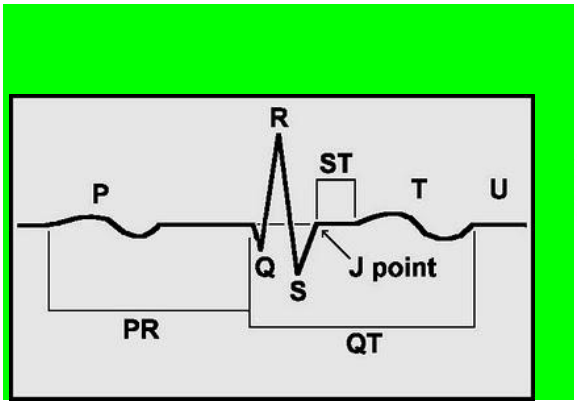
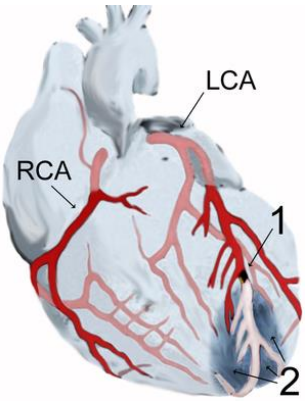
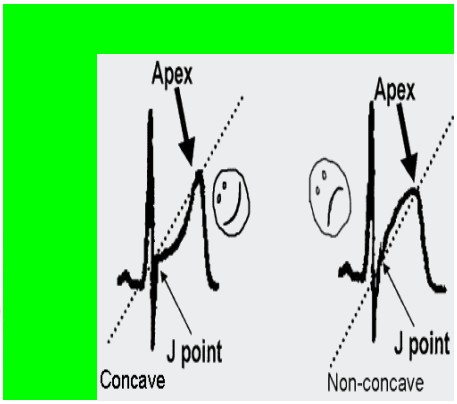
ACUTE CARE BLOCK - #ChestPainHackSheet







In-Hospital or ER Care

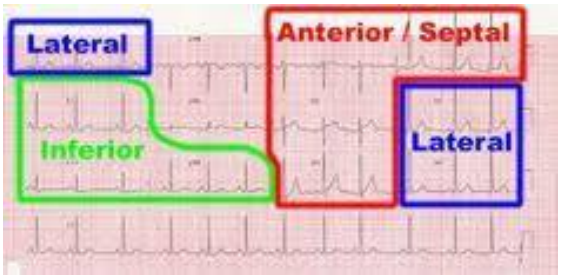
Within the first 10 minutes **that the patient is in the emergency department (ED), work through the following:**

1. Check vital signs. **ABC**
2. Evaluate oxygen saturation. If less than 94% or the patient is short of breath, administer oxygen as needed to increase **oxygen saturation to between 94 and 99%.**
3. Establish IV access.
4. Obtain or review a **12-lead ECG** (if not established in the field).
5. Look for risk factors for ACS, cardiac history, signs and symptoms of heart failure by taking a brief, targeted history.
6. Perform a physical exam.
7. Obtain a portable x-ray (less than 30 minutes).

Begin general treatment in the ED:

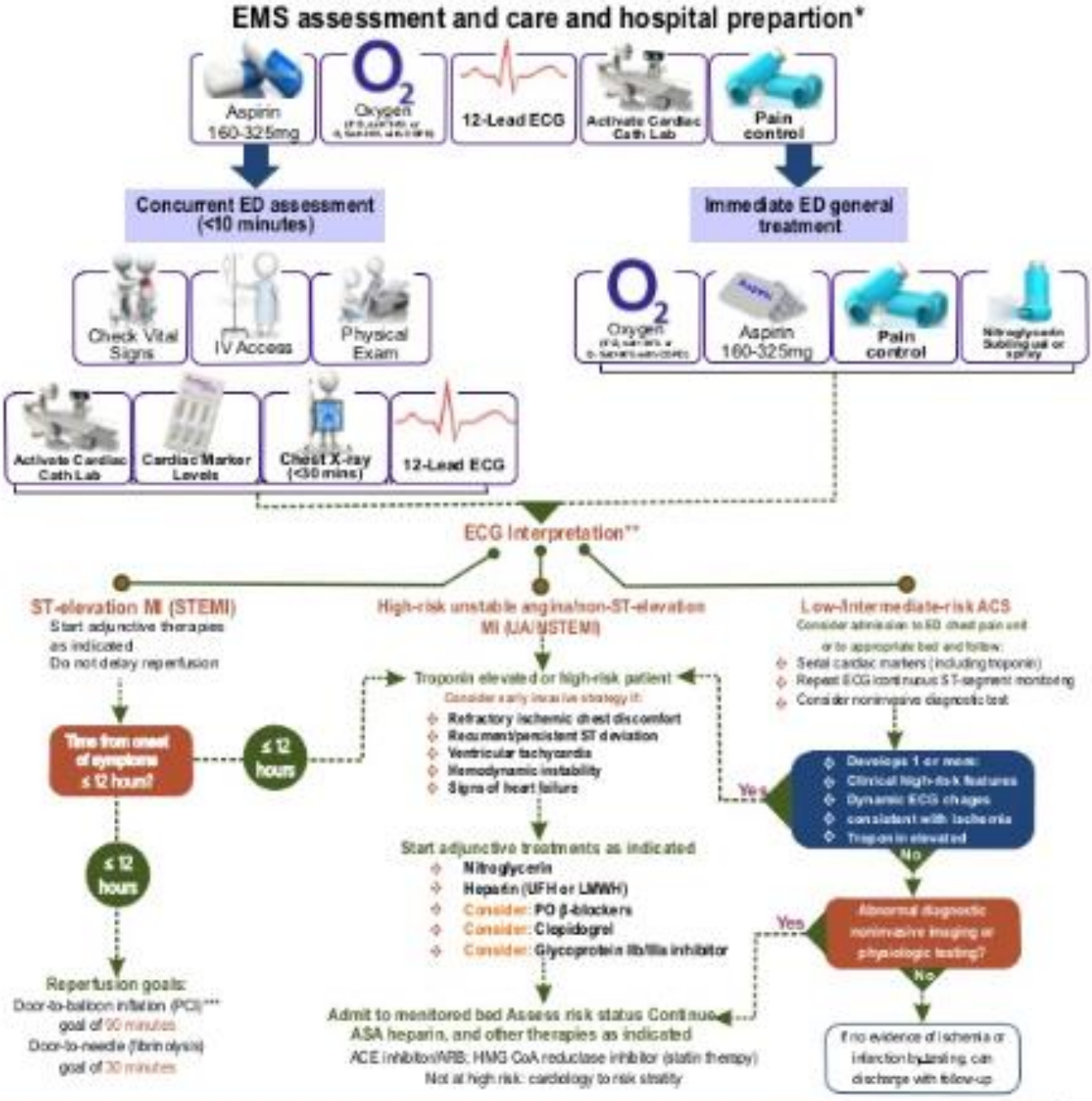
1. If the patient did not receive aspirin from the EMS provider, **give aspirin (160 to 325 mg).**
2. Administer **nitroglycerin 0.4mg q 5 minutes**, either sublingual, spray. Withhold nitroglycerin on the patient who is experiencing right ventricular infarction.
3. Give the patient a narcotic pain reliever such as fentanyl, morphine or Dilaudid if pain is not relieved by nitroglycerin. Morphine is the drug of choice for infarction.

Locations of MI on an EKG :



Acute Coronary Syndromes Algorithm

Syndroms Suggestive of Ischemia or Infarction



* O'Connor RE, Brady W, Brooks SC, Diercks D, Egan J, Ghaemmaghami C, Menon V, O'Neil 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

**Alcala BA, Novaro GM, Pinski SL, Franklin 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;24:588-59

*** O'Connor RE, Al, brady , RJ, 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(suppl 2):S483-S500

UA/Non-ST-segment Elevation (NSTE) Initial Management Standing Orders.

MEDICATION ALLERGIES

☐ **Specify:** _____

DIAGNOSTIC STUDIES

☐ 12-lead ECG: Now _____ : In AM _____ Date: _____

☐ 12-lead ECG for recurrent chest pain

☐ Cardiac markers → **Specify:**
- ☐ Troponin I **OR** ☐ Troponin T } 0, 3, 6, 12, 24 hours
- ☐ CK **AND** ☐ CK-MB } 0, 3, 6, 12, 24 hours

LABS

☐ Fasting lipid profile in AM ☐ CBC q AM

☐ Chemistry Panels in ED and q AM ☐ Other labs: _____

INITIAL TREATMENT

Oral Antiplatelet Therapies:

☐ Aspirin → **Specify:** 160-325 mg ☐ Enteric-coated ASA **OR** ☐ Non-enteric coated ASA } _____ mg per day

☐ If aspirin intolerant, clopidogrel: 300 mg loading dose followed by 75 mg po QD

Nitrates and Morphine:

☐ SL NTG 0.4 mg as needed for recurrent chest pain

☐ NTG paste: _____ inches q 6 hours, off from midnight-6 AM

☐ IV NTG: Start at 10 mcg/min if pain not relieved by SL or transdermal NTG and titrate (up to 200 mg/min) for relief of chest pain (keep SBP > 90 mmHg)

☐ **Morphine Sulfate** 1-2 mg every _____ hours as needed for recurrent chest pain

Beta Blockers:

☐ Metoprolol → **Specify:** ☐ **IV:** _____ mg q 5 min X _____ doses **OR** ☐ **po:** _____ mg q _____ hours **OR**

☐ Atenolol → **Specify:** ☐ **IV:** _____ mg q 5 min X _____ doses **OR** ☐ **po:** _____ mg qd

☐ Other→ **Specify:** _____

Non-Dihydropyridine Calcium Antagonist (If Beta-blocker contraindicated):

☐ Diltiazem → **Specify:** ☐ **po:** _____ mg q 8 hours **OR** ☐ **Diltiazem CD/XR:** _____ mg po qd

☐ Verapamil → **Specify:** ☐ **po:** _____ mg q 8 hours **OR** ☐ **Verapamil SR:** _____ mg po qd

ACE Inhibitor (Angiotensin receptor blocker can be substituted if ACE intolerant):

☐ Enalapril ☐ **po:** _____ mg q 12 hours

☐ Lisinopril ☐ **po:** _____ mg qd

MANAGEMENT STRATEGY

- **NSTE ACS patients with high-risk features should be managed according to the Early Invasive Protocol.**
- **Patients with moderate-risk features can be managed with either Protocol.**
- **Patients with low-risk features should be managed according to the Early Conservative Protocol.**

High-risk: Elevated Cardiac Markers, ST depression, Transient ST elevation, > 20 min rest pain, Hemodynamic instability, signs of CHF

Moderate-risk: No high-risk features, Prior MI, Prior CABG, T-wave inversions, Rest angina (< 20 min) relieved promptly with NTG, Age > 70 years

Low-risk: No high- or moderate-risk features, progressive angina without prolonged rest pain, Normal cardiac markers, Normal ECG with pain

■ EARLY INVASIVE PROTOCOL

Intravenous Anti-thrombotic Therapies:

☐ **IV unfractionated heparin →** Initial bolus of 60-70 U/kg bolus (not to exceed 5000 U) + 12-15 U/kg/hr infusion (not to exceed 1000 U/hr) to target aPTT range of 50-70 sec, or 1.5-2.5 times control

☐ **Low-molecular-weight heparin → Specify:**
- ☐ **Enoxaparin:** 1 mg/kg SC q 12 hrs

Intravenous Antiplatelet Therapies:

GP IIb-IIIa Inhibitor → Specify:

☐ **Abciximab:** 0.25 mg/kg IV bolus + 0.125 mcg/kg/min infusion (only for patients planned to undergo PCI within 12-24 hrs) **OR**

☐ **Eptifibatide:** 180 mcg/kg IV bolus + 2.0 mcg/kg/min infusion* **OR**

☐ **Tirofiban:** 0.4 mcg/kg/min IV bolus for 30 min + 0.1 mcg/kg/min infusion*

* For patients with **renal impairment**, administer 1/2 the rate of infusion for eptifibatide and tirofiban

☐ **Schedule for Early Cardiac Catheterization**
Date: __ __/__ __/__ __ __ __ (day / month / year)

Oral Antiplatelet Therapies:

NOTE: *Add clopidogrel after diagnostic catheterization unless CABG is planned.*

☐ **Clopidogrel:** 300 mg loading dose → 75 mg po QD

■ EARLY CONSERVATIVE PROTOCOL

Intravenous Anti-thrombotic Therapies:

☐ **IV unfractionated heparin →** Initial bolus of 60-70 U/kg bolus (not to exceed 5000 U) + 12-15 U/kg/hr infusion (not to exceed 1000 U/hr) to target aPTT range of 50-70 sec, or 1.5-2.5 times control

☐ **Low-molecular-weight heparin → Specify:**
- ☐ **Enoxaparin:** 1 mg/kg SC q 12 hrs

Oral Antiplatelet Therapies:

☐ **Clopidogrel:** 300 mg loading dose → 75 mg po QD

Intravenous Antiplatelet Therapies:

NOTE: *Eptifibatide or tirofiban are indicated for patients with high-risk features who are managed conservatively.*

GP IIb-IIIa Inhibitor → Specify:

☐ **Eptifibatide:** 180 mcg/kg IV bolus + 2.0 mcg/kg/min infusion* **OR**

☐ **Tirofiban:** 0.4 mcg/kg/min IV bolus for 30 min + 0.1 mcg/kg/min infusion*

* For patients with **renal impairment**, administer 1/2 the rate of infusion for eptifibatide and tirofiban

☐ **Schedule for assessment of left ventricular function → Type(s):**
- ☐ Echocardiogram
- ☐ Nuclear ventriculogram

☐ **Schedule for stress test → Type(s):**
- ☐ Exercise treadmill test
- ☐ Exercise nuclear perfusion study
- ☐ Dobutamine nuclear perfusion study
- ☐ Persantine nuclear perfusion study
- ☐ Exercise stress echocardiography
- ☐ Dobutamine echocardiography

☐ **Lipid-lowering agent:** Name and dose of drug prescribed: _____

Name of Physician: _____ **Date:** _____ **Time:** _____

Signature: _____

Adapted from: CRUSADE Quality Improvement Initiative tool (http://www.crusadeqi.com)