Acute Coronary Syndrome

**Patient presentation suggests Ischemia or acute MI**

1. Appropriate EMS care and hospital notification
   - Provide cardiac monitor
   - Assess/support ABCs
   - Prep for CPR and rapid defibrillation if needed
   - If no contraindications, administer aspirin, nitroglycerin and morphine as needed
   - Administer appropriate oxygen therapy
   - Perform 12-Lead ECG: if ST elevation observed, notify receiving hospital, relay 12-lead findings or transmit if possible, provide medical report on patient
   - Hospital should activate STEMI team
   - Use fibrinolytic checklist if fibrinolytic therapy is considered

2. ED Assessment (within 10 min of patient arrival)
   - Assess vital signs and oxygenation status
   - Establish vascular access
   - Perform rapid focused history/physical exam
   - Perform/review fibrinolytic exclusion checklist
   - Order appropriate labs including cardiac markers and coagulation studies
   - Order portable chest x-rays (within 30 min of patient arrival)

3. Immediate ED Treatment
   - Administer O2 at 4 L/min, titrate to SPO2 >94%
   - Administer Aspirin 160–325 mg
   - Administer sublingual or spray Nitroglycerin
   - Consider IV Morphine if pain not relieved by Nitroglycerin
   - (Assess for contraindications for all drug administrations)

4. 12-Lead ECG Interpretation

5. ST Elevation or assumed new LBBB, strong suspicion for injury
   - ST-Elevation MI (STEMI)

6. Onset of symptoms ≤12 hrs?
   - Yes
   - Initiate appropriate reperfusion therapy
     - Balloon inflation PCI: within 90 min
     - Fibrinolytic therapy: within 30 min
   - No
   - Start adjunctive therapies as needed
     - Do not delay reperfusion

7. High-risk patient or elevated Troponin level
   - Consider invasive therapies if:
     - Refractory ischemic chest pain
     - Persistent/recurrent ST deviation
     - Unstable blood pressure
     - Ventricular tachycardia
     - Signs/symptoms of heart failure

8. ST Depression or T-Wave Inversion, strong suspicion for ischemia
   - High-risk unstable angina/non-ST elevation MI (UA/NSTEMI)

9. Initiating adjunctive treatments as needed
   - Nitroglycerin
   - Heparin (UFH or LMWH)
   - Consider:
     - PO β-Blockers
     - Glycoprotein IIb/IIIa inhibitor

10. Normal or nondiagnostic ST or T wave changes
    - Low/Intermediate-risk ACS
    - Consider admission to ER or appropriate unit
      - Monitor serial cardiac markers (including troponins)
      - Continue with ECG monitoring for ST segment changes
      - Consider non-invasive diagnostic testing

11. Patient develops 1 or more of the following?
    - ECG changes consistent with ischemia?
    - Elevated Troponin levels?
    - Clinical assessment revealing high-risk findings?

12. Abnormal findings on diagnostic non-invasive imaging or physiologic testing?
    - Yes
    - If patient has no evidence of ischemia or infarction by testing, discharge patient with instructions to follow up or return/call 911 should symptoms reoccur
    - No

13. Yes
    - Admit to appropriate monitor unit
    - Reassess risk status
    - Continue heparin, ASA, and appropriate therapies as needed
    - ACE inhibitor/ARB
    - HMG CoA reductase inhibitor (statin therapy)
    - (Not at high risk: cardiology to risk stratify)

14. No