

MOC

ACUTE MEDICINE
cardiopulmonary

by **hussaoncall**

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CHEST PAIN

IMMEDIATE APPROACH

- **ABCs**
 - Vitals + SpO₂ + continuous cardiac monitoring
 - O₂ target > 90% (ACS-specific) – O₂ in normoxic MI increases infarct size
- **IV access**
- **ECG**
 - Within 10 min; repeat q15 min if ongoing pain or non-diagnostic
 - Compare with old ECGs
 - Posterior leads (V7–V9) if isolated ST depression V1–V3
 - Right-sided leads (V3R, V4R) if inferior STEMI
- **Labs / workup:**
 - High-sensitivity troponin (0 h + 1–3 h)
 - CBC, U&E, glucose, coag
 - Lactate if unwell
 - D-dimer only if PE plausible (use Wells score / PERC)
- **Imaging:** CXR ± bedside US / CT if alternative diagnosis suspected
- **Immediate medications (if ACS likely)**
 - Aspirin 162–325 mg PO, chewed × 1
 - Nitroglycerin SL 0.4 mg q5 min × 3 if ongoing pain + SBP > 100
 - Avoid: hypotension / RV infarct / severe AS / recent PDE-5
 - Morphine 2–4 mg IV — refractory pain only (delays P2Y₁₂ absorption)
 - Anticoagulation — only after dissection ruled out

HOW TO THINK

- **Five killers** — rule out first: ACS / dissection / PE / tension PTX / tamponade
- **Classic:** central pressure → jaw / arm / back; nausea, diaphoresis, dyspnea
- **Atypical (elderly, diabetic, women):** silent MI, epigastric pain, syncope, confusion
- **Risk amplifiers:** IHD / prior PCI-CABG / diabetes / CKD / smoker / older age
- **ECG patterns**
 - STEMI → ST elevation ≥ 1 mm in 2 contiguous limb leads, or ≥ 2 mm V2–V3 (≥ 1.5 mm women)

- New LBBB + concordant ST (Sgarbossa)
- Posterior MI → ST↓ V1–V3 + tall R; confirm with V7–V9
- LAD equivalents → Wellens (biphasic / deep TWI V2–V3); de Winter (upsloping ST↓ + tall T); hyperacute T
- Diffuse ST↑ + PR↓ → pericarditis
- **Bedside clues — non-ACS killers**
 - Tearing chest-to-back pain + BP difference → dissection
 - Sudden dyspnea + pleuritic pain + hypoxia → PE
 - Sudden unilateral pain + ↓ air entry + tracheal shift → tension PTX
 - Muffled heart sounds + ↑ JVP + hypotension → tamponade
 - Vomiting + chest pain + subcutaneous emphysema → esophageal rupture
- **Risk scores:** HEART (ED triage) / GRACE (invasive timing)

WHAT TO DO NEXT

- Reassess continuously
- **STEMI** → activate cath lab → door-to-balloon < 90 min (< 120 min if transferred)
- **NSTEMI / unstable angina**
 - **Aspirin** 162–325 mg PO, chewed × 1
 - **Anticoagulation**
 - Fondaparinux 2.5 mg SC OD (preferred per ESC)
 - Enoxaparin 1 mg/kg SC BD (adjust to CrCl)
 - **P2Y₁₂** (ticagrelor or clopidogrel) — timing per strategy
 - STEMI / primary PCI → load before cath
 - NSTEMI-ACS, cath < 24 h → defer until anatomy known
 - Cath delayed / conservative → load now
 - Ticagrelor 180 mg PO → 90 mg BD (preferred) avoid in active bleed / prior ICH / severe hepatic disease / strong CYP3A4 inhibitors / morphine (delays absorption in STEMI)
 - Clopidogrel 600 mg PO → 75 mg OD (if on AC, post-lysis, or ticagrelor contraindicated)
 - **Risk stratify**
 - GRACE > 140 or high-risk features → invasive within 24 h
 - Intermediate → invasive within 72 h
 - Low → non-invasive workup
- **If ongoing pain or instability:** treat as high-risk ACS + escalate early

- **If alternative suspected**

- PE → CTPA, do not anticoagulate empirically until dissection excluded
- Dissection → CT angio aorta, beta-blocker first, surgery on standby
- Pneumothorax → CXR / POCUS, decompression if tension
- Pericarditis / tamponade → echo, NSAIDs ± colchicine ± pericardiocentesis
- Esophageal rupture → CT chest, surgery

Disposition

CCU if

- Hemodynamic instability
- Ongoing chest pain
- Arrhythmia
- STEMI

Ward if

- Stable NSTEMI / observation

COMMON MISTAKES

- Anchoring on ACS and missing dissection, PE, or PTX
- Normal troponin / ECG → false reassurance (always serial)
- Missing posterior MI — V1–V3 reciprocal changes; confirm V7–V9
- Missing right-sided MI — always V3R/V4R in inferior STEMI
- Missing Wellens or de Winter — both LAD equivalents
- Nitrates in RV infarct or hypotension