Approach to Shock

CRITICAL CARE

LR 11

KEY DECISION RULE

Passive leg raise[4]

fluid responsive if cardiac output rises; LR 0.13 if it doesn't

Hypotension or signs of poor tissue perfusion

→ Access, monitor; mentation, UOP, skin, lactate; ECG, CXR, labs, cultures, POCUS[1,10]

→ **Hypoperfusion or MAP <65?**

Yes →

Shock: resuscitate while you find the cause

- Failing airway: intubate, pressors ready[10]
- Hypovolemia: fluid bolus; bleeding: blood[2,9]
- MAP <65: peripheral norepinephrine[2]
- Possible septic shock: antibiotics ≤1 h[2]
- Anaphylaxis: IM epi (1 mg/mL), thigh[8]
- High lactate: repeat to guide resuscitation[2]

→ **Anaphylaxis: epi 0.5 mg IM; rising NE: add vasopressin, then epi**[2,8]

Then: which type (skin, JVP, POCUS)?

	Distributive ~66%	**Hypovolemic** ~16%	**Cardiogenic** ~16%	**Obstructive** ~2%
CAUSES	• **Septic shock** • **Anaphylaxis** • Adrenal crisis, neurogenic, drugs	• **Hemorrhage: GI, trauma, AAA, ectopic** • GI losses: vomiting, diarrhea • Renal losses, burns, pancreatitis	• **Acute MI** • Decompensated HF, myocarditis • Acute MR/AR; arrhythmia	• **High-risk PE** • **Tension pneumothorax** • **Cardiac tamponade**
CLUES	• Warm skin, wide pulse pressure[1,10] • Sepsis + pressors + lactate >2 mmol/L[3] • Exposure; urticaria, wheeze, stridor[8]	• Cold, pale; flat neck veins[1,10] • Small, collapsing IVC on POCUS • Melena, trauma, anticoagulants	• Cold, wet: high JVP, crackles, S3[1] • Chest pain; new murmur • Inferior MI: right-sided ECG for RV infarct	• High JVP, clear lungs (or RV infarct)[1] • No breath sounds; pulsus paradoxus
WORKUP	• Blood cultures before antibiotics[2] • Image for a source needing control[2] • Cortisol, ACTH if adrenal crisis possible[11]	• CBC, INR, fibrinogen, iCa; crossmatch[10] • FAST, rectal exam; CTA if stable[10] • β-hCG if pregnancy possible	• Any MI + shock → emergent cath[10,12] • Echo: LV, RV, valves[6] • Troponin, lactate	• POCUS: effusion, big RV, no sliding[1] • CTPA only if stable enough[7]
MANAGE	• Sepsis: crystalloid ≥30 mL/kg in 3 h[2] • Hydrocortisone 50 mg q6h (sepsis)[2,10] • Adrenal crisis: IV hydrocortisone 100 mg[11]	• Bleed: blood not crystalloid; GI/IR/OR[9,10] • Trauma: SBP 80–90 (no TBI), TXA ≤3 h[9] • Reverse anticoag; losses: LR > NS[10]	• Revascularize MI; cardiovert or pace[6,10] • NE ± dobutamine; avoid dopamine[5,6] • Shock team; mechanical support[6]	• Tension PTX: needle, then chest tube[10] • Tamponade: pericardiocentesis[10] • PE with shock: systemic thrombolysis[7]

Stethopedia
stethopedia.ca/approach/shock

Evidence [1] Vincent 2013, N Engl J Med [2] Prescott 2026, Crit Care Med [3] Singer 2016, JAMA [4] Bentzer 2016, JAMA [5] De Backer 2010, N Engl J Med [6] Sinha 2025, J Am Coll Cardiol [7] Creager 2026, Circulation [8] Cardona 2020, World Allergy Organ J [9] Rossaint 2023, Crit Care [10] Manual 2024–25, pp. 61–64 [11] Beuschlein 2024, J Clin Endocrinol Metab [12] Thiele 2017, N Engl J Med