

Shock & Hypotension

Painting the picture of an undifferentiated, shocky patient

FEATURES OF SHOCK

- Ill appearing or AMS
- Hypotension
- Tachycardia
- Tachypnea
- Oliguria
- Cool, clammy skin
- Metabolic acidosis
- Hyperlactatemia

FOCUSED HISTORY

Use SAMPLE to get started:

- Symptoms
- Allergies
- Medications
- Past medical history
- Last meal, LMP
- Events leading up

Then narrow your differential!



Trauma? Tension PTX, cardiac tamponade, hemorrhage



Missed menses? Ruptured ectopic pregnancy



Bradycardia + hypotension? Addison crisis



Cardiac RFs? ACS, acute decompensated heart failure



Thromboembolic RFs? Pulmonary embolism



Vomiting + diarrhea? Hypovolemia



Fever + infection? Sepsis

PHYSICAL EXAM

Fluid status: skin turgor, cap refill, mucous membranes, JVP

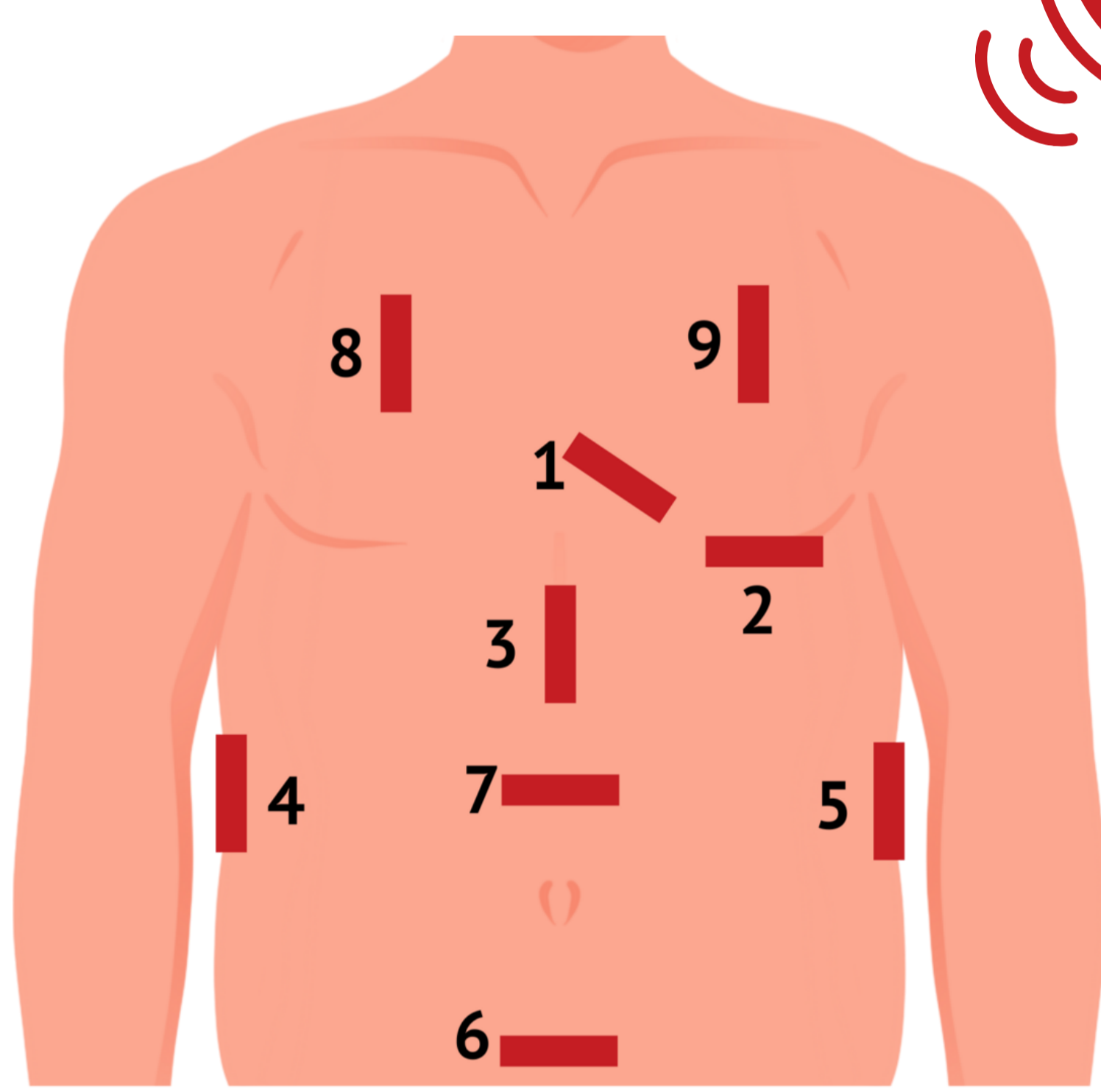
Skin: temperature, sources of infection, mottling, hives, skin flushing

Cardio: muffled or decreased heart sounds, irregular rhythms

Resp: wheezing, decreased air entry, diffuse rhonchi

Neuro: altered mental status, confusion

Abdo: peritonitis, pulsations



INVESTIGATIONS

Labs: CBC, lytes, BUN/Cr, glucose, LFTs, ABG/VBG, lactate, CK/Trops

Urinalysis: pregnancy, UTI

ECG: ST elevation, ischemia, conduction delay

CXR: heart failure, pneumonia, PTX

POCUS: use the **RUSH** protocol to determine the type of shock:

HEART - how well is it squeezing and ejecting?

- (1) Parasternal Long Axis
- (2) Apical 4-chamber

IVC - is it dilated and collapsible?

- (3) IVC view

MORISON'S POUCH - is there free fluid? (FAST)

- (4) RUQ
- (5) LUQ
- (6) Pelvis

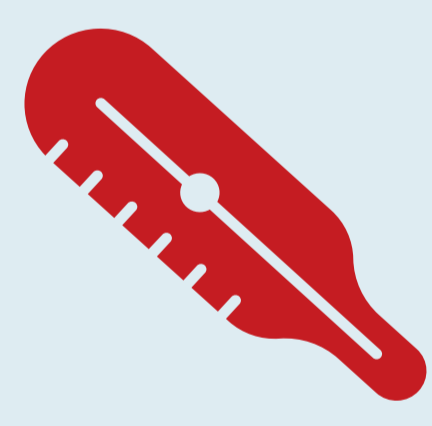
AORTA - is it dilated or ruptured?

- (7) Sliding Aorta

PULMONARY - any B-lines, fluid or lung sliding?

- (8)/(9) Lung Views

DIFFERENTIAL & MANAGEMENT



Distributive Shock

Sepsis

- **Sx's:** fever, tachypnea, hypovolemia, myocardial depression, source of infection

☞ **IVC skinny and collapsible**

- **Tx:** IV fluids, broad spectrum antibiotics, +/- norepinephrine

Anaphylaxis

- **Sx's:** hypotension, inspiratory stridor, wheezing, oral/facial edema, hives

- **Tx:** epinephrine IM, IV fluids, antihistamines, corticosteroids



Cardiogenic Shock

Myocardial Dysfunction

- **Sx's:** chest pressure or tightness, diaphoresis, SOB, ischemia on ECG

☞ **reduced contractility**

- **Tx:** pressors, inotropes, re-perfusion strategy

Arrhythmias

- **Sx's:** palpitations, tachycardia or bradycardia, irregular pulse, hypoperfusion, syncope

- **Tx:** correct dysrhythmia following ACLS guidelines, IV fluid bolus, vasopressors, inotropes



Hypovolemic Shock

Hemorrhagic

- **Sx's:** tachycardia, acidemia, history of trauma

☞ **abdominal free fluid, hemothorax**

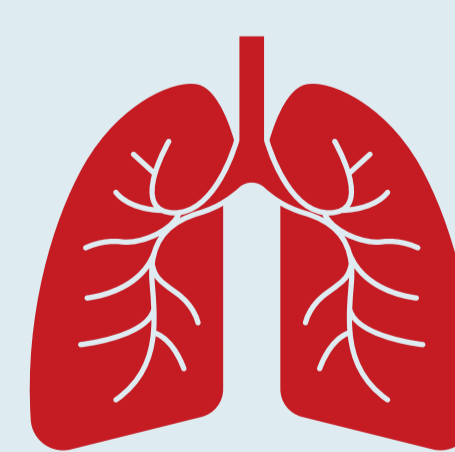
- **Tx:** control hemorrhage, balanced transfusion (1:1:1 of pRBCs:platelets:FFP)

Non-hemorrhagic

- **Sx's:** vomiting, diarrhea, diaphoresis, skin injury/burns

☞ **IVC skinny and collapsible**

- **Tx:** volume resuscitation with crystalloids, norepinephrine if not responsive



Obstructive Shock

Cardiac Tamponade

- **Sx's:** elevated JVP, muffled heart sounds

☞ **pericardial effusion**

- **Tx:** IV fluids, pericardiocentesis

Tension Pneumothorax

- **Sx's:** fatigue, tachypnea, chest pain

☞ **barcode sign, absent lung slide, lung point**

- **Tx:** needle decompression, chest tube

Pulmonary Embolism

- **Sx's:** chest pain, acute dyspnea, cough

☞ **RV heart strain**

- **Tx:** IV fluids, inotropes, thrombolysis