

Hypotension



Definition:

Systolic blood pressure <90 mm Hg, mean arterial pressure <65 mm Hg, or >30 mm Hg drop in systolic blood pressure from baseline

Start

- 1. Establish team leader and call for HELP.**
- 2. Check pulse and vital signs.**
 - If pulseless, initiate Advanced Cardiovascular Life Support.
- 3. Obtain intravenous or intraosseous access.**
- 4. Perform focused physical exam.**
 - Mental status
 - Jugular venous pressure
 - Extremities (warm or cold, livedo)
 - Lung, cardiac, and abdominal exam
 - Urine output; consider urinary catheter
- 5. Perform focused history.**
 - AMPLE: allergies, medications, past medical history, last meal, recent events
 - Consider sending senior member for electronic chart review
- 6. Consider further diagnostic testing.**
 - Venous/arterial blood gases, complete blood count, basic metabolic panel, liver function tests, troponin, B-type natriuretic peptide
 - Chest radiograph
 - Electrocardiogram
 - Point-of-care ultrasound
 - Inferior vena cava
 - Right and left ventricular function
 - Pericardial fluid
 - Lower extremity venous compression
- 7. Treatment**
 - First-line treatment is fluid bolus in almost all causes of hypotension
 - Consider vasopressors (norepinephrine preferred in most instances) IF desired blood pressure not reached after 2- to 3-L bolus

Differential diagnosis

Distributive

Signs:

- Warm extremities
- Febrile
- Wide pulse pressure

Causes:

- Sepsis
- Anaphylaxis
- Adrenal insufficiency
- Neurogenic (low heart rate)

Hypovolemic

Signs:

- Cold extremities
- Narrow pulse pressure
- Slow capillary refill

Causes:

- Hemorrhage
- Volume depletion

Obstructive

Signs:

- Cold extremities
- Jugular vein distension
- Muffled heart sounds
- Unilateral breath sounds

Causes:

- Pulmonary embolus
- Tension pneumothorax
- Cardiac tamponade
- Abdominal compartment syndrome

Cardiogenic

Signs:

- Cold extremities
- Jugular vein distension
- Rales
- Chest pain
- New arrhythmia/murmur

Causes:

- Pump failure (ischemia, cardiomyopathy)
- Arrhythmia
- Valvular disease
- Hypertrophic obstructive cardiomyopathy