Hypotensive Emergencies

Signs and Symptoms

- Restlessness, confusion
- Weakness, dizziness
- Weak, rapid pulse
- Pale, cool clammy skin
- Delayed capillary refill

History

- Blood loss:
  - Vaginal
  - GI
  - Trauma
- Fluid loss:
  - Vomiting
  - Diarrhea
  - Fever
  - Burns
  - Heat illness
- AAA
- Pregnancy/ectopic pregnancy
- Infection/sepsis
- Cardiac ischemia (MI, CHF)
- Medications
- Allergic reaction/anaphylaxis
- History of poor oral intake

Differential

- Shock
- Hypovolemic
- Cardiogenic
- Septic
- Neurogenic
- Anaphylactic
- Ectopic pregnancy
- Dysrhythmias
- Pulmonary embolus
- Tension pneumothorax
- Medication effect/overdose
- Vasovagal
- Physiologic

Pediatric Pearls:

- Check blood glucose and consider sepsis, dehydration, trauma and ingestions/poisonings as common pediatric causes.
- Tachycardia typically precedes hypotension with hypotension being a late and concerning sign in children.
- Pediatric Hypotension guidelines. Hypotension generally defined as:
  - Over 10yo SBP <90
  - 1-10yo SBP <70 + (2 x Age in years)
  - 1-12mos SBP <70
  - Less than 1mo SBP <60

Care: Adults and Pediatrics

B E I P

Follow General Directive #3, Orders for all Patients

B E I P

Consider causes of hypotension and treat as appropriate.

B E I P

Position patient in modified Trendelenburg position as allowed with regards to airway and spinal precautions.

E I P

Establish a large bore IV of **Normal Saline.**

(E) (I) (P)

If unable to obtain IV, consider IO.

I P

Initiate cardiac monitoring and acquire 12 lead

Trauma

E I P

Initiate fluid resuscitation with treatment per Trauma protocol #4 Major Trauma.

Non-cardiac/ non-trauma

E I P

Check for rales, 20ml/kg up to 1000 ml bolus of **Normal Saline** may repeat once if inadequate response.

Cardiac/post resuscitation

E I P

Check for rales, 10ml/kg up to 500 ml bolus of **Normal Saline** may repeat once if inadequate response.

I P

Consider **Dopamine** (**Intropin®**) starting at 5 mcg/kg/min and titrating to effect with a dose range of 5-20 mcg/kg/min to maintain SBP > 90.

Pearls

- Effective December 2013, Premixed **Dopamine** (**Inotropin®**) will typically be supplied as 400mg in 250ml (1600mcg/ml) Note this new "standard" concentration.
- Example Dopamine flow rates (1600mcg/ml concentration):

Micrograms/ minute		Microdrops/ Minute
200	=	7.5
400	=	15
600	=	22.5
800	=	30

- The presence of rales is not an absolute contraindication to an IV fluid bolus in severe hypotension but the patient should be closely monitored for signs of worsening respiratory status.
- Adult hypotension can be defined as a SBP of < 90 mmHg with evidence of hypoperfusion.
- A patient who has a history of poorly controlled *hyper*tension may show signs of hypotension at pressures higher than 90 mmHg systolic.
- Avoid "over resuscitating" in situations of uncontrollable hemorrhage (GI bleed, chest/abdominal trauma, severe vaginal bleed). Raising the blood pressure excessively may worsen internal hemorrhage.
- Consider all possible causes of shock and treat per appropriate protocol.
- Use manual cuff to confirm abnormal blood pressures.

Performance Indicators

- Improvement in blood pressure with treatment.
- Frequent reassessment of vital signs and lung sounds.