

Shock

¹ Manage primarily as guided in **Allergic Reaction/Anaphylaxis** protocol

² Don't forget to alert the hospital if you have a sepsis patient!

Routine Medical Care / Trauma Care

- Include temperature
- Look for associated injuries

Place 1 or 2 large bore IV's ≥ 18g
(consider IO after two unsuccessful attempts)

Consider etiology of shock state
See specific protocol

General Signs of shock

- Altered mental status
- Delayed/flash capillary refill
- Weak or decreased pulses
- Tachycardia
- Elevated RR
- Hypoxemia
- Hypotension for age
- Decreased urine output

¹Anaphylactic

²Septic

Hypovolemic

Neurogenic

Obstructive

Cardiogenic

Crystalloid Fluid bolus:
Lactated Ringers 500mL
May repeat x 3 – 1500 ml MAX
Re-access Lung Sounds between bolus

- High flow O₂ via NRB
- Evaluate lung sounds
- Decompress tension pneumo- or tension hemopneumothorax

- Evaluate lung sounds
- **Crystalloid Fluid bolus:** 250-500ml if lungs sounds clear bilaterally

- Reassess vital signs, MAP, and Shock Index (SI)
- if persistent shock is believed to be due to hypovolemia, repeat **Crystalloid Fluid** bolus 500ml to a maximum of 2000mL

³ May give **Push Dose Epinephrine** while preparing vasopressor infusion
Mix in syringe 1ml of 1mg/10ml Epinephrine with 9 ml of NS (syringe = 10mcg/ml of Epinephrine)
Give 1ml IV/IO q3-5 min prn

³ Consider Vasopressor Infusion:
Norepinephrine 2-12 mcg/min
or
Epinephrine 2-20 mcg/min
titrate to MAP ≥ 65mmHg

Contact Medical Control to give steroids if patient has Addison's disease or other forms of adrenal insufficiency

Hypovolemic

- Hemorrhage – trauma or medical (ex. GI bleed)
- Vomiting/Diarrhea
- Burns
- *get a good history*

Mean Arterial Pressure

$$\text{MAP} = \frac{\text{SBP} + (2 \times \text{DBP})}{3}$$

Cardiogenic

- Heart Failure
- Arrhythmias
- Cardiomyopathy
- Valvular Disease
- * look for clinical signs*
- Lung Sounds / Edema

Shock Index

$$\text{SI} = \frac{\text{HR}}{\text{SBP}}$$

(SI >0.9 is poor)

Obstructive

- Tension pneumothorax
- Hemopneumothorax
- Massive PE
- Cardiac tamponade

often have a narrow pulse pressure

$$\text{Pulse Pressure} = \text{SBP} - \text{DBP}$$

Distributive

- Septicemia
- *look for source & fever*
- *may have a low EtCO₂*
- Anaphylaxis
- *often warm/flush skin*
- Neurogenic
- *usually h/o trauma*
- *often bradycardic*