Management of Shock

$MAP = \left(\frac{1}{3} \cdot SBP\right) + \left(\frac{2}{3} \cdot DBP\right)$, Goal > 65mmHg to maintain cerebral perfusion

4 Types of Shock: Cardiogenic, Distributive, Hypovolemic, Obstructive

① Restore intravascular volume
- Blood (hypovolemic shock d/t blood loss)
- Fluids
  - Surviving Sepsis Campaign: 30 mL/kg IV balanced crystalloids (Plasmalyte [OR] LR)
- Pressors

② Tx underlying cause
- Cardiogenic → CVD
- Septic → Broad spectrum ABX, stress dose steroids
- PE → thrombectomy, tPA
- Tamponade → cardiac window

Norepinephrine
$\alpha_1 > \beta_1$
↑CO ↑SVR
1st line → SOAP II

Phenylephrine
α_1
↑SVR

Epinephrine
$\alpha_1 > \beta_1 > \beta_2$
strong + inotrope

Dopamine
LD: $\beta_1 > D_1 > \alpha_1$
HD: $\alpha_1 > \beta_1 > D_1$
* risk of tachy arrhythmias, symptomatic bradycardia

Dobutamine
$\beta_1 > \beta_2$
Inodilator
↑CO ↓SVR

Receptors

α → vasculature = vasoconstriction
β_1 → heart = inotropy
β_2 → lungs = bronchodilation

* Vasopressin → V_1 → vascular smooth muscle → peripheral vasoconstriction
* Milrinone → PDE3i → inodilator
* Angiotensin II → angiotensin receptor → vascular smooth muscle vasoconstriction