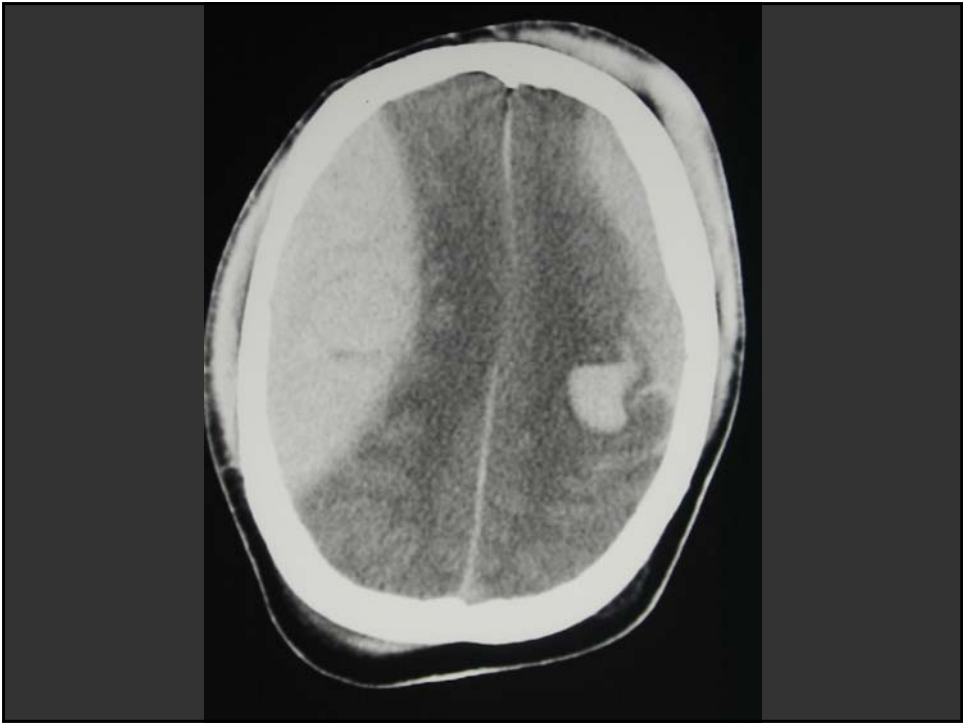
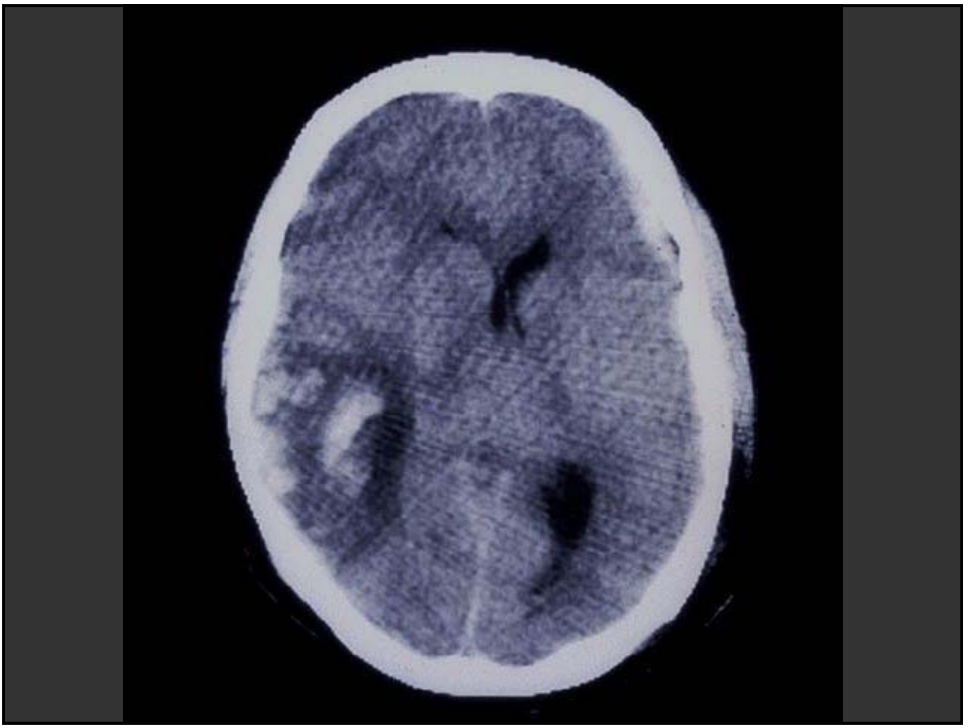


# Clinical aspects of head trauma

primary brain injury



secondary brain injury



$O_2$  → brain

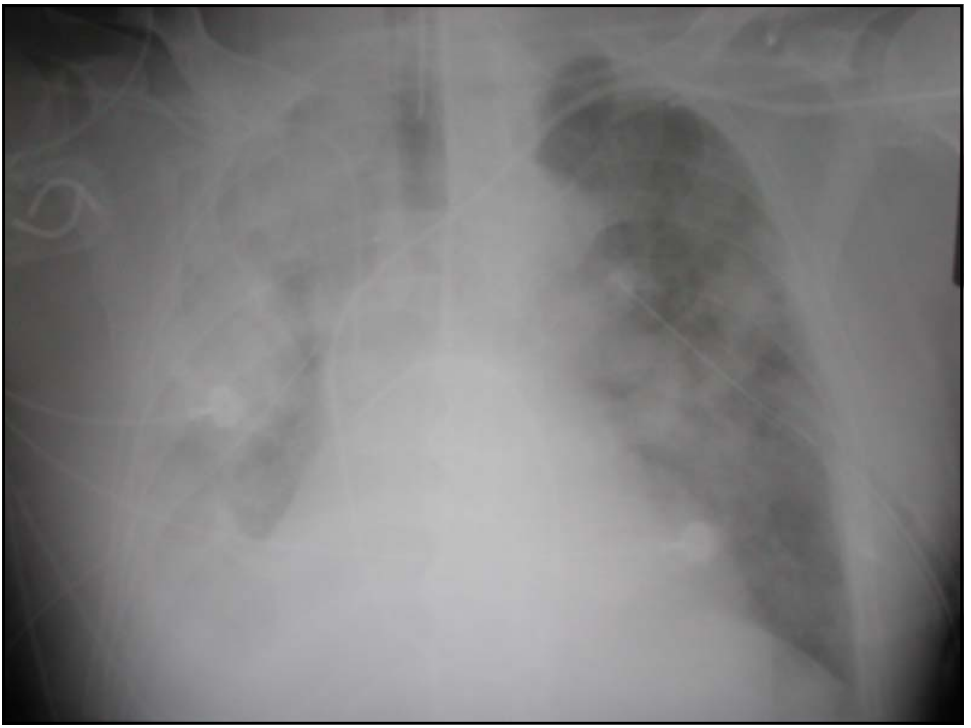
← air →

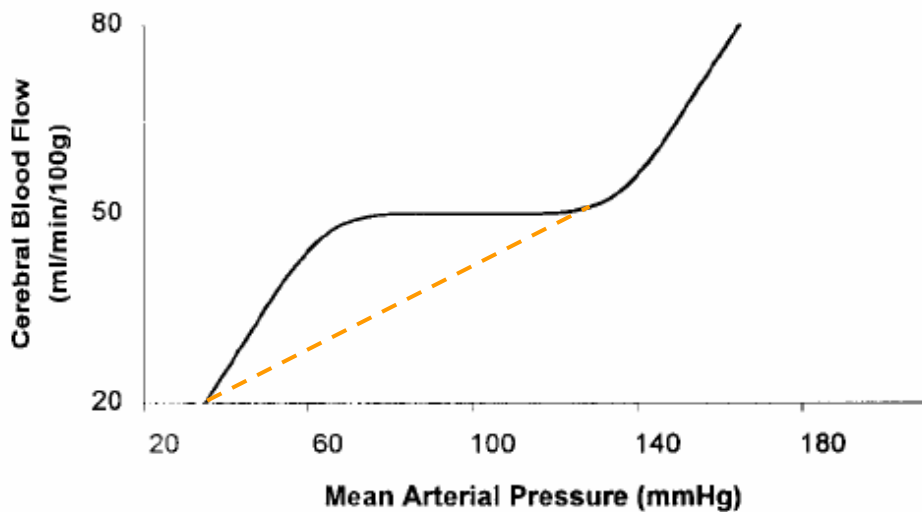
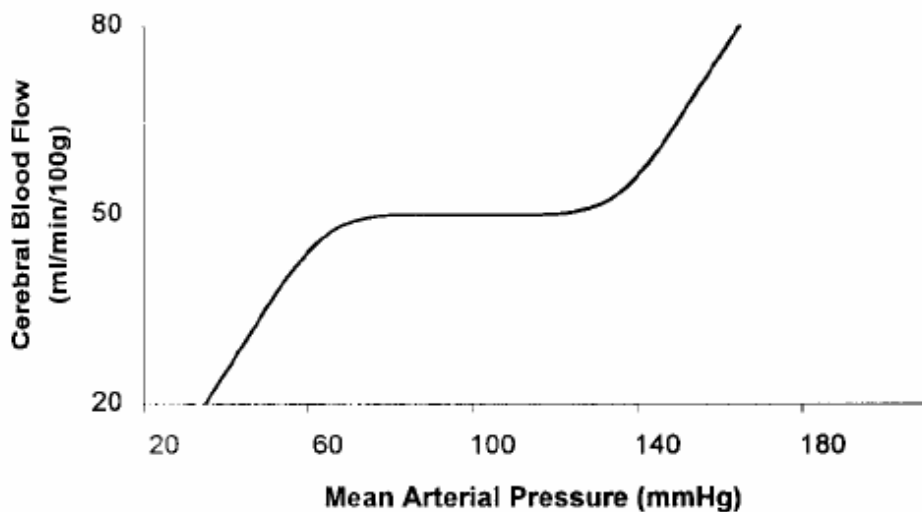
↑  
chest  
↓



oxygenation

perfusion



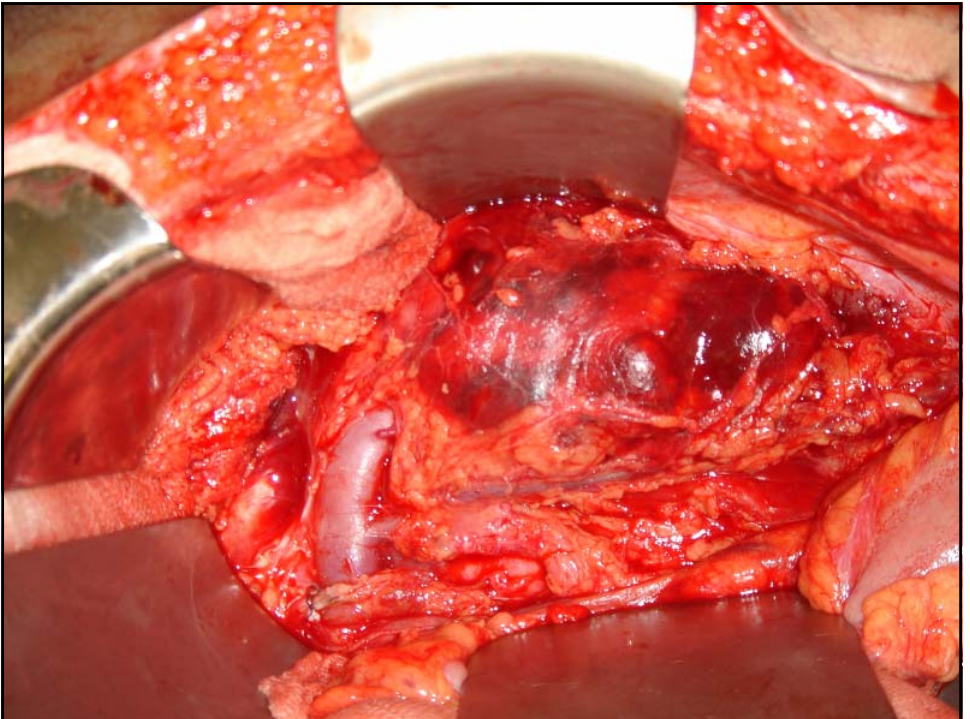




$$CPP = MAP - ICP - CVP$$

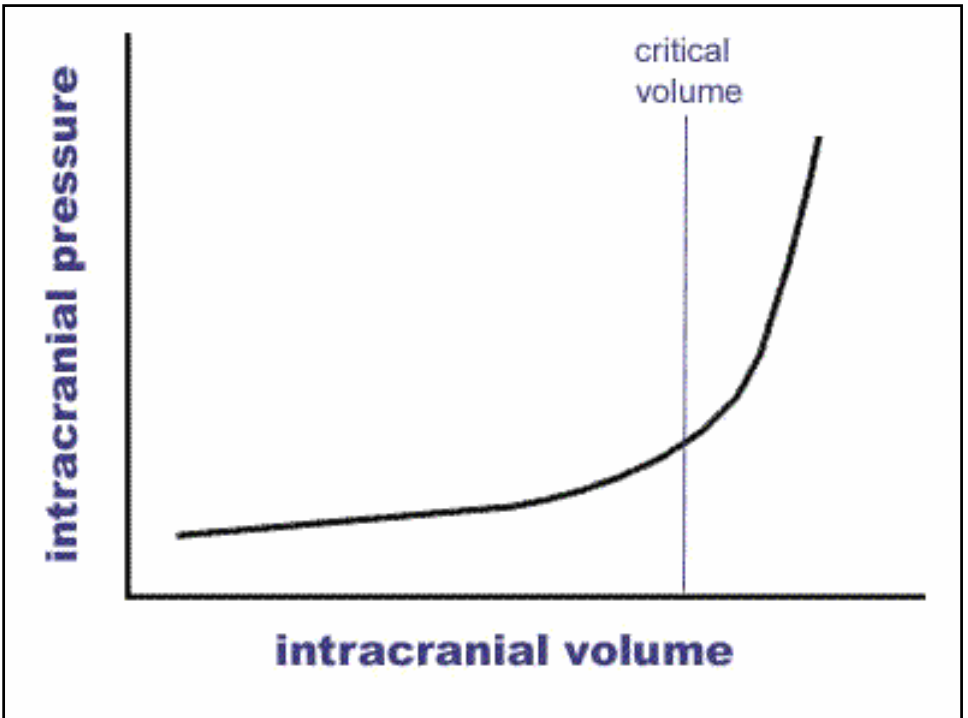

$$CPP = MAP - ICP - CVP$$

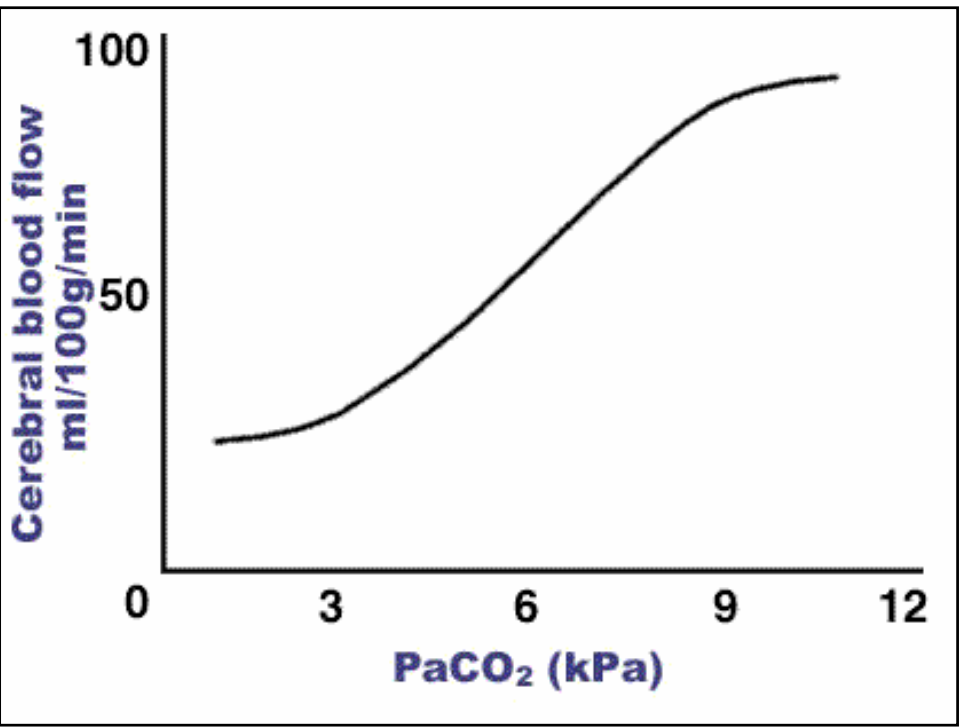
$$\text{CPP} = \text{MAP} - \text{ICP} - \text{CVP}$$



$$\text{CPP} = \text{MAP} - \text{ICP} - \text{CVP}$$

The equation is annotated with three orange arrows: a downward arrow under CPP, a downward arrow under MAP, and an upward arrow under ICP.





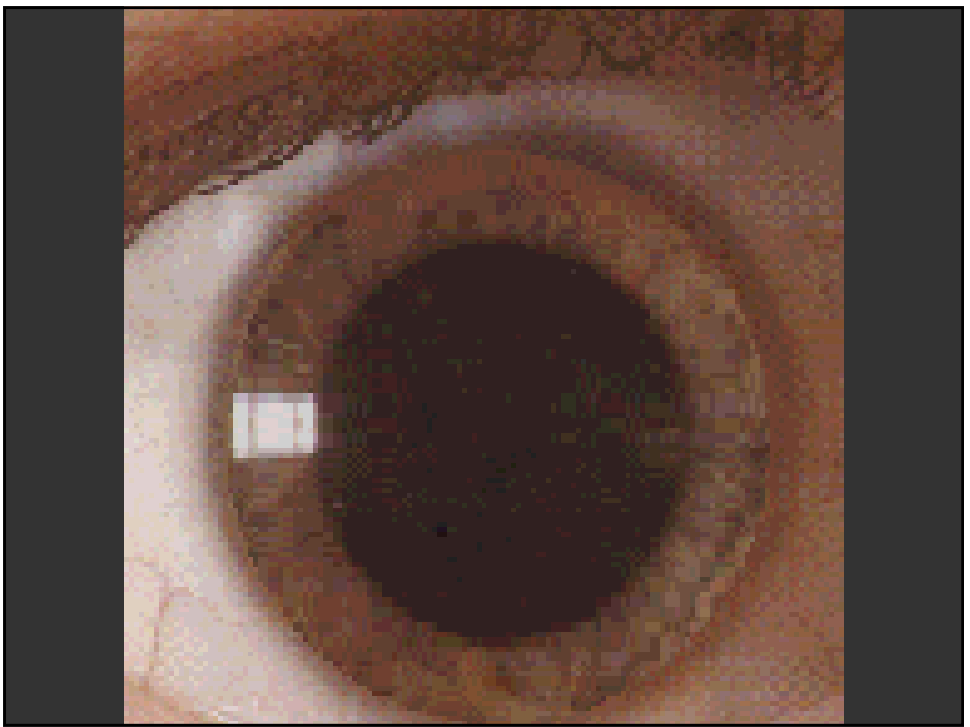
mannitol

hypertonic saline

$$\text{CPP} = \text{MAP} - \text{ICP} - \text{CVP}$$
The diagram shows the equation CPP = MAP - ICP - CVP. Below each term, there is a large orange arrow. Under CPP, the arrow points downwards. Under MAP, the arrow points downwards. Under ICP, the arrow points upwards. Under CVP, the arrow points upwards.

clinical examination

Glasgow Coma Scale



Trauma team → CT

← air →





chest



blood





secondary brain injury