**INTRACRANIAL PRESSURE and CUSHINGS TRIAD**

**CPP = Cerebral Perfusion Pressure**
- In adults should be around 70mmHg

**MAP = mean arterial pressure:**
\[ MAP \approx DP + \frac{1}{3} PP \]
Where DP is the diastolic pressure and PP is the pulse pressure (the difference between systolic and diastolic). It is believed that a MAP of greater than 60 mmHg is enough to sustain the organs of the average person under most conditions.

**CPP = MAP - ICP**

**ICP = Intracranial Pressure**
- Normal ICP = 0 to 10 mmHg in adults
- = 0 to 10 mmHg in children
- = 0 to 5 mmHg in infants
- Above 15 mmHg = intracranial hypertension
- Above 20mmHg = risk of focal ischaemia
- Above 50mmHg = risk of global ischaemia

Maintenance of an adequate cerebral perfusion pressure is more important than control of ICP per se.

**AUTOREGULATION** of cerebral blood flow keeps the CPP steady with an MAP range of 60 to 160mmHg. At 60mmHg the vessels are maximally dilated and at 160 they are maximally constricted.

**HYPERTENSION:**
The rise of MAP to compensate for increasing ICP is an adrenergic response, chiefly alpha-adrenoceptor-mediated, with both increased cardiac output (predominantly stroke volume, and hence increased pulse pressure) and increased vascular resistance peripherally. This response is said to originate either in the ischaemic hypothalamus (as a result of ischaemia-induced excitatory neurotransmitter release).