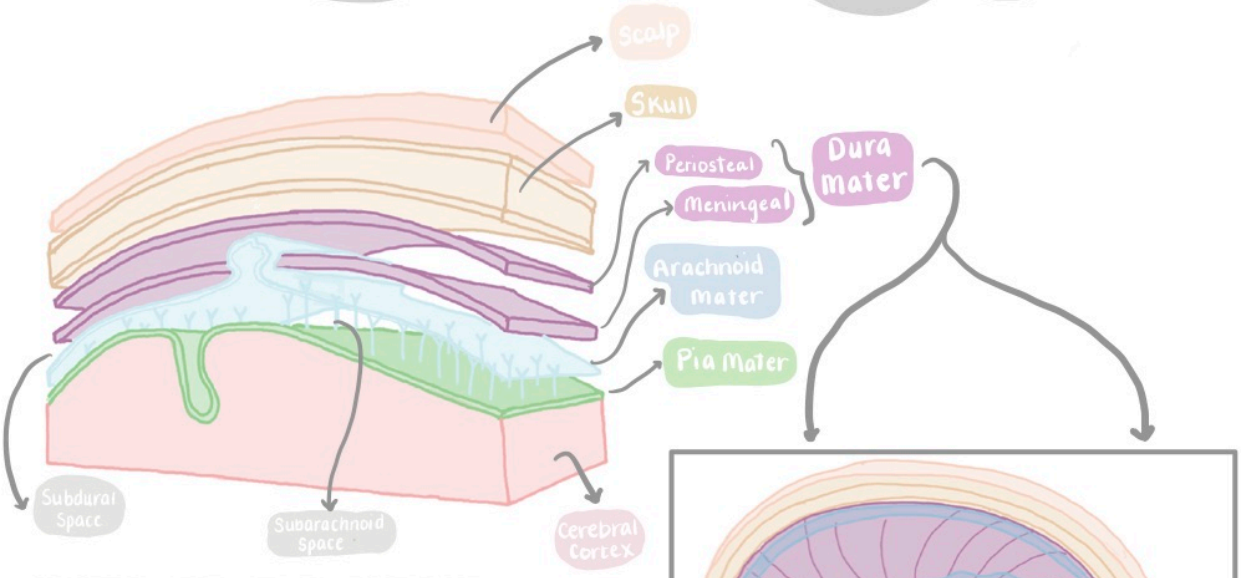
# MENINGES



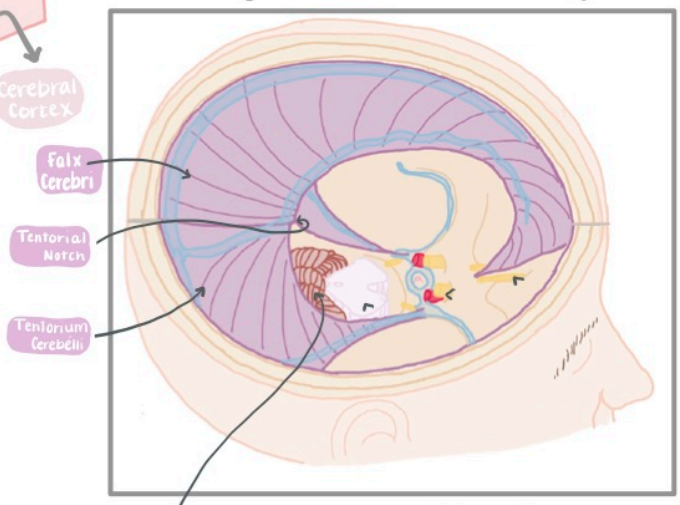

## the IMPORTANT details

The meninges consist of *three connective tissue layers* that enclose the CNS – they are the protective PAD (**P**ia, **A**rachnoid, **D**ura mater).

Blood supply: Meningeal arteries - Middle meningeal artery (MMA) most *clinically important*.

Points to note:

- ! Endosteal layer of dura mater is **not** continuous with spinal cord dura but the meningeal layer is
- ! Subarachnoid space contains **three** things: CSF, cerebral vessels, cranial nerves
- ! CSF produced in the **choroid plexus**
- ! The subarachnoid enlarges to form **cisterns,** which allow small amounts of bleeding without increase in ICP
- ! Pia mater ENTERS the sulci + fissures of the cerebrum while the arachnoid mater does not
- ! MMA bleed (e.g. trauma) = **extradural haemorrhage**
- ! Bleed between dura + arachnoid (e.g. vein tear entering superior sagittal sinus) = **subdural haemorrhage**
- ! Bleed between arachnoid + pia (e.g. ruptured aneurysm) = **subarachnoid haemorrhage**




## What can go wrong? MENINGITIS

An *infection* of the protective membranes that surround the brain and spinal cord (*meninges)* – can be *infective* (bacterial, fungal, viral) or non-infective (e.g. malignant meningitis)

Characterised by **Meningism** symptoms: neck stiffness, photophobia, positive Kernig's sign. Can also present with headache, petechial rash, seizures, decreased GCS

Can cause cranial nerve lesions ( → blindness, hearing loss), paralysis, ataxia, memory and concentration problems