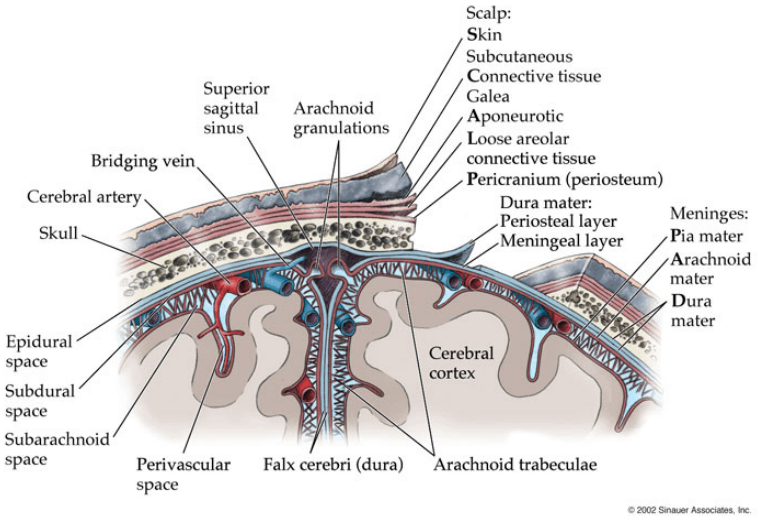
MEMBRANES AND VENTRICLES OF THE BRAIN

1/12/82, 11 Jan 00, 15 Jan 03, 14 Jan 04, 30Jan08, 7Jan09, 6Jan10, 9Jan12, 11Nov15
S&M p 315, Martini's 4th: 448-453, 6th: p 467, 7th: 453-459, 8th: 464-468, 9th: 449-475, 10th: 464-470



MENINGES (meninx = membrane) three layers covering CNS: p 466

DURA MATER (hard mother): double layered around brain
- outer: periosteum, attached to cranial bones
- inner: continuous with dura mater of spinal cord.

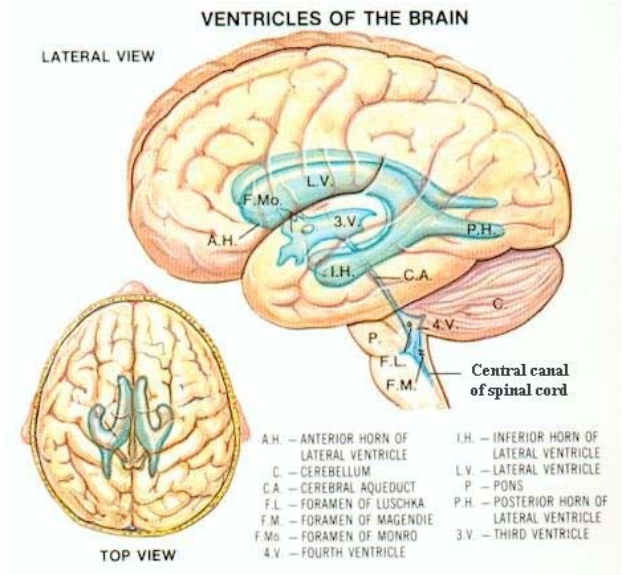
Folds:
- **falx cerebri** 466 — strong septum between cerebral hemispheres, attaches to crista galli
- falx cerebelli — between cerebellar hemispheres also
- **tentorium cerebelli** — between cerebrum and cerebellum

ARACHNOID MENINX (spider, cobweb-like) middle layer of three, adheres closely to inner surface of dura.

sub-arachnoid space, connected with pia mater by cobweb-like strands, filled with **Cerebrospinal fluid**.

PIA MATER (soft mother) delicate vascular, areolar connective, participates with the arachnoid to form choroid plexus.

VENTRICULAR SYSTEM, p 465



System of ventricles is a continuous fluid filled system: p 468
- **choroid plexus** (braid) — folds in pia mater with network of capillaries produce:
- **Cerebrospinal fluid** (CSF) — bathes organs of central nervous system
  CSF cushions and supports the brain. It circulates, cleansing the brain and spinal cord.
  It is often tested for bacteria (meningitis) or bleeding (sub-dural hemorrhage).
- **arachnoid villi** — resorb CSF.Formed by projections of arachnoid meninx into dural venus sinuses

Illustrate **Superior sagittal sinus** cross section with membranes, arachnoid villi. P 463 for system illustration

LATERAL VENTRICLE: within each cerebral hemisphere, possess horns: superior, inferior, posterior

septum pellucidum — separates the two (thin clear membrane)
foramen of Monro — Connects lateral ventricles with the third ventricle

THIRD VENTRICLE: narrow, within **thalamus**, **massa intermedia** passes through ("eye of bird")

cerebral aqueduct — communicates with the fourth ventricle
Stenosis of the aqueduct can cause hydrocephaly.

FOURTH VENTRICLE: within the hind brain, ventral to cerebellum has three openings:
two foramina of Luschka (lateral aperture)
one foramen of Magendie (medial aperture)
These foramina lead to space surrounding brain, and subarachnoid space of spinal cord

Central canal of spinal cord is continuous with fourth ventricle.