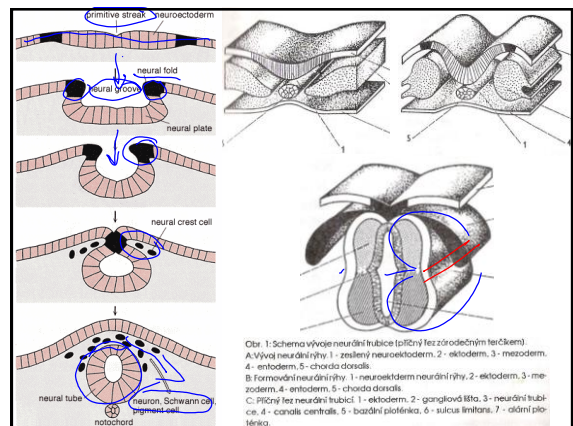
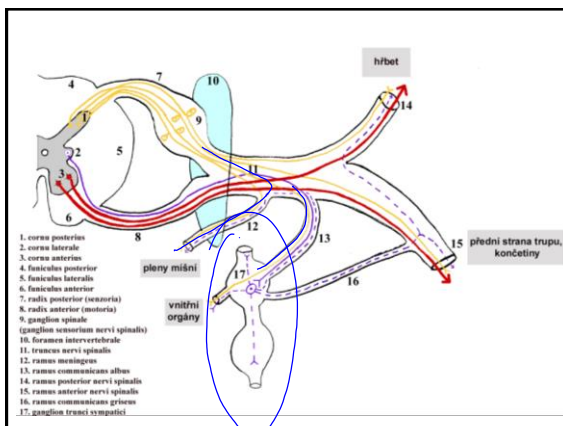
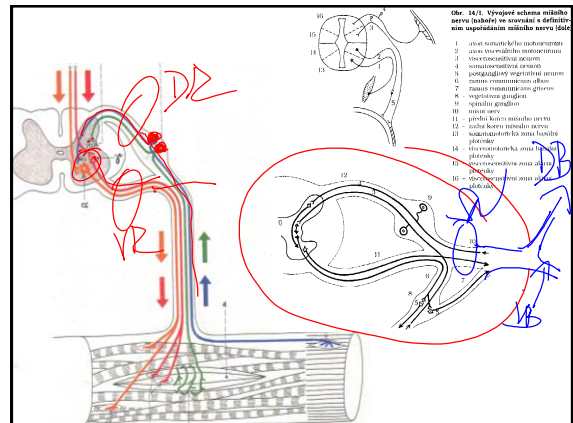
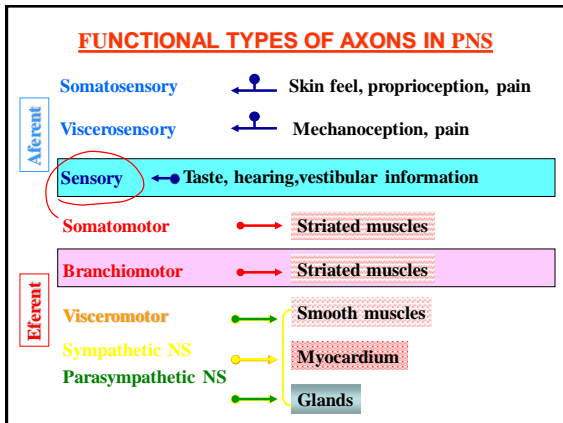
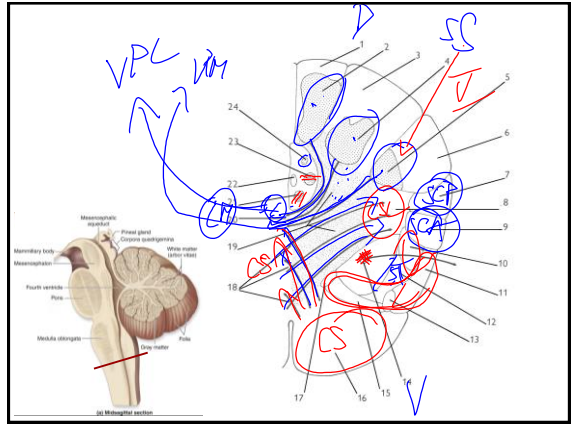
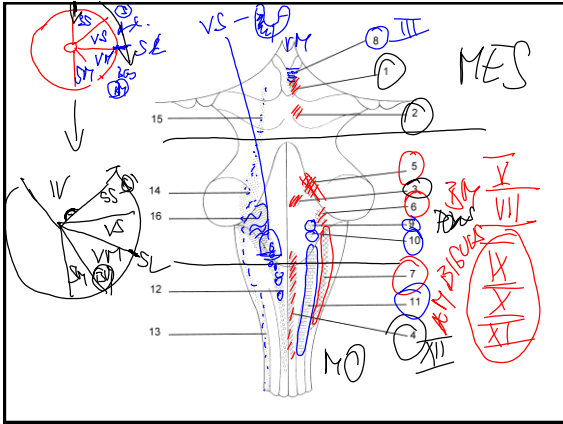
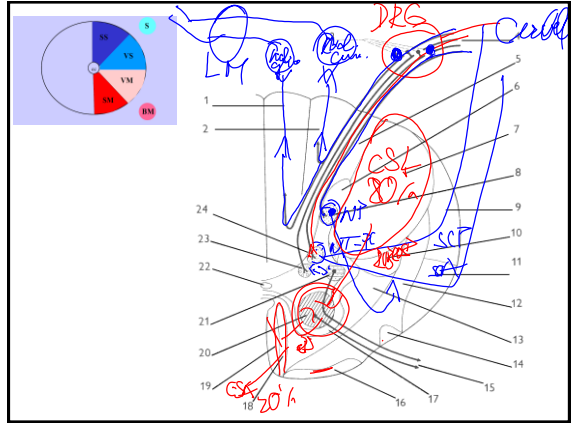
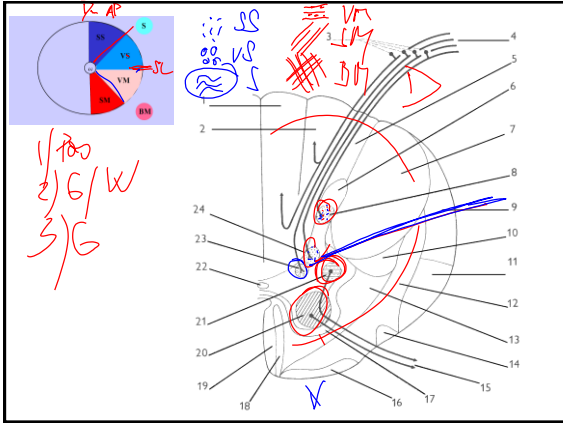
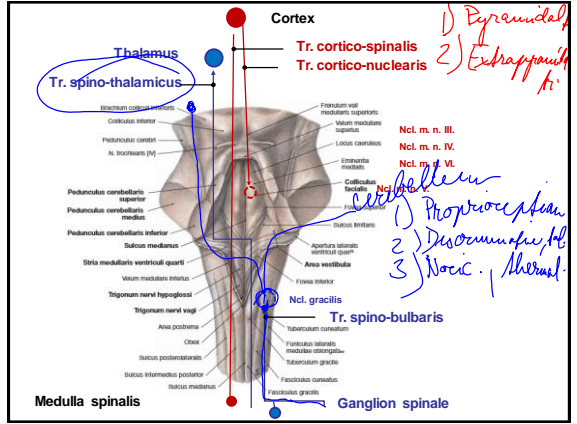
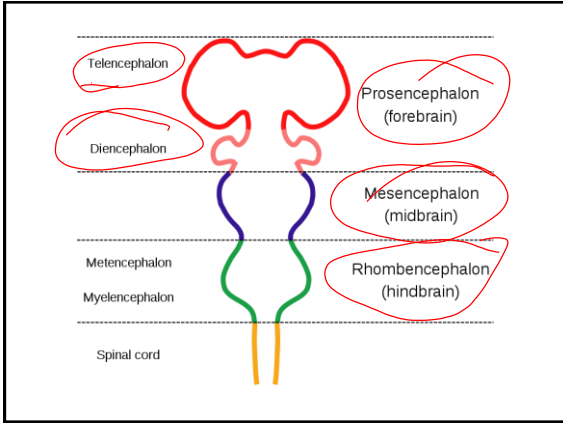
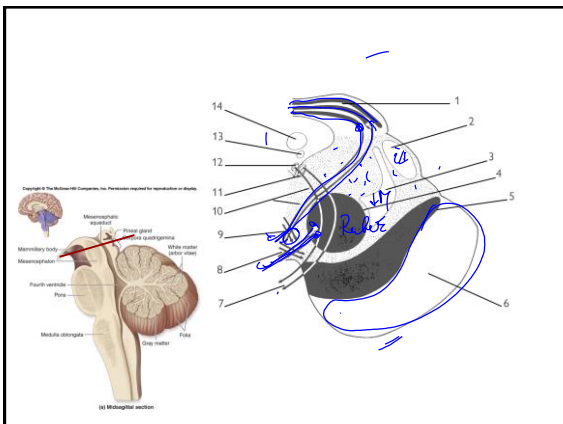
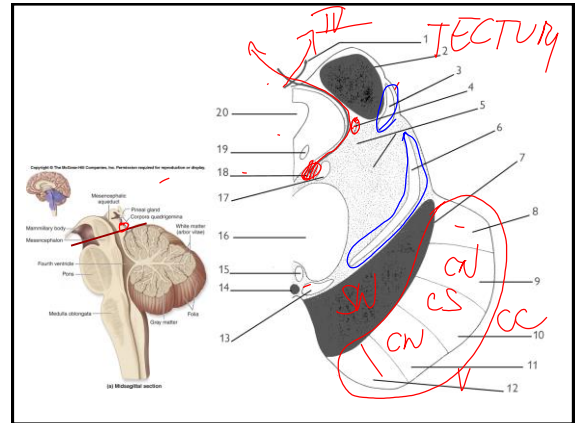
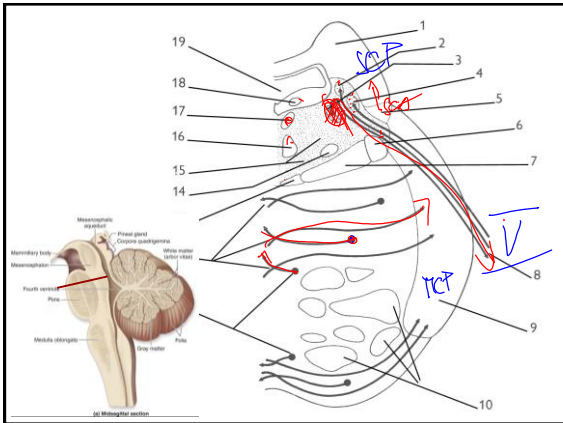
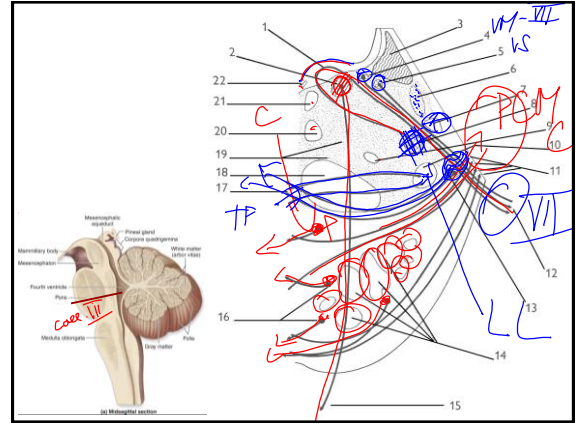
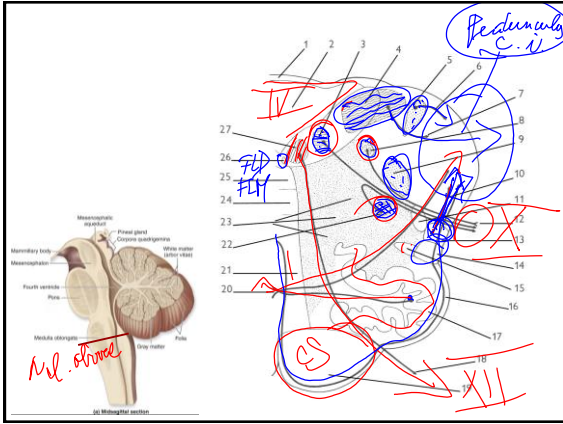


Terminology

- **funiculus** = cordlike structure or part, especially one of the large bundle of nerve tracts that make up the white matter of the spinal cord.
- **fasciculus** = an axon bundle -HETEROGENOUS struct. – it has the origin in different nuclei and form synapses in various structures
- **tractus** = an axon bundle -HOMOGENOUS struct. – nerve fibres have the same origin and conclusion
- **ipsilateral** x **contralateral**
- **Rostral** x **caudal**
- **Nucleus** x **ganglion**
- **Proprioception** x **discriminative sensation** x **nociception** x **tactile sensation**
- **Somato/viscero-motor** x **Somato/viscero-sensor**







DIENCEPHALON

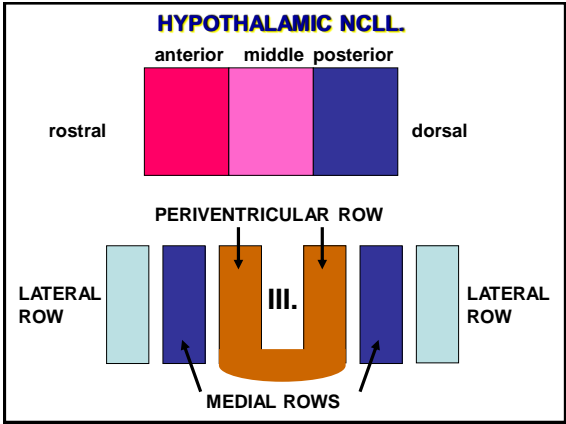
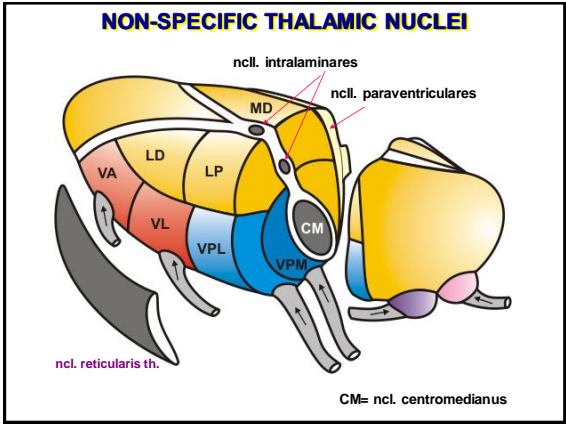
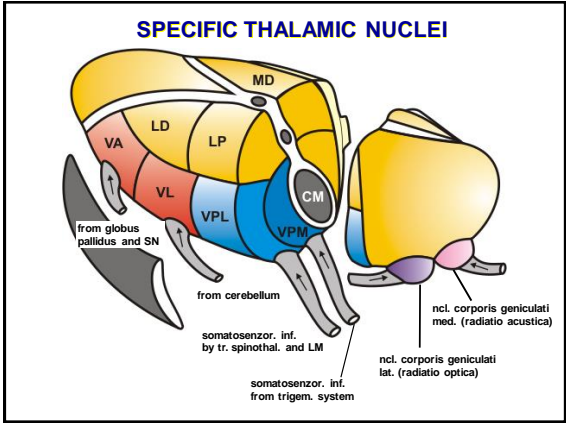
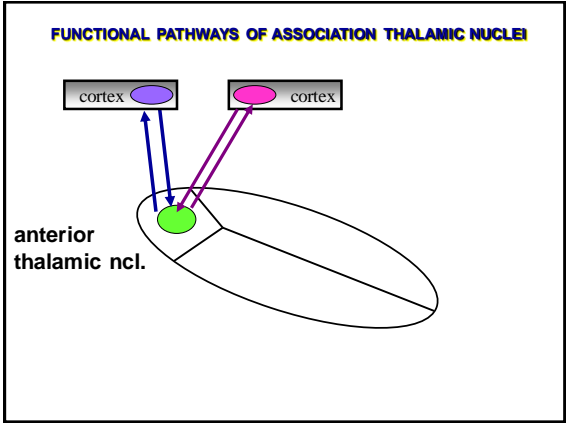
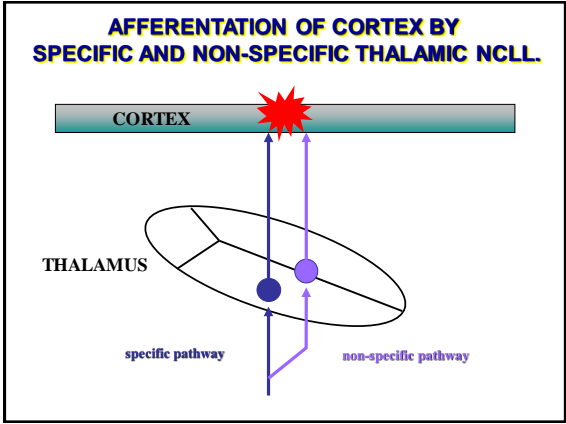
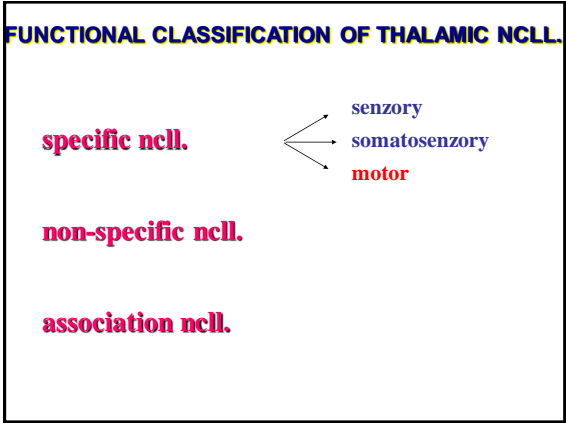
epithalamus

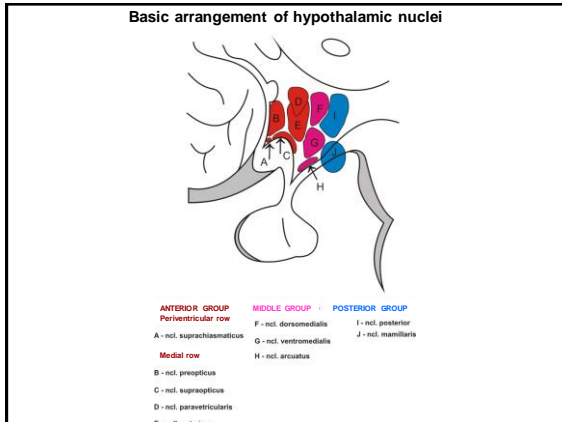
thalamus
(metathalamus)

<
sulcus hypothalamicus

hypothalamus

subthalamus





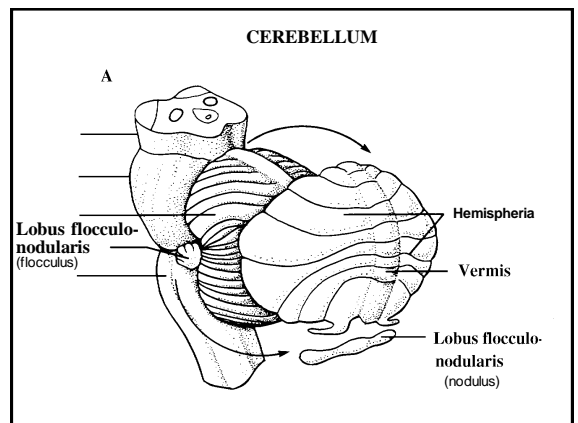
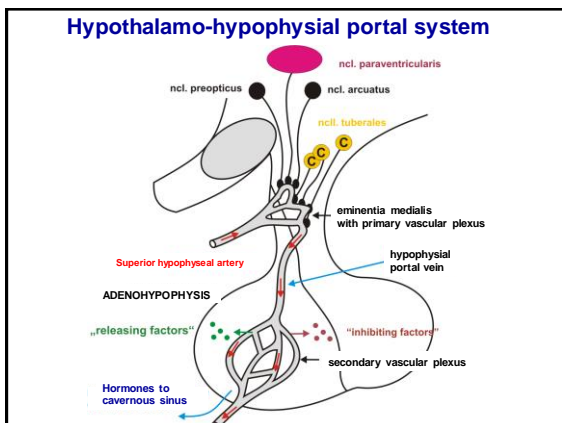
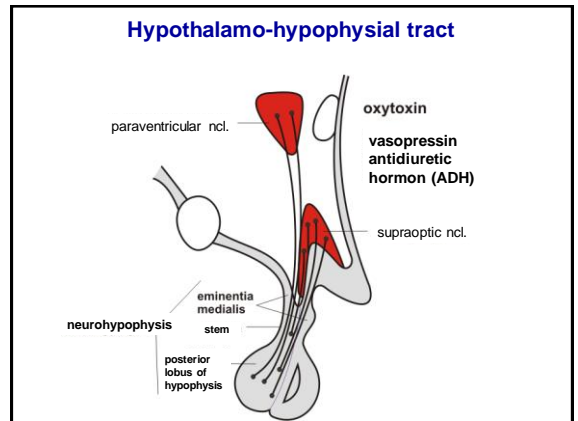
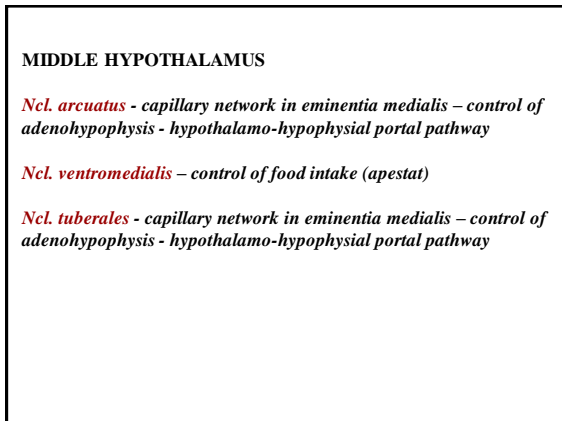
ANTERIOR HYPOTHALAMUS

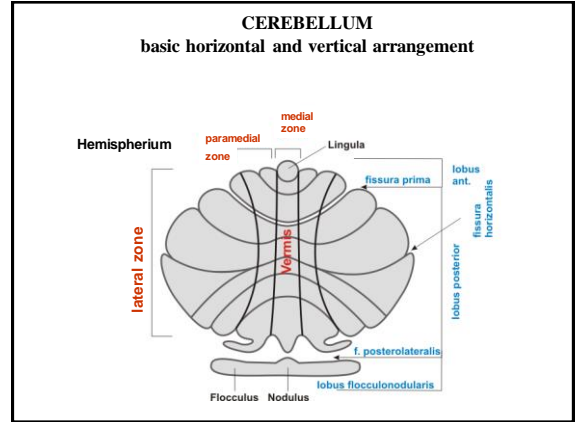
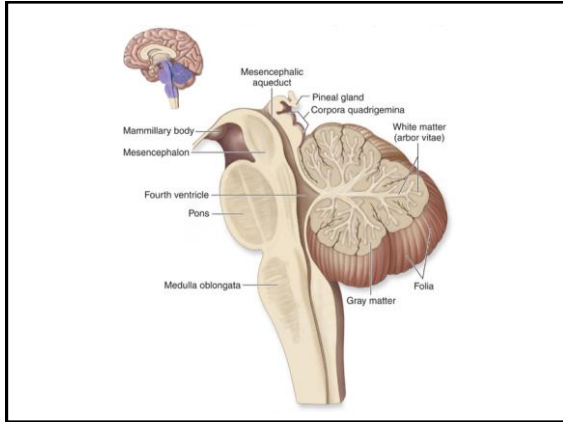
Ncl. suprachiasmaticus – afferentation from retina - generator of circadian rhythms

Ncl. preopticus – different structure in female and male – control of individual sexual behavior, behavior associated with maternity; regulation of body temperature

Ncl. supraopticus and paraventricularis (magnocellular component) – tractus hypothalamo-hypophysialis – transport of hormones into neurohypophysis

Ncl. paraventricularis (parvocellular component) - capillary network in eminentia medialis – control of adenohypophysis - hypothalamo-hypophysial portal pathway





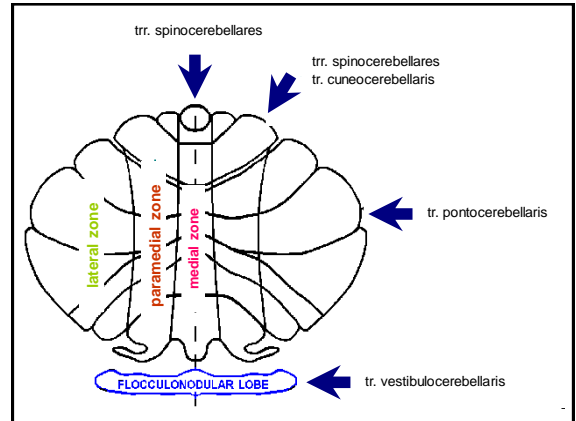
CORTEX AND CEREBELLAR NUCLEI

Gray mater (cortex + ncl.) and white mater (including pedunculi cerebellares)

Medial zone - cortex covering vermis + ncl. fastigii

Paramedial zone - paramedial cortex + ncl. emboliformes et globosi

Lateral zone - lateral cortex + ncl. dentatus



FUNCTION OF VESTIBULAR CEREBELLUM

- basic significance for maintenance of balance - tr. vestibulospinales
- influence to lower motoneurons for axial muscles
- a role during control of eye movement and their coordination with movement of head

FUNCTION SPINAL CEREBELLUM - MEDIAL ZONE

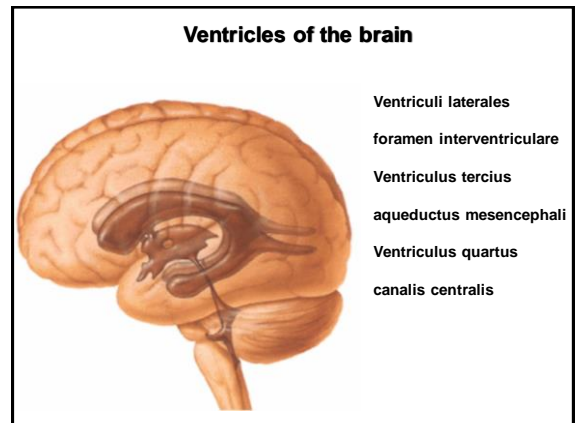
- control of axial muscles at keeping of upright posture through cortex and tr. corticospinalis ant.

FUNCTION OF SPINAL CEREBELLUM - PARAMEDIAL ZONE

- control of spinal cord motoneurons for distal muscles of extremities through cortex and tr. corticospinalis lat.

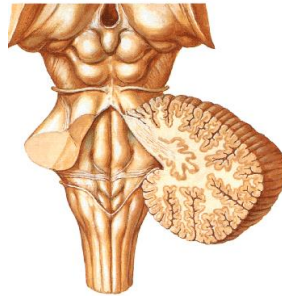
FUNCTION OF PONTocerebellum

- control of motor planning and target movement
- non-motor function (cognition) - solution of problem and linguistics phrasing



THE FOURTH VENTRICLE

- Fossa rhomboidea
- sulcus medianus
- sulci limitantes
- eminentia medialis
- pars superior, intermedia, inferior
- Tegmen ventriculi quarti
- velum medullare superius
- fastigium
- velum medullare inferius



Pars superior

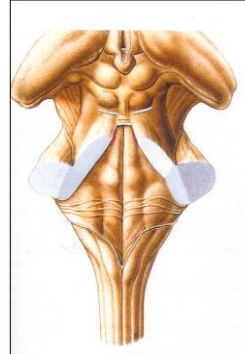
- fovea superior (n. V.)
- locus coeruleus

Pars intermedia

- stria medullaris, recessus lat.
- colliculus facialis (n. VI.)
- area vestibularis
- tuberculum acusticum

Pars inferior

- trigonum nervi hypoglossi
- trigonum nervi vagi (fovea inferior)



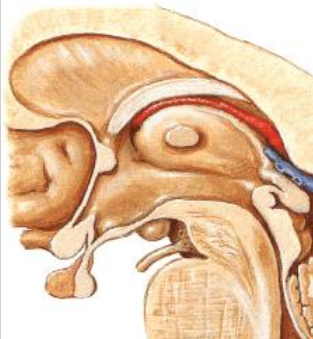
THE THIRD VENTRICLE

Lateral wall:

- Thalamus
- adhesio interthalamica
- sulcus hypothalamicus
- foramen interventriculare
- Hypothalamus

Basal wall:

- Hypothalamus
- Recessus opticus
- Recessus infundibularis

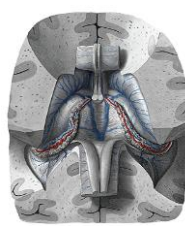
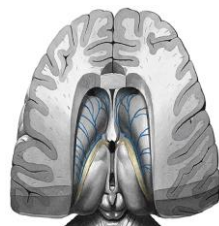
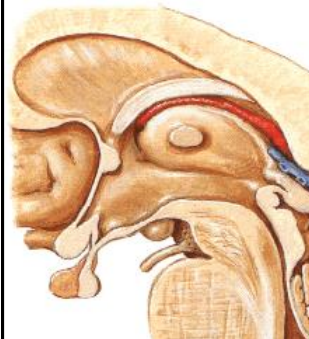


Anterior wall:

- lamina terminalis
- commisura ant.
- pars libera columnae fornicis

Posterior wall:

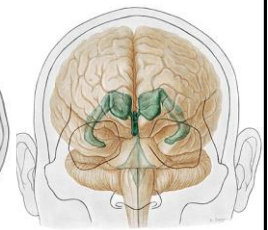
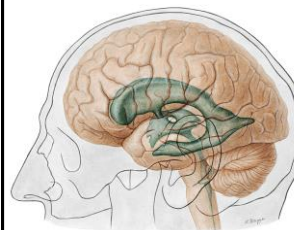
- recessus suprapinealis
- commisura habenularum
- recessus pinealis
- commisura posterior
- aquaeductus cerebri



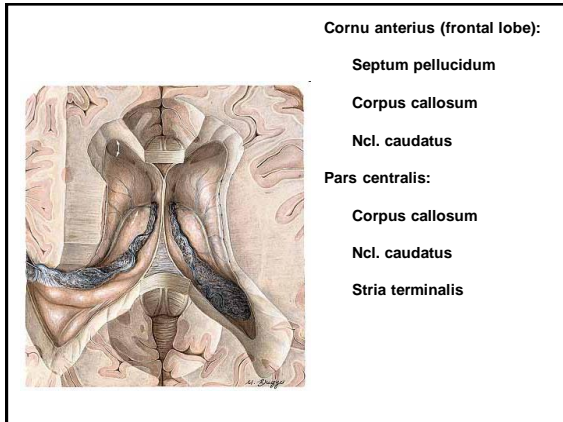
Roof:

- tela choroidea ventriculi III. (stria medullaris thalami, trigonum habenulae, commissura habenularum)
- recessus suprapinealis

LATERAL VENTRICLE



- Cornu anterius (lobus frontalis), pars centralis (lobus parietalis), cornu posterius (lobus occipitalis), cornu inferius (lobus temporalis)

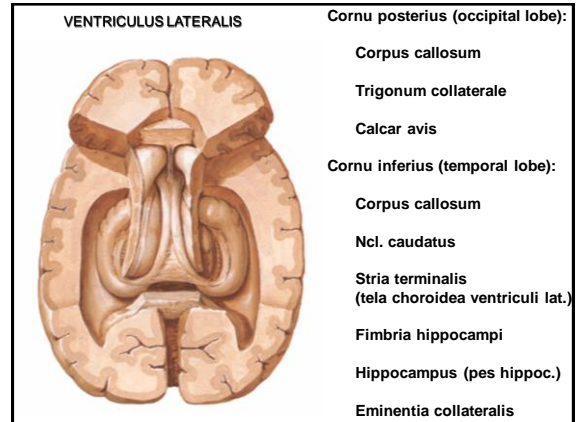


Cornu anterius (frontal lobe):

- Septum pellucidum
- Corpus callosum
- Ncl. caudatus

Pars centralis:

- Corpus callosum
- Ncl. caudatus
- Stria terminalis



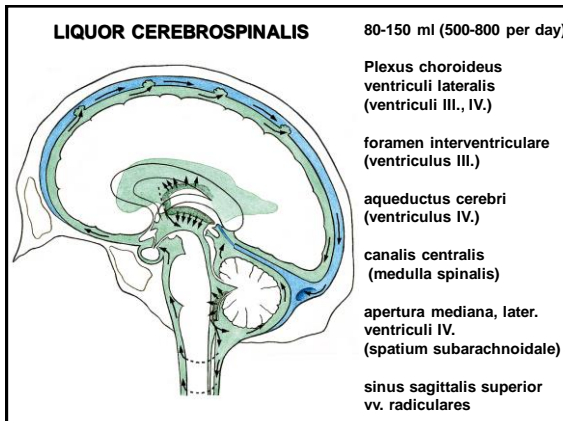
VENTRICULUS LATERALIS

Cornu posterius (occipital lobe):

- Corpus callosum
- Trigonum collaterale
- Calcar avis

Cornu inferius (temporal lobe):

- Corpus callosum
- Ncl. caudatus
- Stria terminalis (tela choroidea ventriculi lat.)
- Fimbria hippocampi
- Hippocampus (pes hippoc.)
- Eminentia collateralis



LIQUOR CEREBROSPINALIS

80-150 ml (500-800 per day)

Plexus choroideus ventriculi lateralis (ventriculi III., IV.)

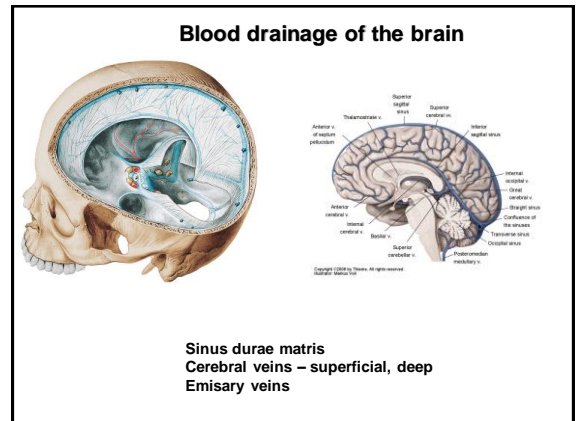
foramen interventriculare (ventriculus III.)

aqueductus cerebri (ventriculus IV.)

canalis centralis (medulla spinalis)

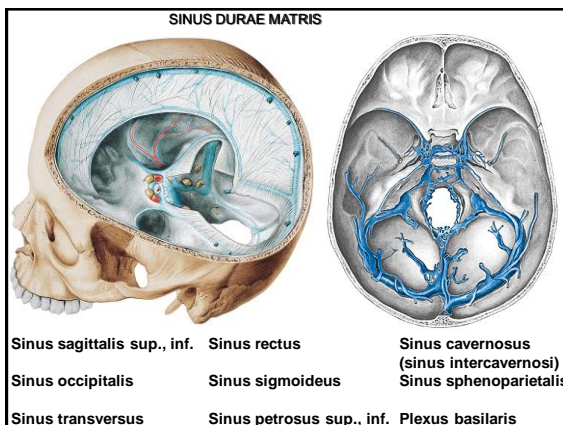
apertura mediana, later. ventriculi IV. (spatium subarachnoideale)

sinus sagittalis superior vv. radicales



Blood drainage of the brain

Sinus durae matris
Cerebral veins – superficial, deep
Emisary veins



SINUS DURAE MATRIS

- | | | |
|-----------------------------|---------------------------|---|
| Sinus sagittalis sup., inf. | Sinus rectus | Sinus cavernosus (sinus intercavernosi) |
| Sinus occipitalis | Sinus sigmoideus | Sinus sphenoparietalis |
| Sinus transversus | Sinus petrosus sup., inf. | Plexus basilaris |

