



**A NEET SS (SURGERY) PREPARATION COURSE
BY MARROW, WITH A TEAM OF SELECTED
SUPER-SPECIALITY FACULTY**

SURGERY NEET SS

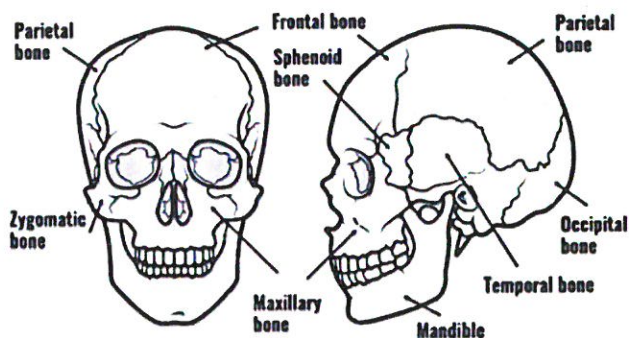
NEURO SURGERY

**PREPARATION COURSE
BY MARROW, WITH A TEAM OF
SELECTED
SUPER-SPECIALITY FACULTY**

GROSS ANATOMY OF BRAIN

Skull bones

00:00:11



major skull bones :

Frontal

Parietal

Temporal

Sphenoid bone → covers more of base of skull.

Occipital.

Fusion of sutures :

Pathological : craniosynostosis.

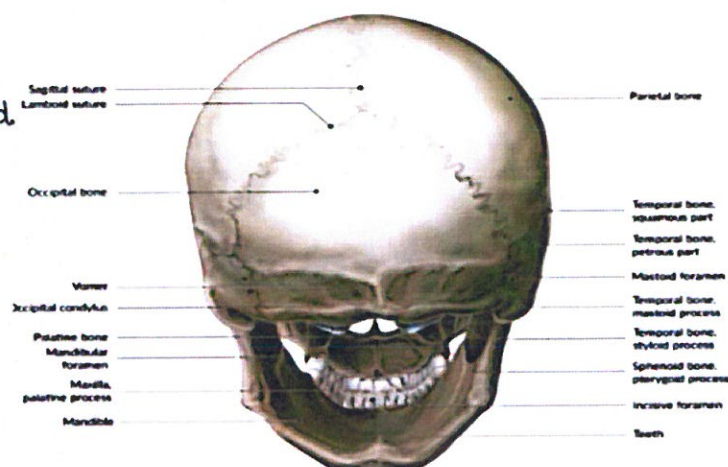
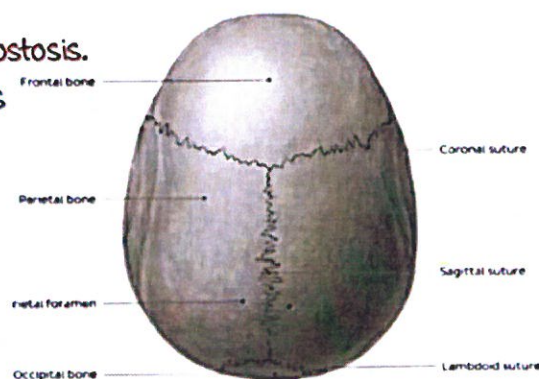
Surgically significant as defines landmark and window for surgery. No intraoperative exploration followed nowadays.

Sutures :

Coronal

Sagittal

Lambdoid.

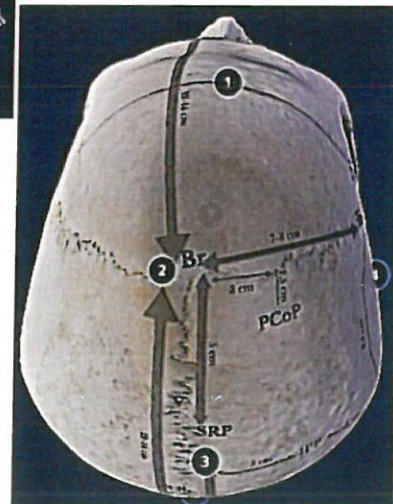
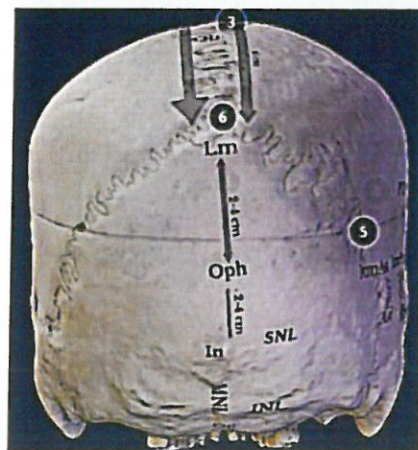
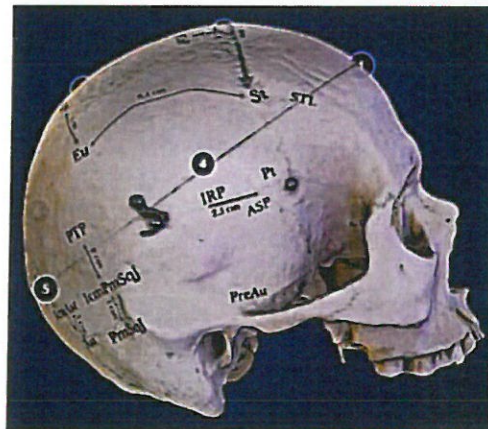
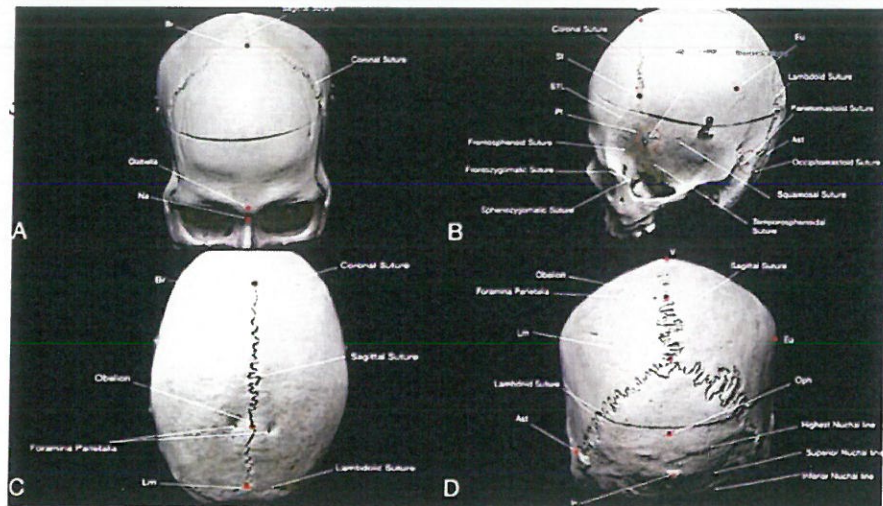


Active space

Craniometric points :

Cranio : skull, metric : measure .

Defines locations of various structures of brain



Inion :

Lowest part.

Below it is subocciput.

Significant :

measurements done from nasion & inion .

Points are described from these points.

Active space

Opisthion : Posterior bulge on skull.

Lambda : Lambdoid & sagittal suture joins.

Bregma : Coronal & sagittal suture joins.

Vertex : Topmost point

Nasion : Nose joins skull.

Glabella : Above nasion.

Example :

Central sulcus : 5 cm behind coronal suture.

Significant : Location of motor strip.

If enters through it → motor dysfunction/paralysis of patient.

Safe point of entry : Enter at coronal suture.

Pterion :

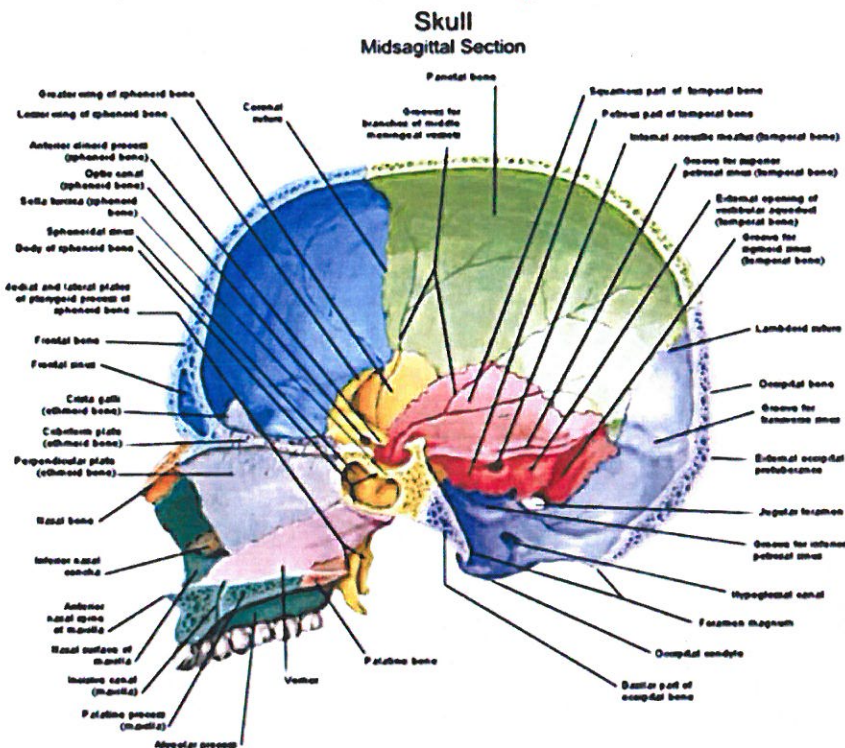
Point where sphenoid, temporal & frontal bone joins marks sylvian fissure.

Sylvian fissure : Entry point of aneurysm surgery.

Asterion :

Few cms behind mastoid point.

Access point for cerebellopontine angle tumors.



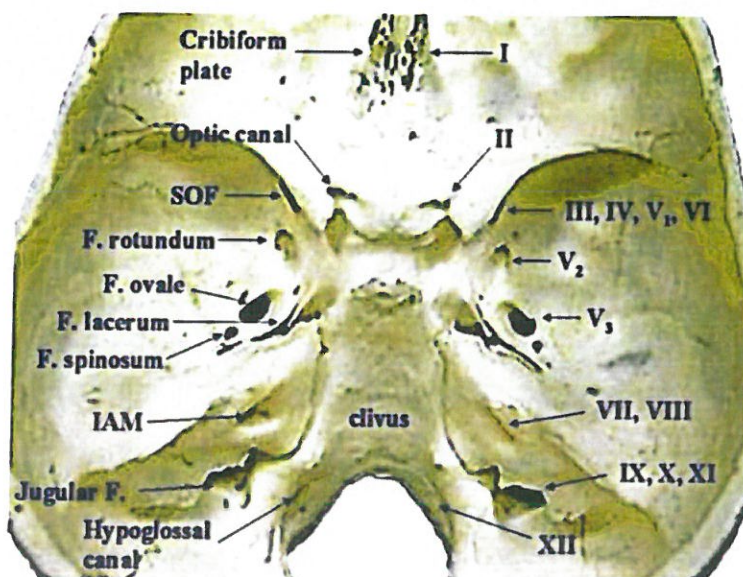
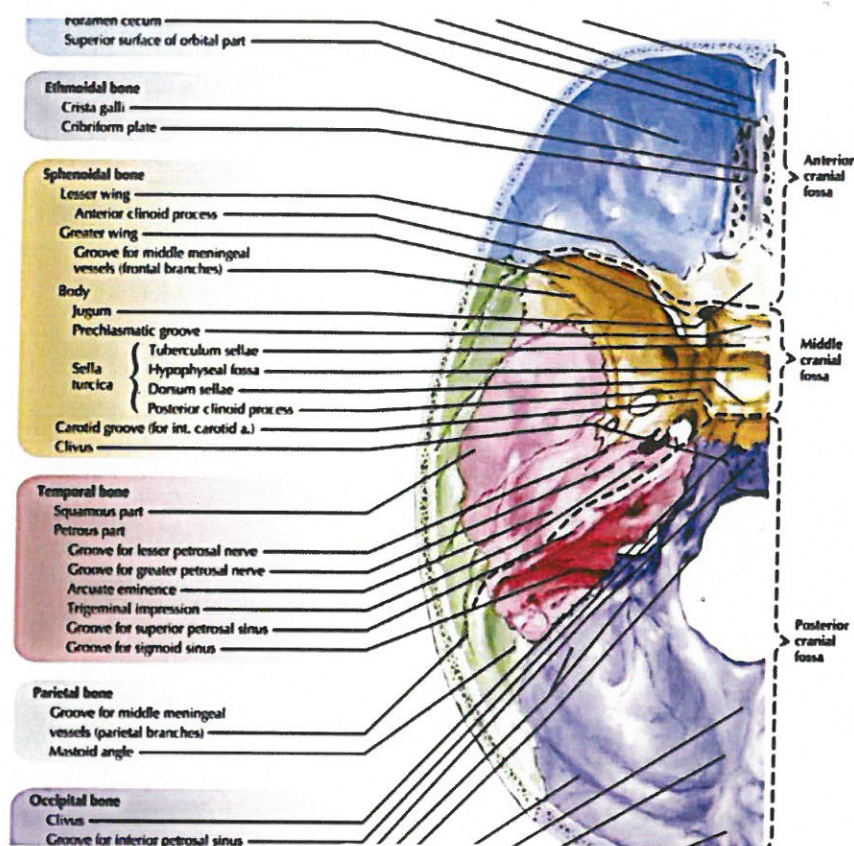
Active space

Ethmoid : base of anterior part of skull.

Crista galli

Vomer : helps define trajectory in pituitary surgery.

Foramens :



Active space

Key foramina :	
Foramen calcum	Emissary veins
Olfactory foramina	Olfactory nerve
Optic canal	Optic nerve (CNII), ophthalmic artery, dural sheath of optic nerve
Superior orbital fissure	Oculomotor nerve (CNIII), trochlear nerve (CNIV), ophthalmic division of the trigeminal nerve (CNV), abducent nerve (CNVI), ophthalmic veins
Foramen rotundum	maxillary division of the trigeminal nerve (CN V ₂)
Foramen ovale	mandibular division of the trigeminal nerve (CN V ₃), accessory meningeal branch of maxillary artery, emissary vein (lesser petrosal nerve)
Foramen spinosum	middle meningeal artery
Foramen lacerum	Greater petrosal nerve
Carotid canal	Internal carotid artery
Internal acoustic foramen	Facial nerve (CNVII), vestibulocochlear nerve (CNVIII)
Jugular foramen	Glossopharyngeal nerve (CNIX), vagus nerve (CNX), descending portion of the spinal accessory nerve (CNXI), internal jugular vein
Hypoglossal canal	Hypoglossal nerve (CNXII)
Foramen magnum	Brainstem/spinal cord, vertebral arteries, ascending portion of the spinal accessory nerve (CNXI)

Anterior fossa :

Cribriform plate → olfactory nerves.

Posterior fossa :

Clivus with internal acoustic meatus.

Significant in vestibular schwannoma surgery.

Carries 7th & 8th CN.

Jugular foramen : Large veins of internal jugular through it.

Hypoglossal canal → Hypoglossal nerve (CN XII).

middle cranial fossa :

Optic canal.

Superior orbital fissure.

Foramen rotundum.

Foramen ovale.

Foramen spinosum

Foramen lacerum.

Hydrocephalus :

Blockage of ventricles.

In pressure relieving → drains inserted.

Points for insertion of ventricular catheters are :

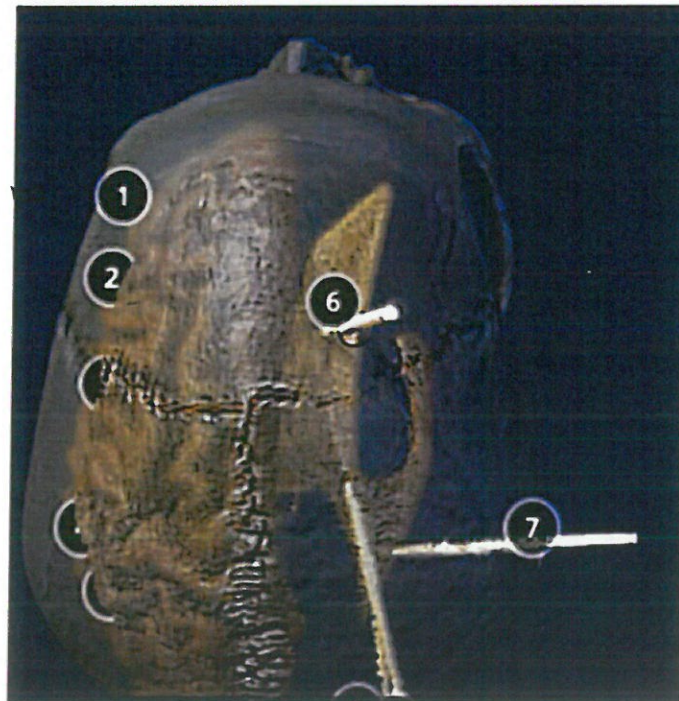
Kochers > Keens > Fraziers > Dandy's point.

Kochers- 3 cm lateral to midline and 1 cm anterior to coronal suture or 11 cm posterior to nasion

Keens- 3 cm above and 3cm lateral to helix of the pinna

Fraziers- 3 cm lateral to midline and 6 cm superior to the inion

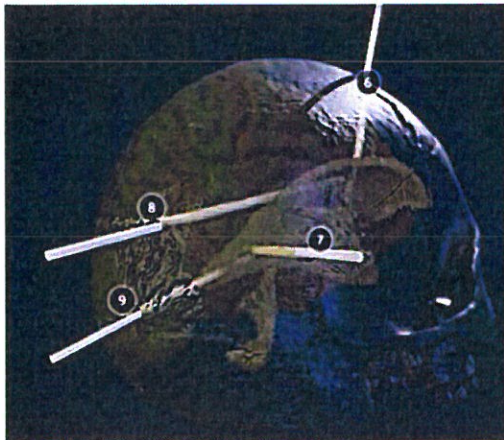
Dandy's- 3 cm lateral to the midline and 3 cm superior to the inion



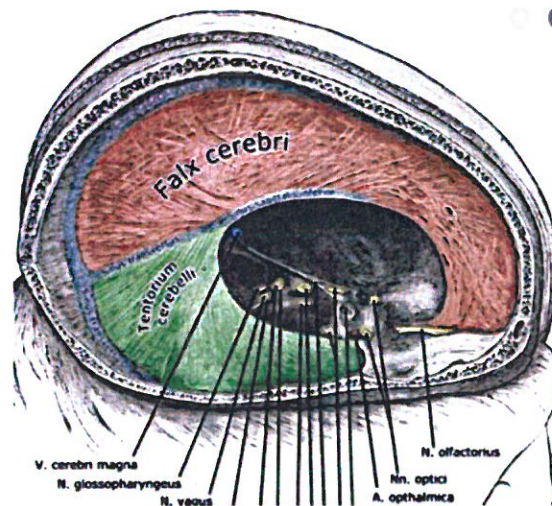
6 : Kochers point

7 : Keens point

Frazier's point : enters posterior part of ventricular system.
Dandy's point : enters occipital ventricles but from lower down.



8 : Frazier's point
9 : Dandy's point



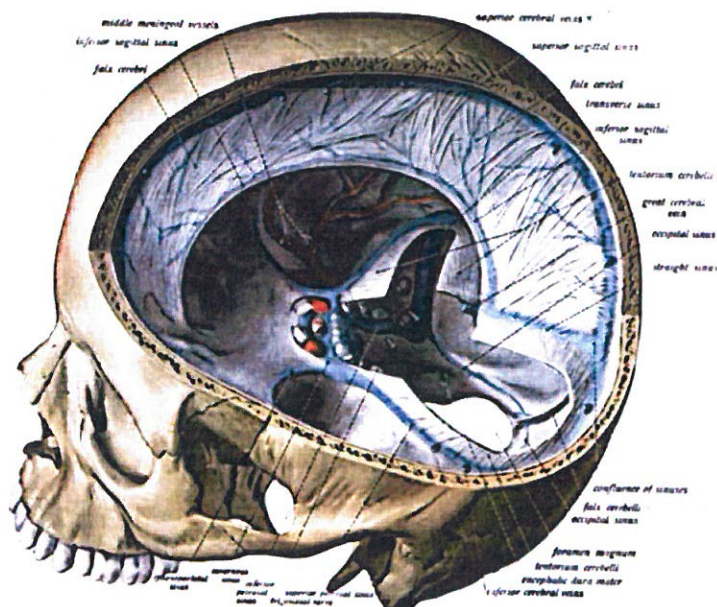
Falx cerebri :

Thick sheath of dural investation.

Divides into 2 hemisphere.

Tentorium cerebelli :

Wing like structure.

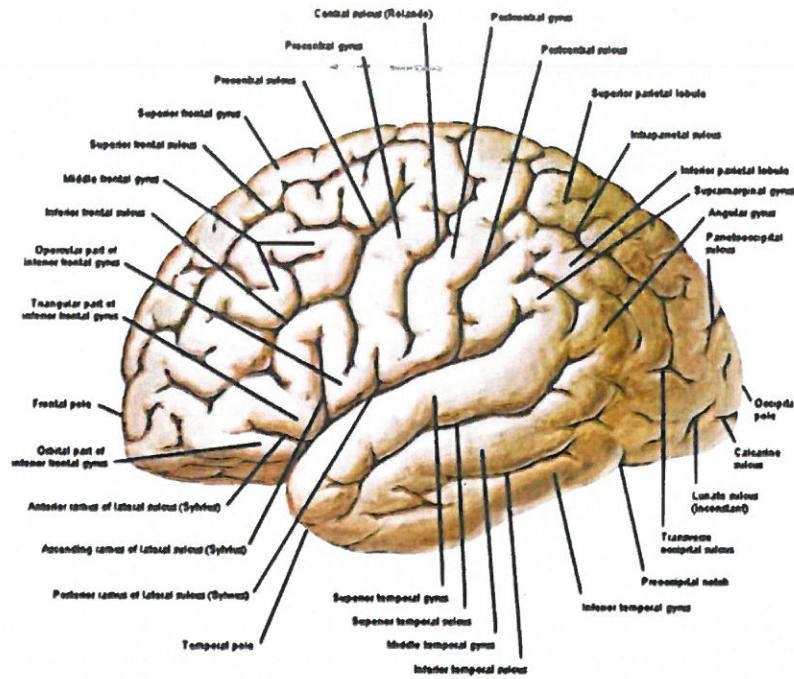


Active space

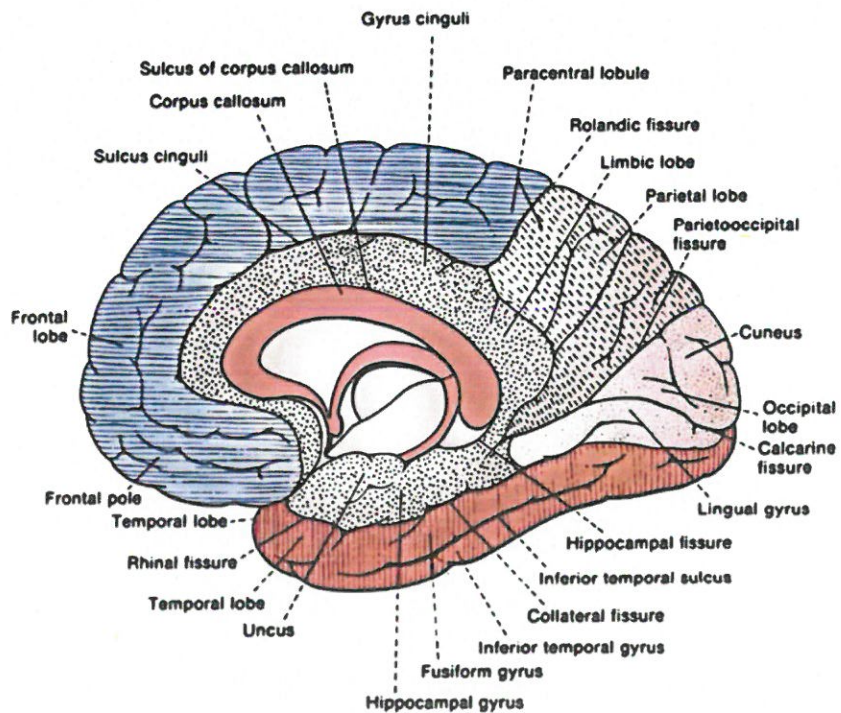
Structures of brain

00:23:38

Cerebrum : Lateral view

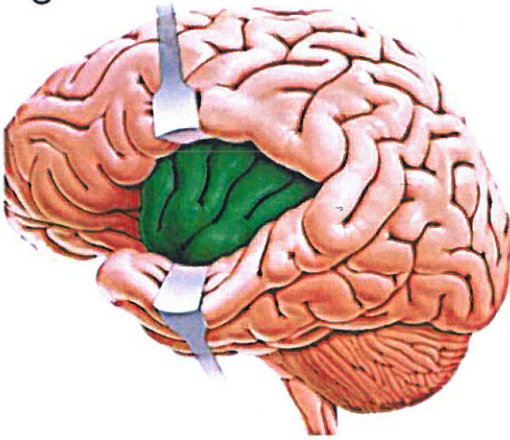


4 lobes/5 lobes including corpus callosum as a lobe.
 Central sulcus : Divides frontal & parietal lobe.



Active space

Insular glioma:



Coronal section :

