Anatomy Team
MED 439

MED439

Revised & Approved
Abdullah Alsubaihi
Rania Almutiri

جامعة الملك سعود
King Saud University

CNS Block

Anatomy Practical team - Med 439

The information in this file is based on the things that was given on the videos that uploaded on blackboard along with doctors' notes

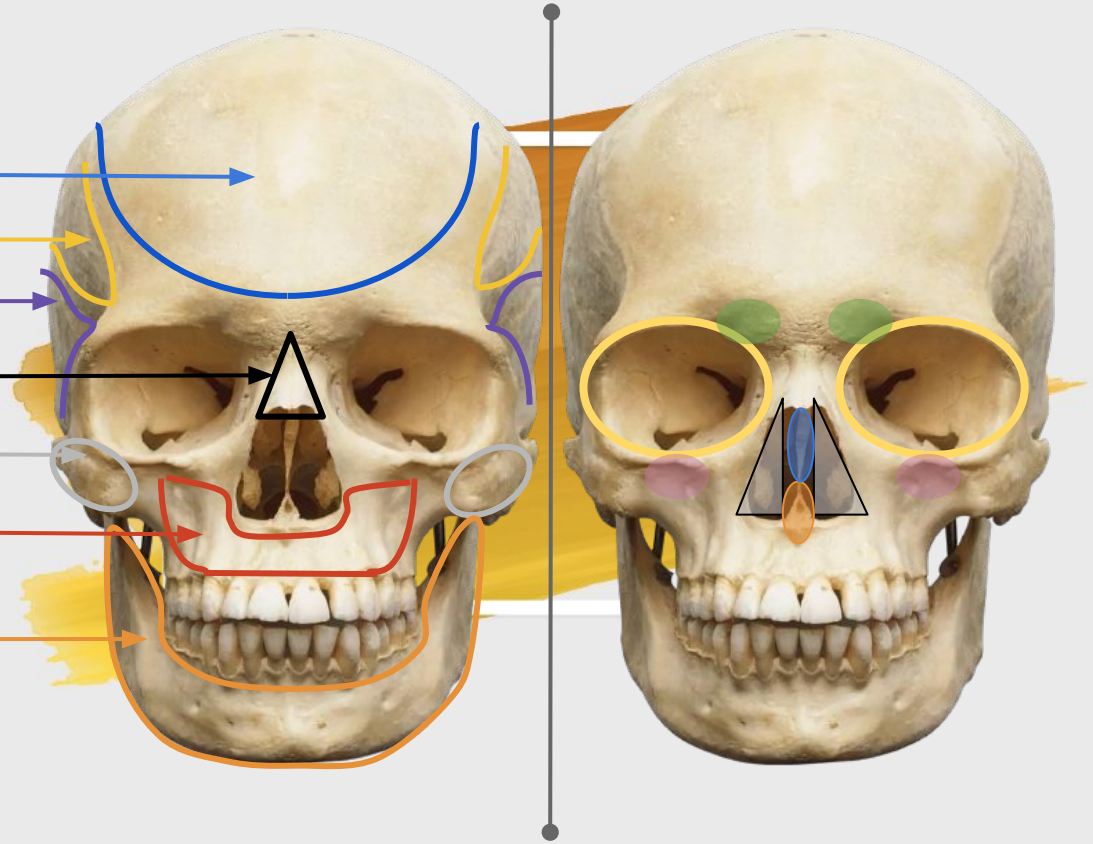
To ensure your grade on each question :
1-Make sure your SPELLING is correct
2-Make sure you write the FULL name or location of the object precisely

The Skull

Anterior surface (Norma Frontalis)

Bones:

- Frontal
- Parietal
- Temporal
- Nasal
- Zygomatic
- Maxilla
- Mandible



Special features:

- Nasal aperture
- Anterior nasal spine
- Nasal septum
- Orbit
- Infraorbital foramen (with passing Infraorbital nerve and vessel)
- Supraorbital notch (with passing supraorbital nerve and vessel)

Posterior surface (Norma Occipitalis)

Three bones:

Two **parietal** (separated by **sagittal suture**)
One **occipital** (separated from parietal by **lambdoid suture**)
*there are two temporal bones one the infero-lateral sides

Main feature:

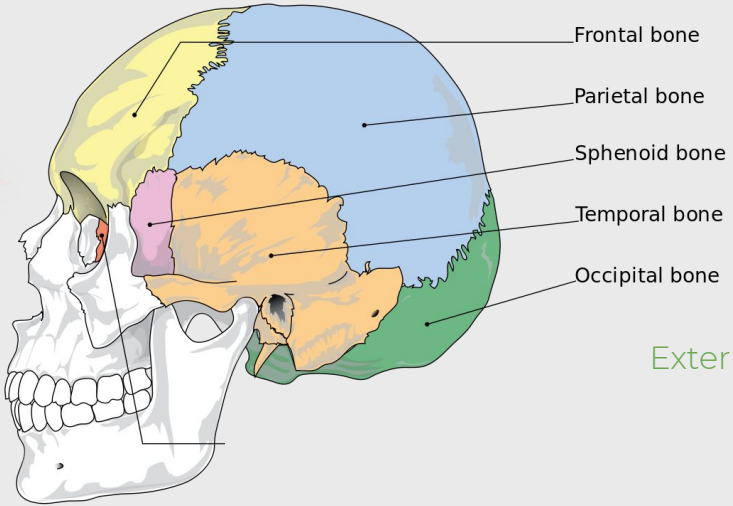
External occipital protuberance
Superior nuchal lines
Inferior nuchal lines
Highest Nuchal line (faint line, not that clear)

Other features:

Parietal foramen
Lambda (where the three sutures meet)
(also called posterior frontanelle)

Lateral surface (Norma Lateralis)

Bones:



Features:

Superior temporal line

Inferior temporal line

Pterion

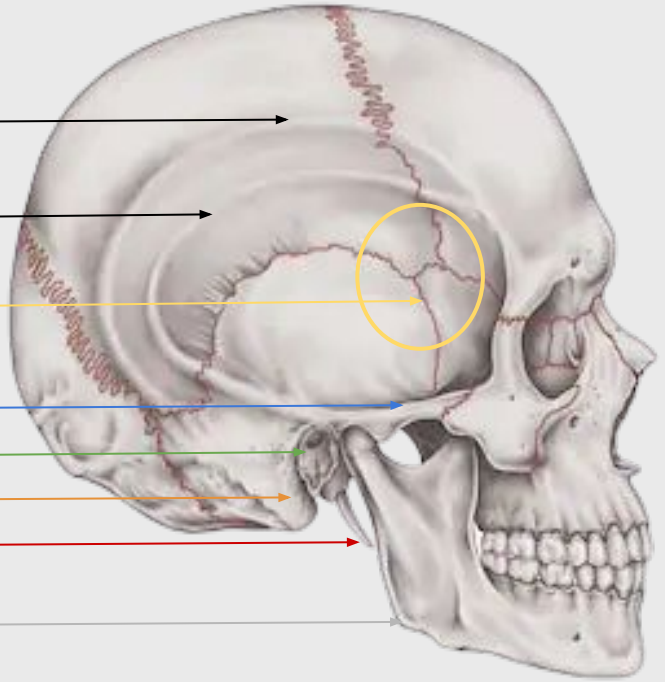
Zygomatic arch

External acoustic meatus

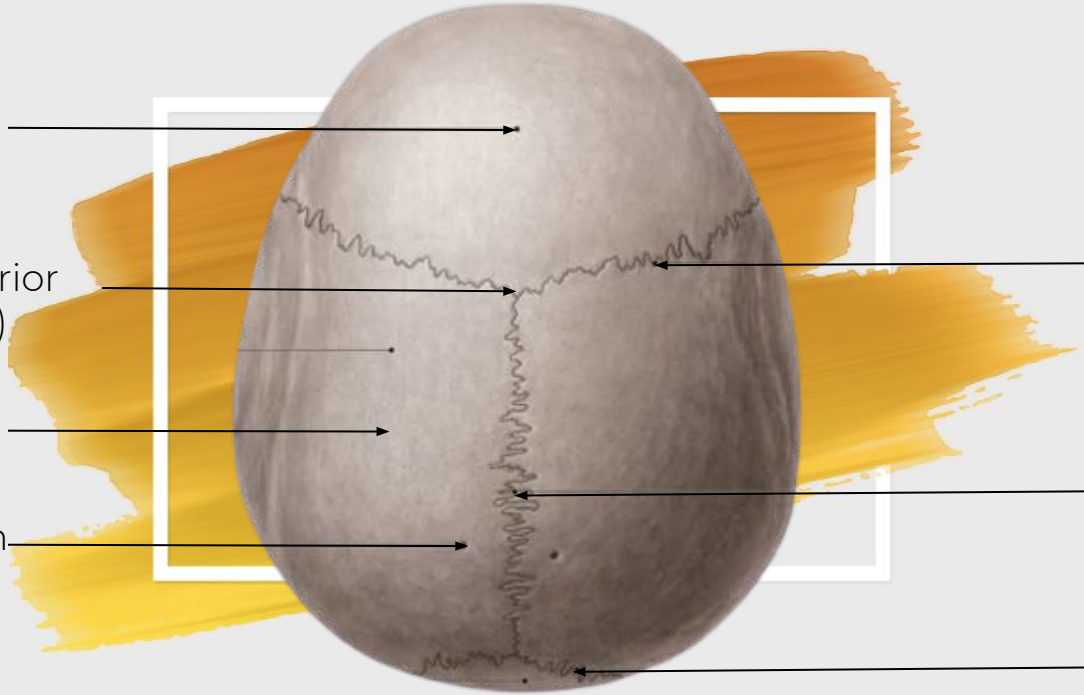
Mastoid Process

Styloid process
of temporal bone

Ramus of mandible



Superior surface (Norma Verticalis)



Frontal bone

Bregma (anterior frontanelle)

Parietal bone

Parietal foramen

Coronal suture

Sagittal suture

Lambdoid suture

Inferior surface (Norma Basalis Externa)

No mandible

Incisor Foramen

Maxilla

Palatine bone

(The maxilla and palatine bone make up the hard palate)

Vomer bone

Greater palatine foramen

Lesser palatine foramen

Foramen spinosum

Carotid canal

Jugular foramen

Foramen magnum

Foramen ovale

Foramen lacerum

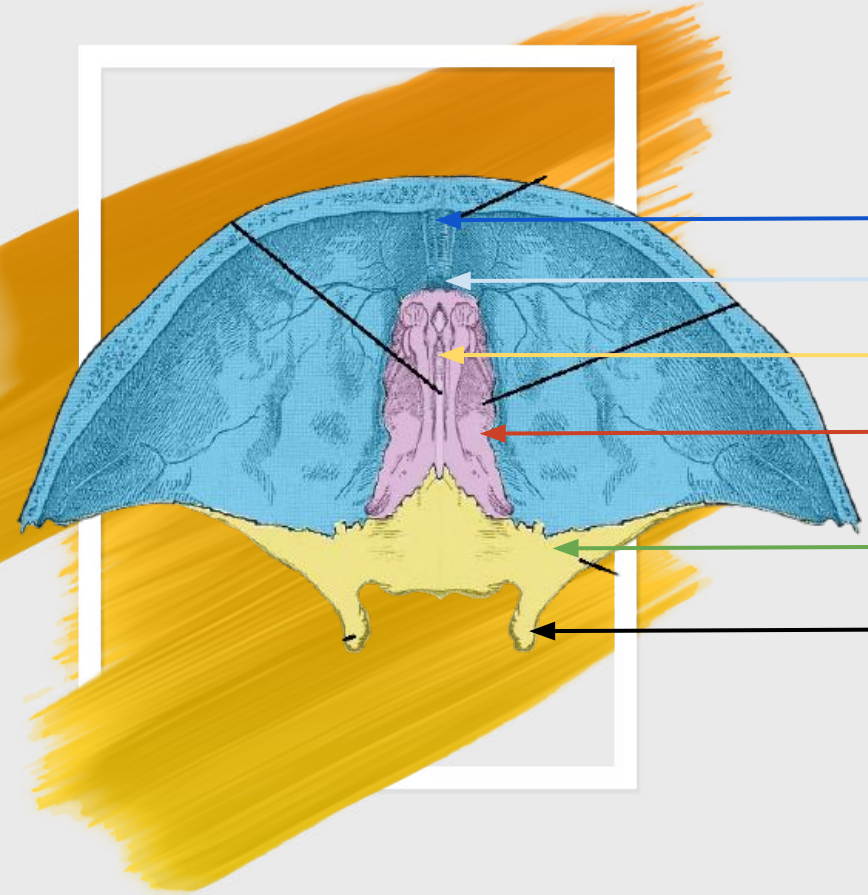
Styloid foramen

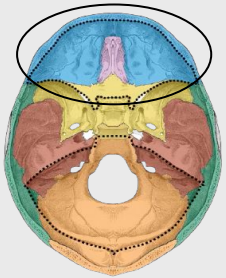
Hypoglossal canal

Structures passing through:

- Greater palatine foramen: greater palatine nerve and vessel
- Lesser palatine foramen: lesser palatine nerve and vessel
- Carotid canal: internal carotid artery
- Styloid foramen: facial nerve

Anterior cranial fossa





Frontal crest

Foramen cecum (passage of emissary veins)

Crista galli

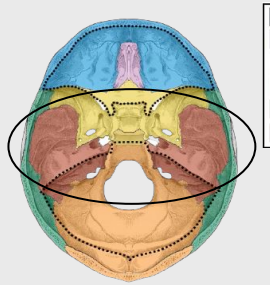
Cribriform plate (olfactory nerve fibers pass through)

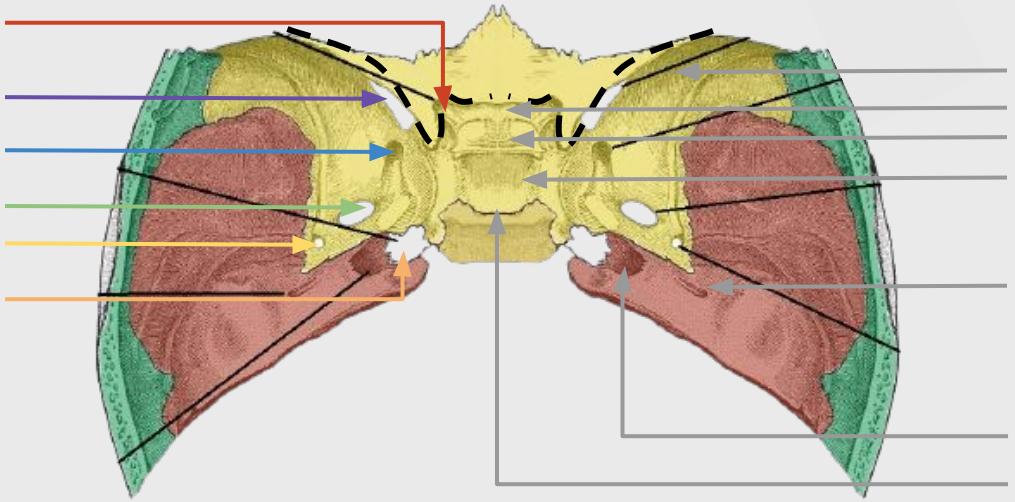
Lesser wing (separates anterior cranial fossa form middle)

Anterior clinoid process

Middle cranial fossa

Separated from anterior cranial fossa by the lesser wing of sphenoid





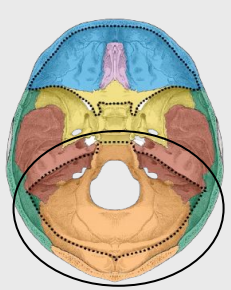
Structures passing through:

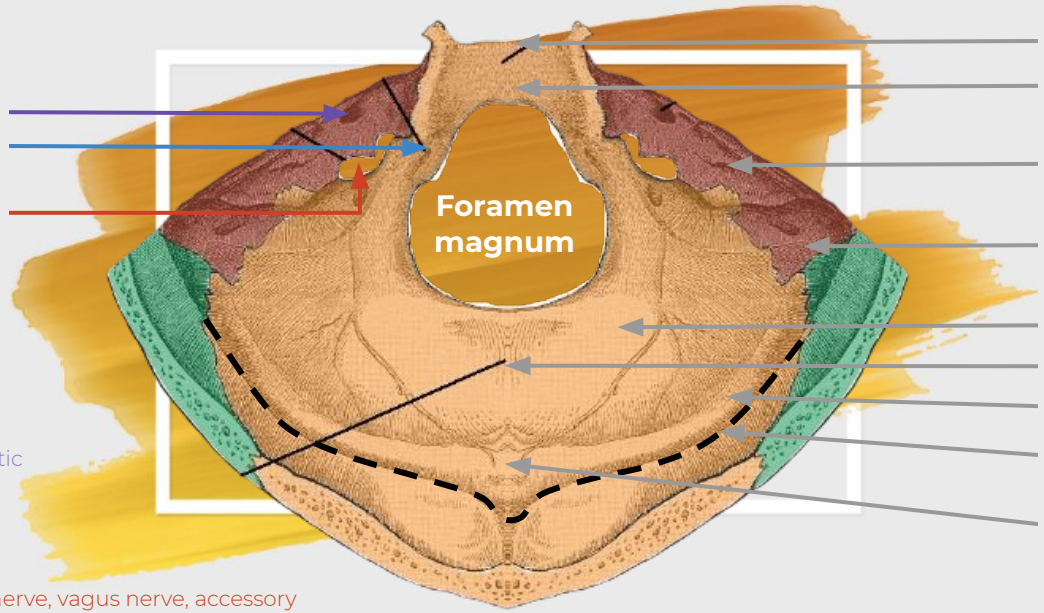
- Optic canal: optic nerve in meningeal and ophthalmic artery
- Superior orbital fissure: Ophthalmic vein, trochlear nerve, oculomotor nerve (superior & inferior divisions), abducens nerve, lacrimal nerve, frontal nerve, Nasociliary nerve
- Foramen rotundum: Maxillary nerve
- Foramen ovale: Mandibular nerve, accessory meningeal artery, lesser superficial petrosal nerve, emissary veins
- Foramen spinosum: middle meningeal artery, meningeal branch of mandibular nerve
- Foramen lacerum: Meningeal branch of ascending pharyngeal artery, emissary veins

N.B: Sella Turcica= tuberculum sellae + Dorsum sellae + Hypophyseal fossa

Posterior cranial fossa

Separated from middle cranial fossa by the Upper border of petrous temporal





Internal acoustic meatus

Hypoglossal canal

Jugular foramen

Spheno-occipital suture (complete fusion at 25 yrs)

Clivus, in basilar occipital area (related to pons & medulla)

Petrous temporal

Mastoid temporal

Squamous occipital (cerebellar fossa)

Internal occipital crest

Groove for transverse sinus

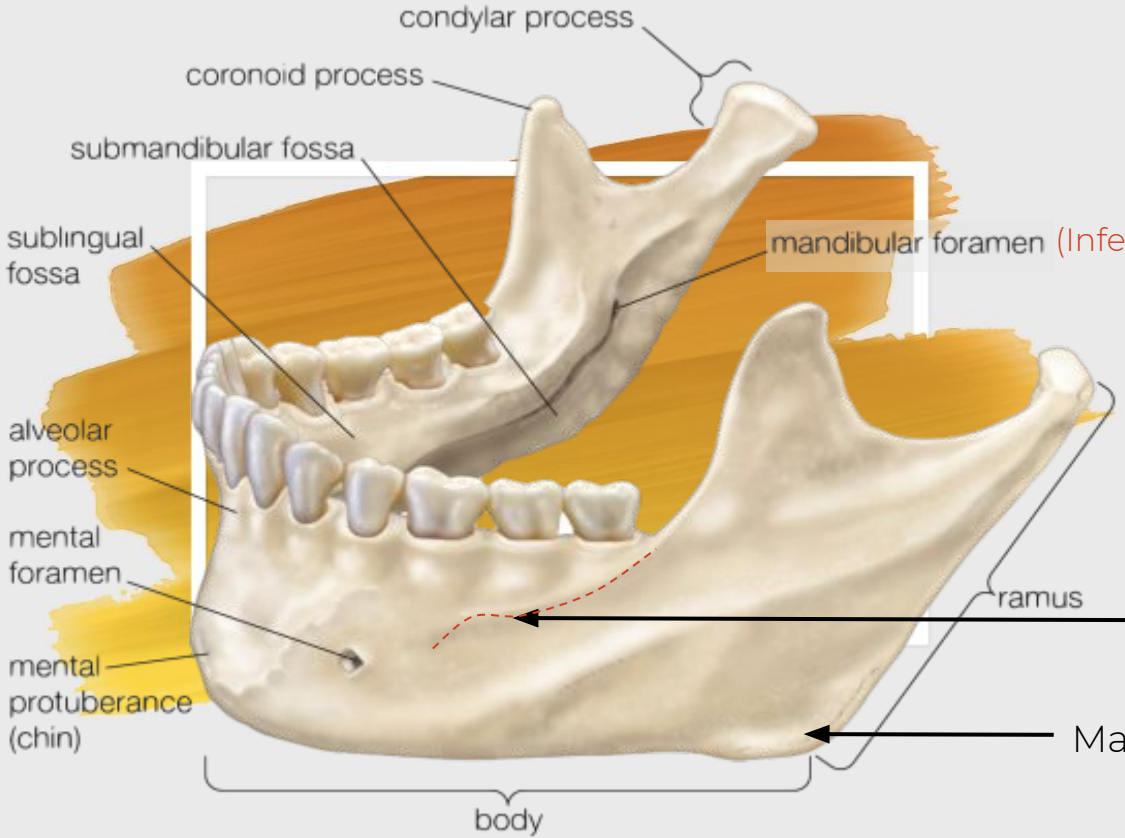
Upper margin of groove (the above)

Internal occipital protuberance

Structures passing through:

- Internal Acoustic Meatus: facial nerve, vestibulocochlear nerve, internal acoustic artery
- Hypoglossal canal: hypoglossal nerve, emissary veins
- Jugular foramen: glossopharyngeal nerve, vagus nerve, accessory nerve, sigmoid sinus, inferior petrosal sinus
- Foramen magnum: medulla oblongata, spinal part of accessory nerve, meninges, vertebral arteries, anterior & posterior spinal arteries, alar ligaments, tectorial membranes

The Mandible



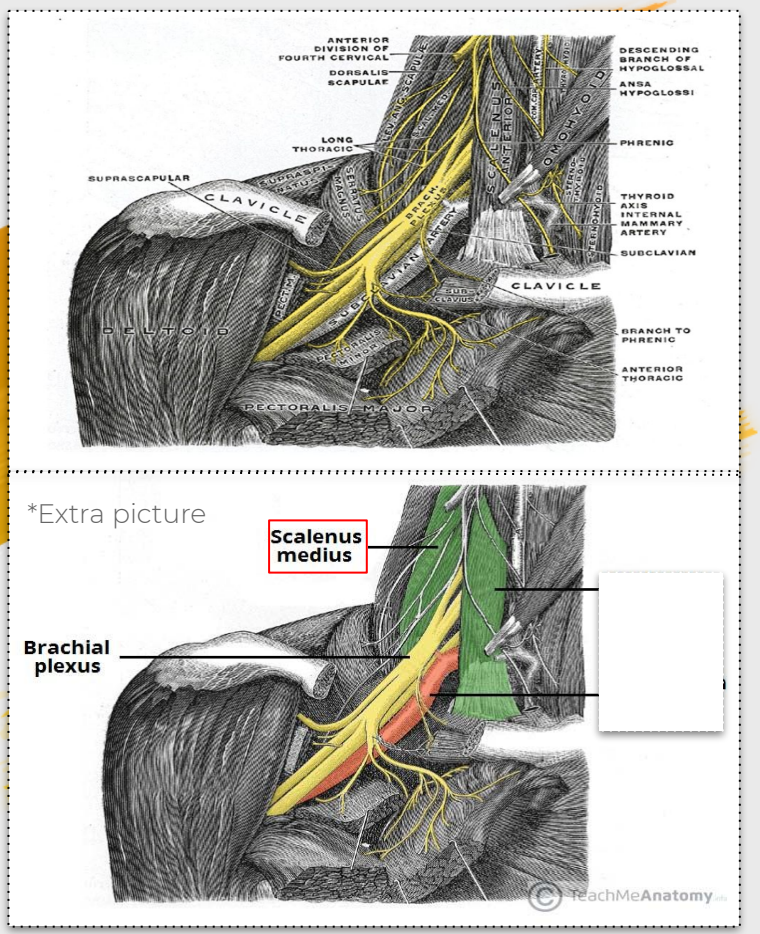
(Inferior alveolar nerve and vessel)

(Mental nerve and vessel)

Alveolar margin

Mandibular Angle

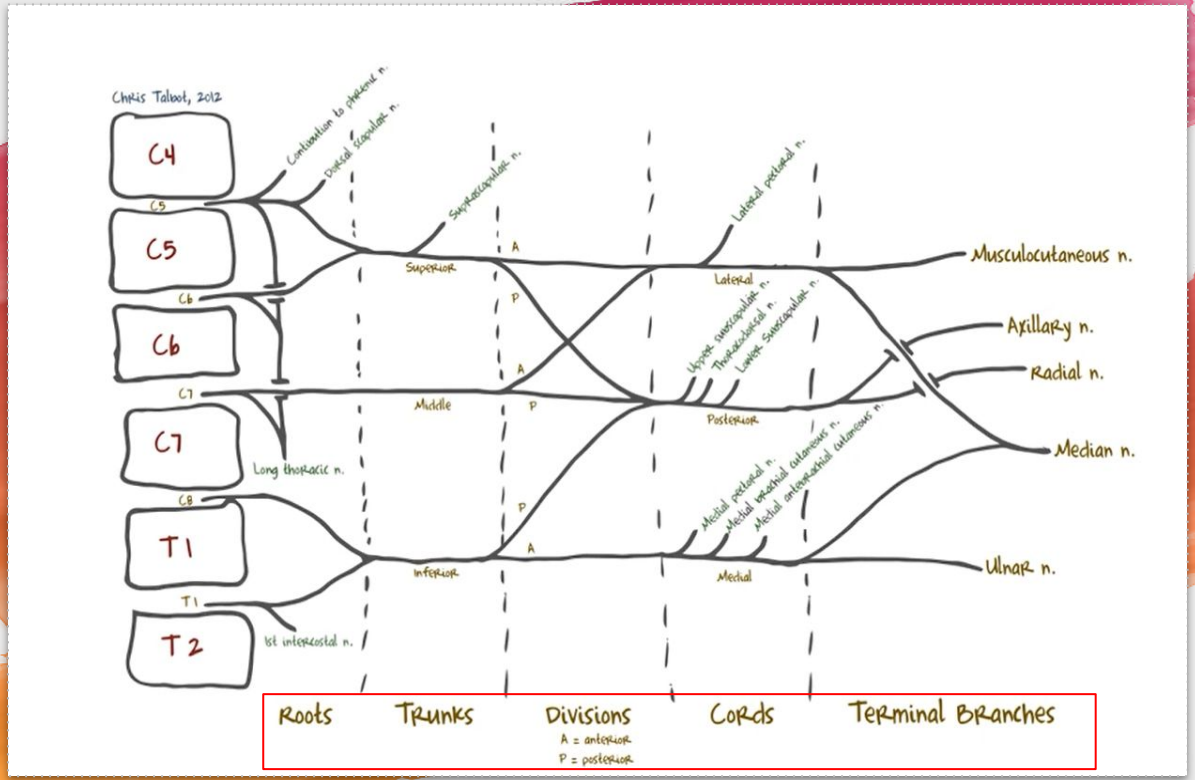
Brachial Plexus



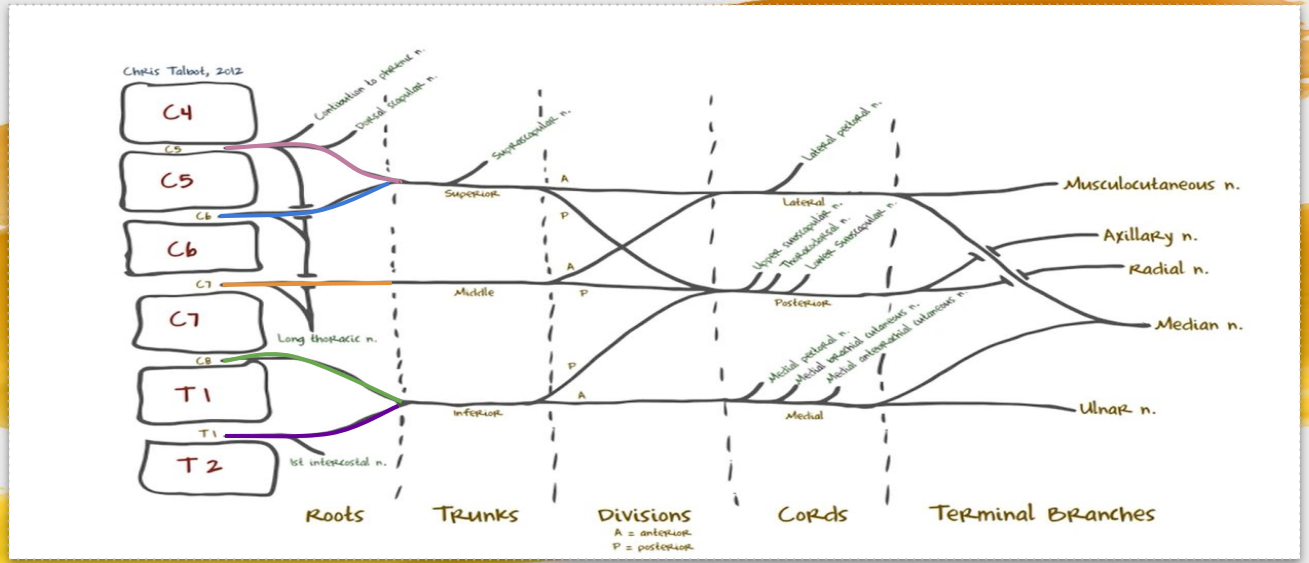
- The brachial plexus formed by the ventral rami of the spinal cord which arise from segments: C5, C6, C7, C8 and T1

- It lies in the posterior triangle of the neck Behind the scalenus medius muscle

Stages


Chris Talbot, 2012
C4
C5
C6
C7
C8
T1
T2
Continuation to phrenic n.
Dorsal scapular n.
Suprascapular n.
Superior
Middle
Inferior
A
P
Lateral pectoral n.
Lateral
Upper subscapular n.
Thoracodorsal n.
Lower Subscapular n.
Posterior
Long thoracic n.
1st intercostal n.
Medial pectoral n.
Medial brachial cutaneous n.
Medial antebrachial cutaneous n.
Medial
Musculocutaneous n.
Axillary n.
Radial n.
Median n.
Ulnar n.
Roots
Trunks
Divisions
A = anterior
P = posterior
Cords
Terminal Branches

Roots



The roots arise from the spinal cord and unite to form the trunks:

- C5 and C6 unite to form the superior trunk.
- C7 gives the Middle trunk.
- C8 and T1 unite to form the inferior trunk.

Branches:-

1-Dorsal Scapular nerve(C5)
2-Suprascapular nerve(C5)
The doctor said it's C5 but that's wrong, the nerve comes from the upper trunk
3-Long thoracic nerve(C5,C6,C7)

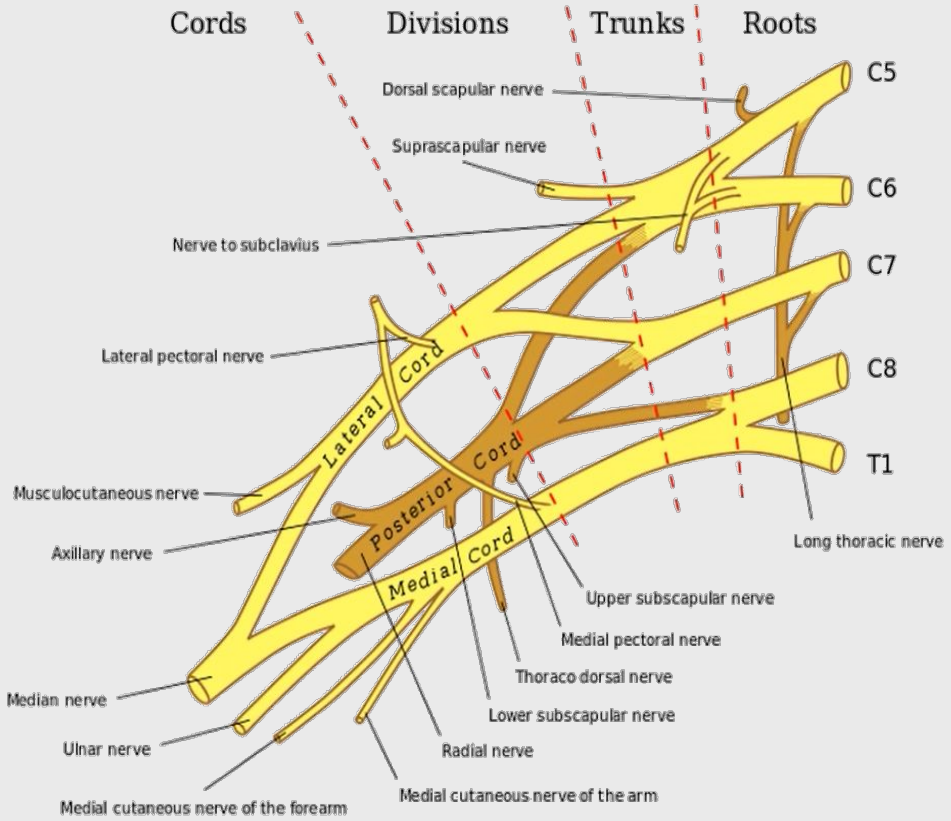
Trunks & Divisions

Trunks:-

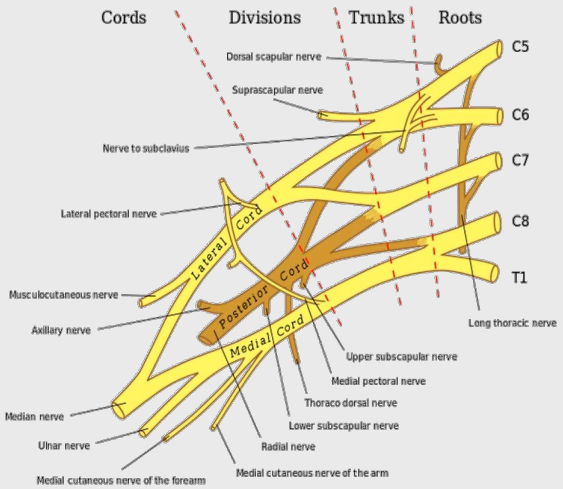
-Superior trunk
Union of C5 and C6
-Middle trunk
Continuation of C7
-Inferior trunk
Union of C8 and T1

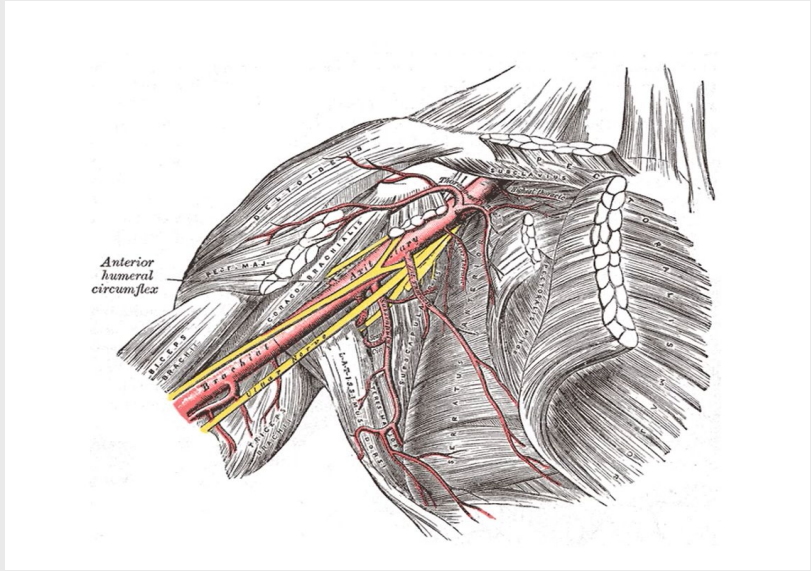
Divisions:-

Each trunk will divide into anterior and posterior parts



Cords





The cords are formed by the divisions of the trunk:-

-Lateral cord: Union of the anterior parts of the upper and middle trunks

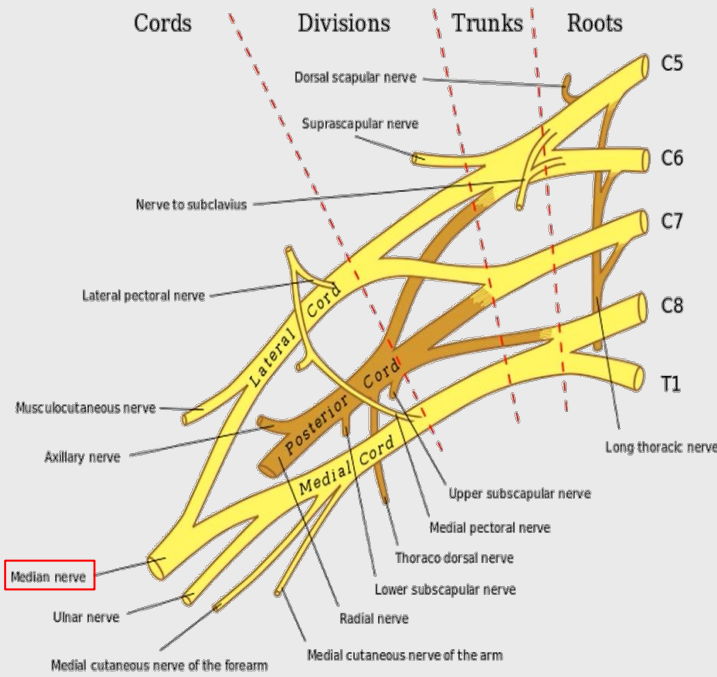
-Posterior cord: Union of the posterior parts of all trunks

-Medial cord: Continuation of the anterior part of the lower trunk

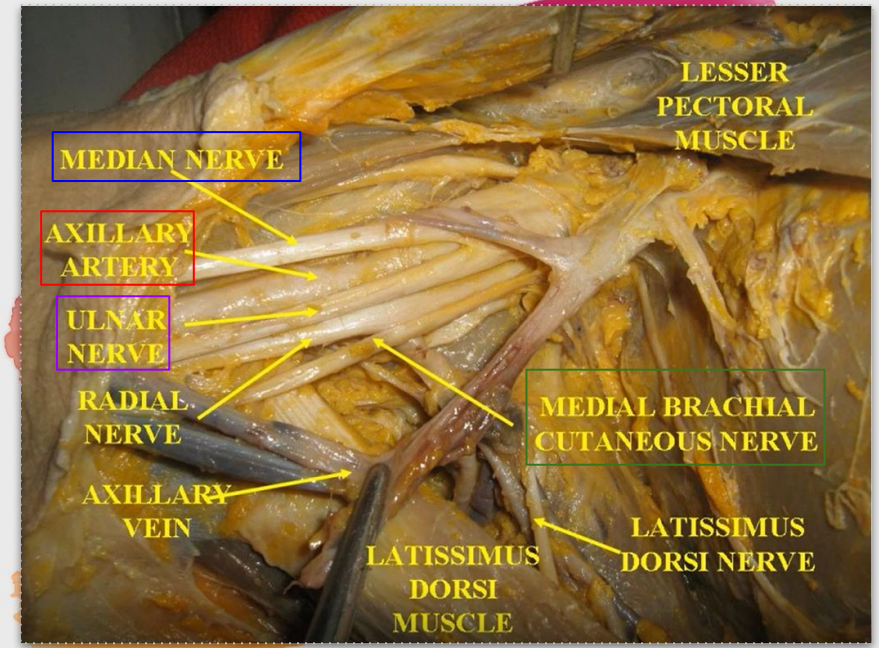
The relations are according to the axillary artery.

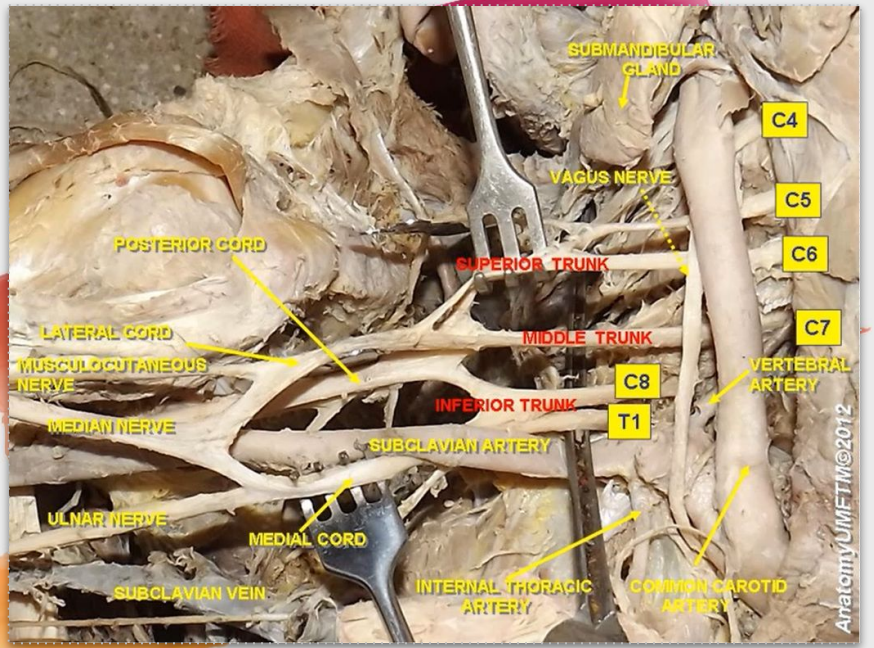
Terminal Branches

Lateral cord (2LM)	Medial cord (4MU)	Posterior cord (ULTRA) The doctor didn't mention them
1- Lateral root of the median nerve	1- Medial root of the median nerve	1- Upper subscapular nerve
2- Lateral pectoral nerve	2- Medial cutaneous of the arm	2- Lower subscapular nerve
3- Musculocutaneous nerve of the arm	3- Medial cutaneous of the forearm	3- Thoracodorsal nerve
	4- Medial pectoral nerve	4- Radial nerve
	5- Ulnar nerve	5-Axillary nerve



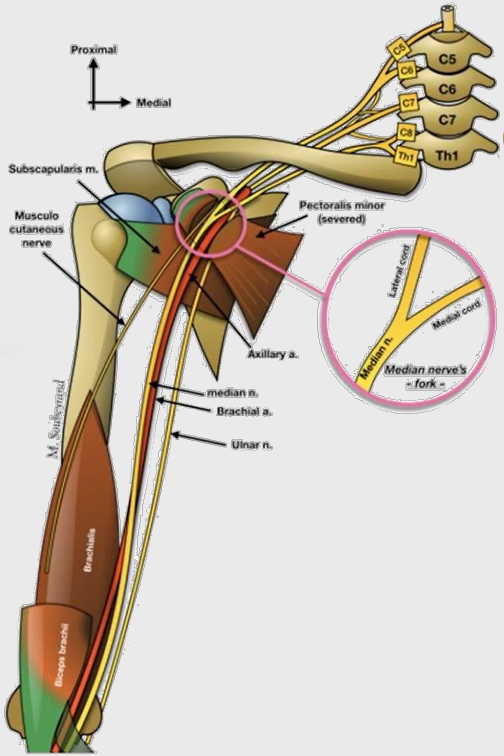
Medial and Lateral roots of the median nerve join to form the Median nerve





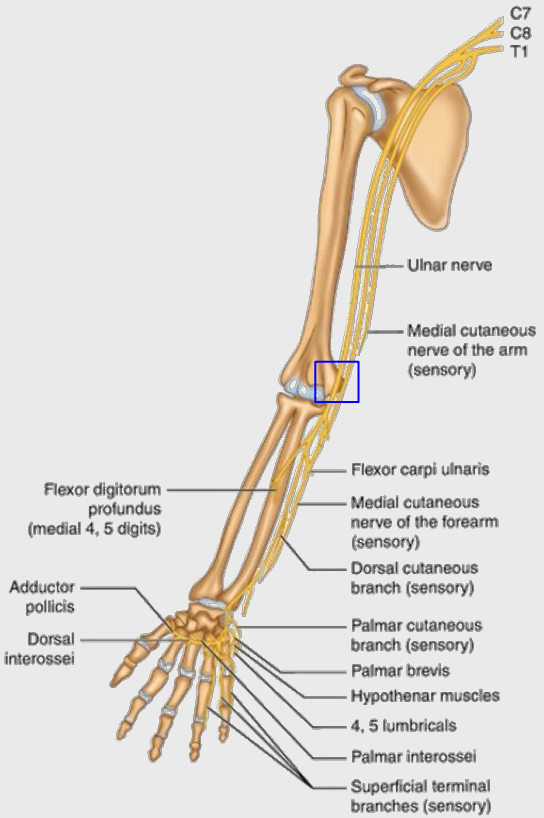
- The median nerve lies up (lateral) to the axillary artery
- The ulnar nerve lies medial to the axillary artery
- Medial cutaneous nerve of the arm

Ulnar nerve



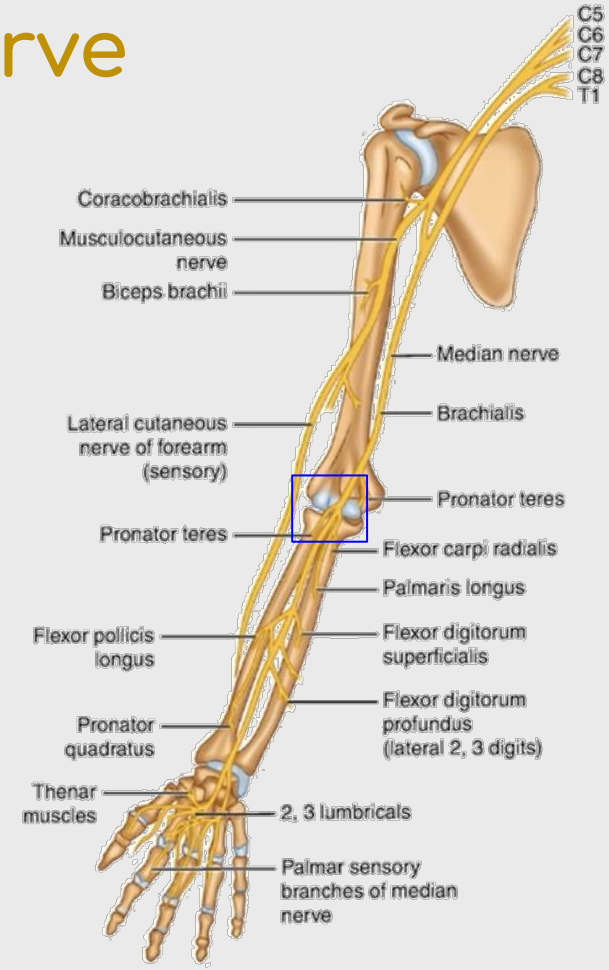
Courses

- The Ulnar nerve comes from the medial aspect of the arm.
- The nerve passes behind the medial epicondyle of the humerus.
- It enters the forearm between 2 muscles:
  a. Flexor carpi ulnaris
  b. Flexor digitorum superficialis
- In the hand the nerve divides to supply 15 muscles of the hand

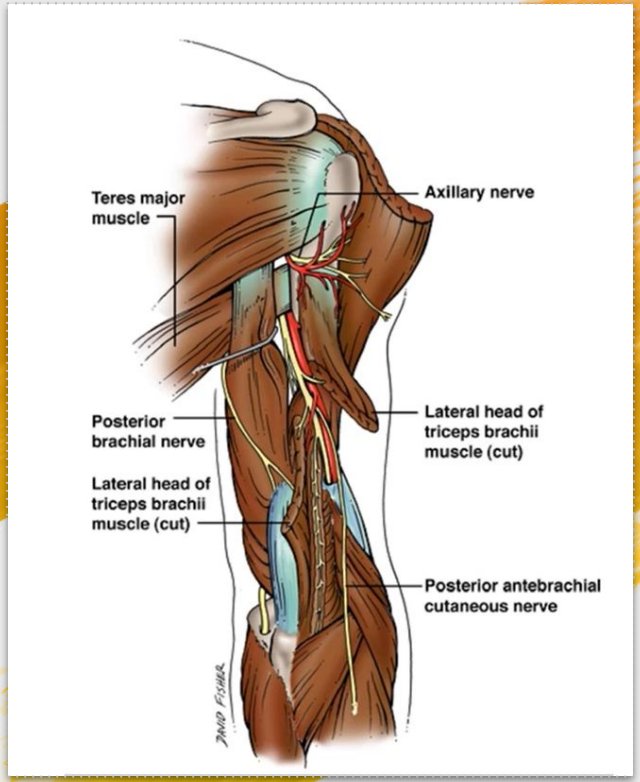


Median nerve

- The median nerve comes from the medial aspect of the arm medial to the brachial artery
- When it enters the cubital fossa the nerve crosses the artery from medial to lateral
- It enters the forearm between 2 muscles
  a. Flexor digitorum superficialis
  b. Flexor digitorum profundus
- It enters the hand and divides to supply 5 short muscles of the hand

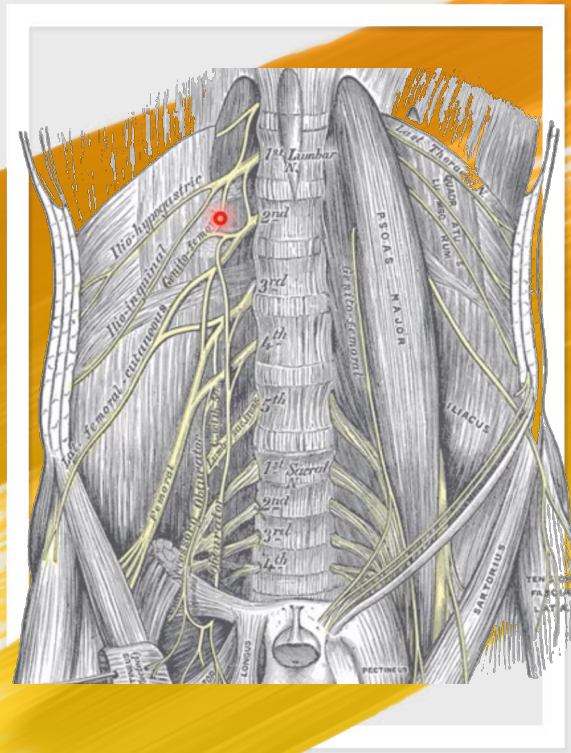


Radial nerve

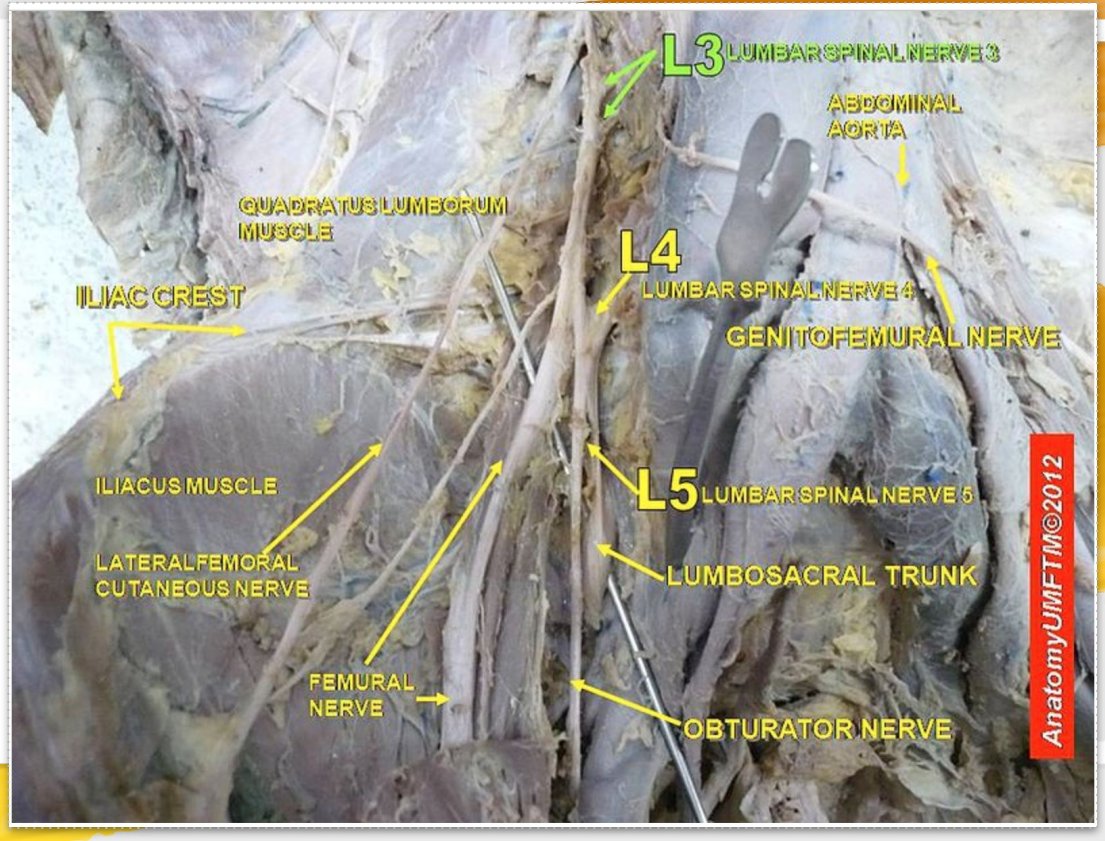


- The radial nerve which is arised from the posterior cord is coming below the teres major
- Then it passes between the heads of the triceps
- Then it passes through the radial groove
- It enters the forearm between 2 muscles
  a. Brachioradialis
  b. Extensor carpi radialis longus

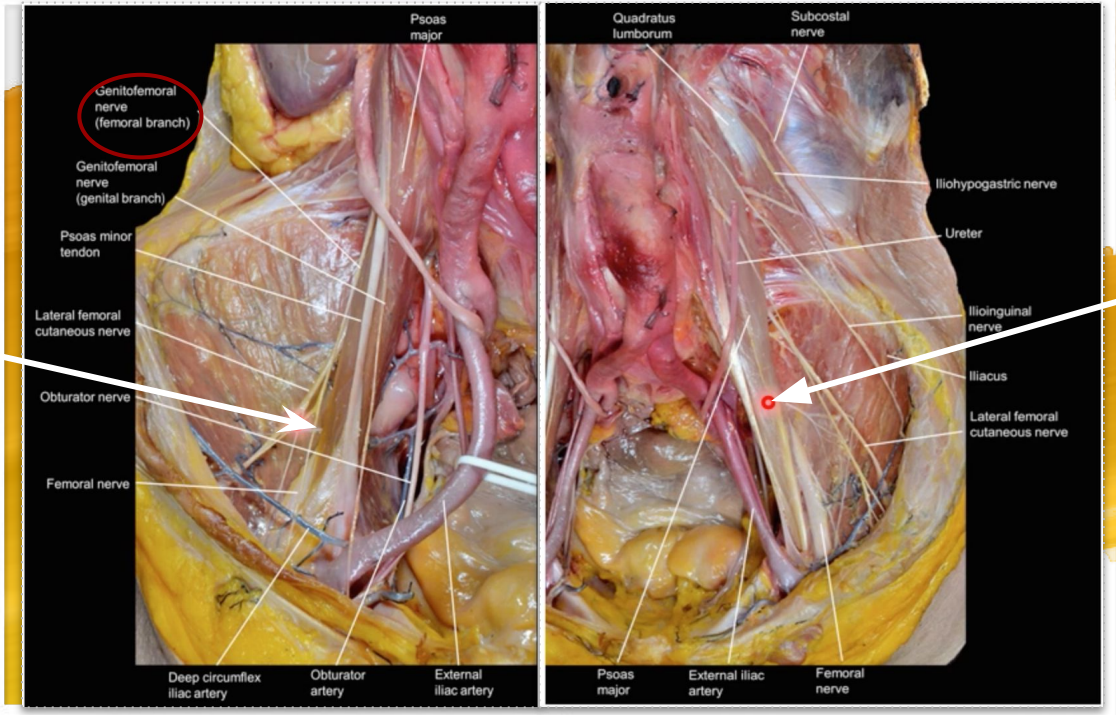
Lumbar Plexus



- The **Lumbar Plexus** formed by ventral rami of L1 L2 L3 L4 & L5
- It's formed inside Psoas Major muscle Then branches out from its borders
- From the **lateral** side **3** branches :
  a. Iliohypogastric
  b. Ilio-inguinal
  c. lateral femoral cutaneous of the thigh
- While one branch on the medial side: Obturator nerve
- Below the muscle : Femoral Nerve


L3 LUMBAR SPINAL NERVE 3
ABDOMINAL AORTA
QUADRATUS LUMBORUM MUSCLE
L4
LUMBAR SPINAL NERVE 4
ILIAC CREST
GENITOFEMURAL NERVE
ILIACUS MUSCLE
L5 LUMBAR SPINAL NERVE 5
LATERALFEMORAL CUTANEOUS NERVE
LUMBOSACRAL TRUNK
FEMURAL NERVE
OBTURATOR NERVE
AnatomyUMFTM©2012

Here the femoral nerve lie above iliacus muscle



Show the psoas major muscle and there are branches called: genitofemoral nerve pass above the muscle

Femoral nerve

Course:

Lie above Iliacus muscle then pass below the inguinal ligament

- Enter femoral triangle and end by divided into muscular and cutaneous
- Muscular supplying Quadriceps muscle like Pic : a.Rectus femoris
  b.Vastus medialis
  c.Vastus lateralis
  d.Vastus intermedius
- Cutaneous pass to the adductor canal,medially to the knee, medial side to leg and foot and supplying this part

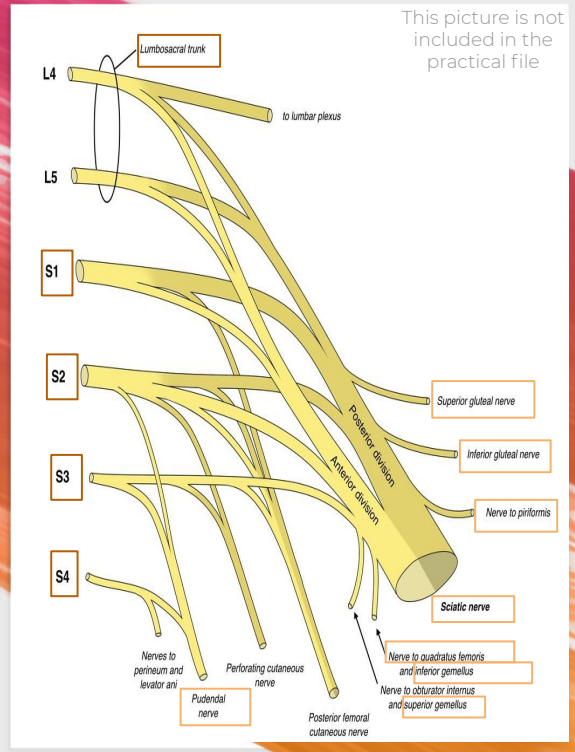
Sacral Plexus

-**Sacral plexus** formed by union of **lumbosacral trunk** (part of the L4 and whole L5) which enters the pelvic by passing front of sacroiliac joint to join with upper three **sacral nerve S1, S2, S3** to form the sacral plexus .

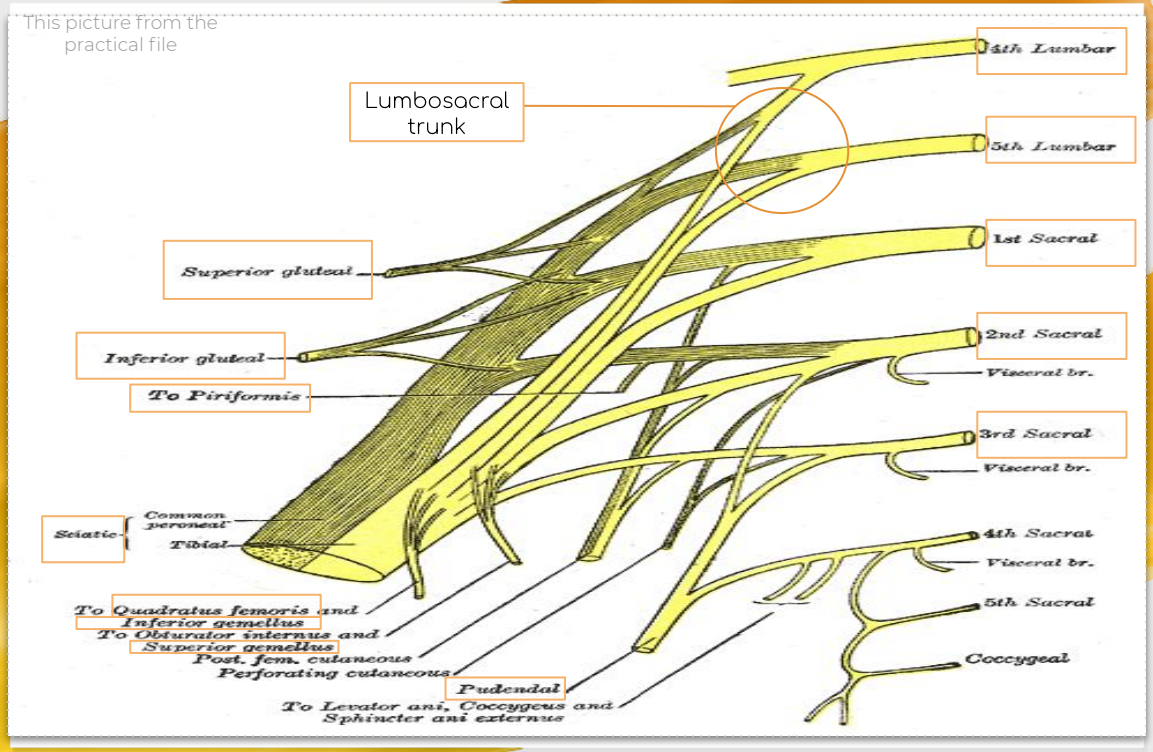
-**Lumbosacral trunk formed by union of :**
Lumbar nerve number 4,5

-Sacral plexus giving rise to :
1. superior gluteal nerve
2. Inferior gluteal nerve
3. Nerve to piriformis
4. Nerve to quadratus femoris
5. Superior gemellus
6. Inferior gemellus
7. Pudendal nerve
8. **Sciatic nerve** (main branch of sacral plexus)

This picture is not included in the practical file



This picture from the practical file

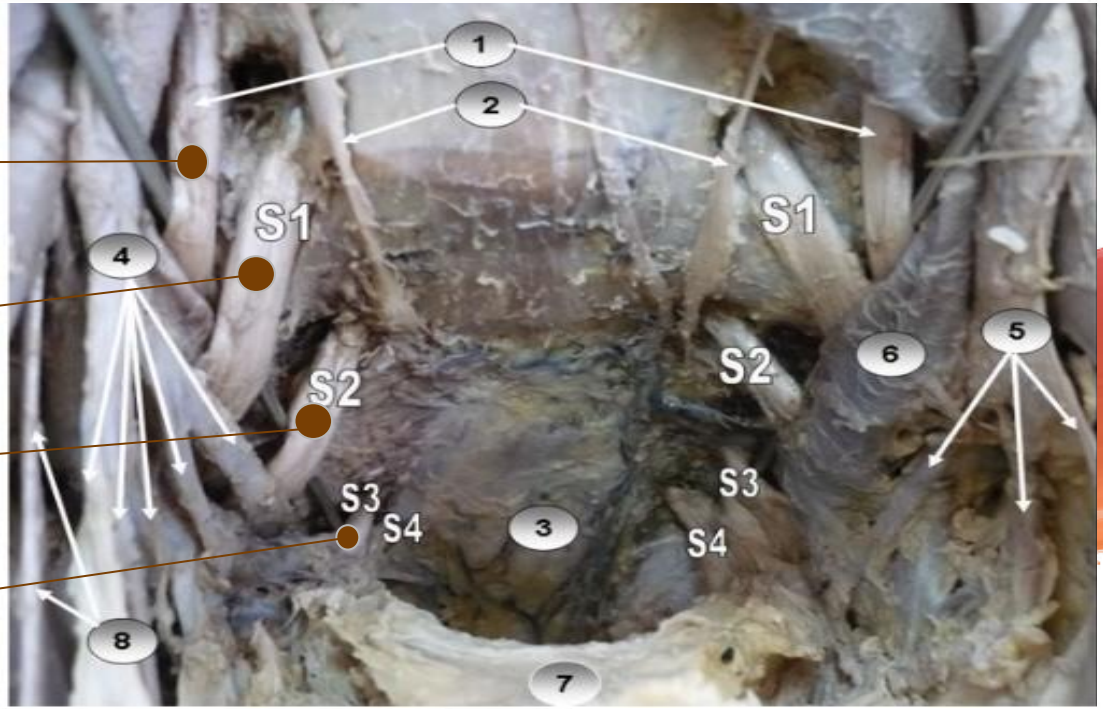


Lumbosacral trunk (L4 ,L5)

Sacral nerve 1

Sacral nerve 2

Sacral nerve 3

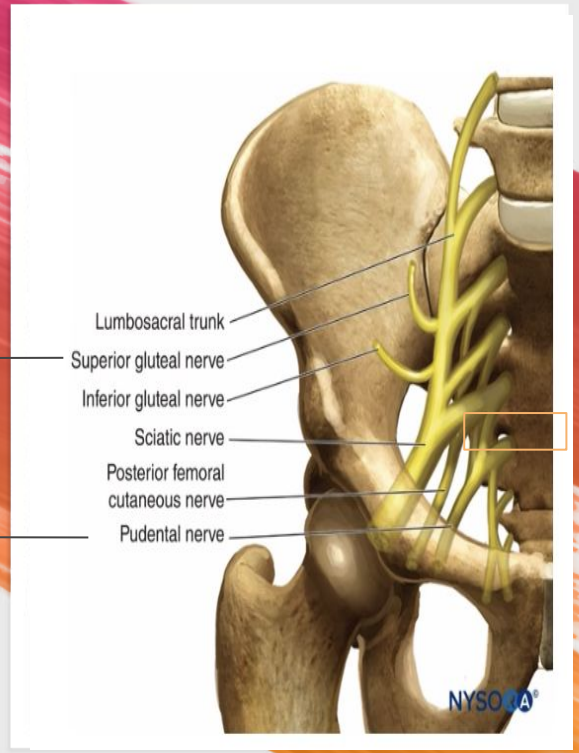


Sacral plexus
formed by

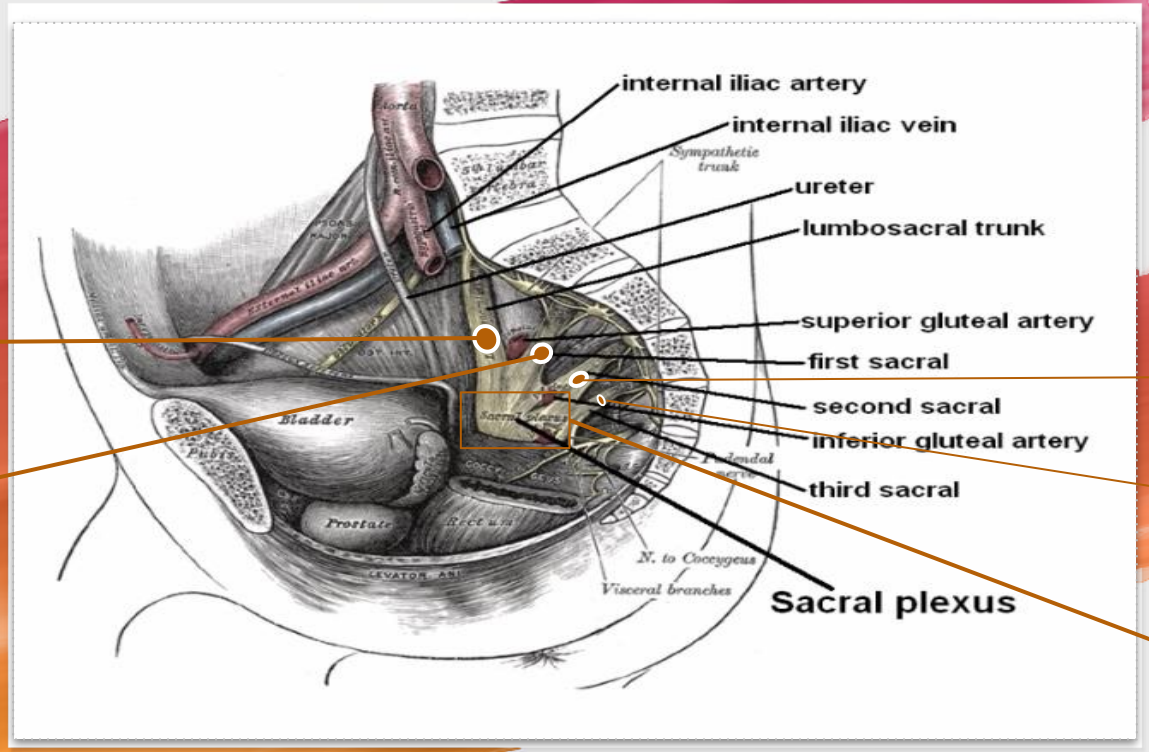
- Lumbosacral nerve (L4 , L5)
- Sacral nerve (s1 ,s2 ,s3)

Location : in the pelvic

Branches of sacral plexus



Lateral view of Sacral plexus



Lumbosacral nerve

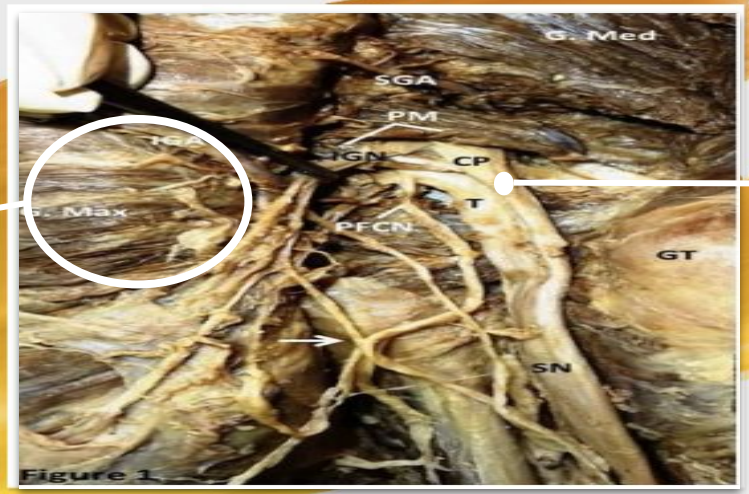
Sacral nerve 1

Sacral nerve 2

Sacral nerve 3

Mass of lumbosacral plexus

Posterior aspect of the Gluteal region



Gluteus Maximus

Sciatic nerve

-**Sciatic nerve** covered by Gluteus muscle
-**Sciatic nerve** arise from the under cover of piriformis muscle to enter the posterior aspect of the gluteal region

Posterior aspect of the Gluteal region

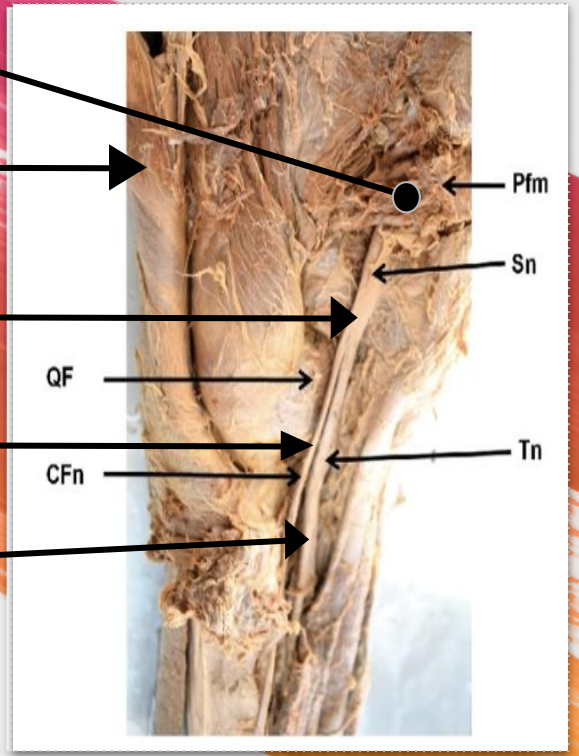
Piriformis

Gluteus Maximus

Sciatic nerve

Common fibular nerve

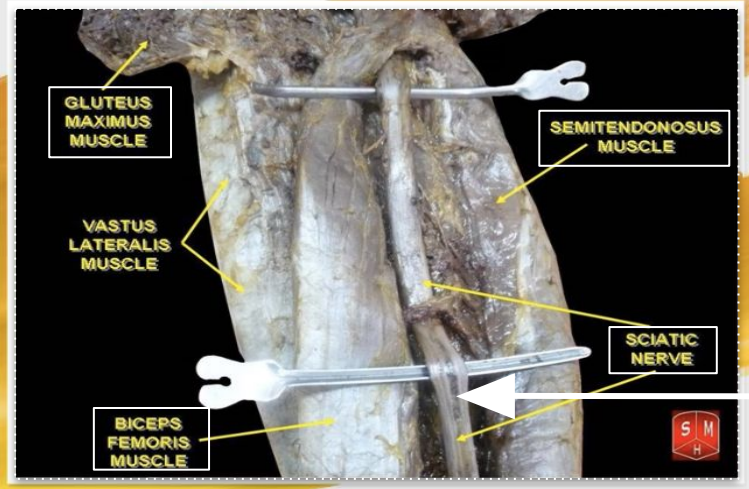
Tibial nerve



Sciatic nerve pass between the hamstring muscles biceps femoris (lateral aspect) and semimembranosus & semitendinosus .

Sciatic nerve

in the posterior aspect of the thigh



-**Sciatic nerve** between the hamstring muscles biceps femoris (lateral aspect) and semimembranosus & semitendinosus .

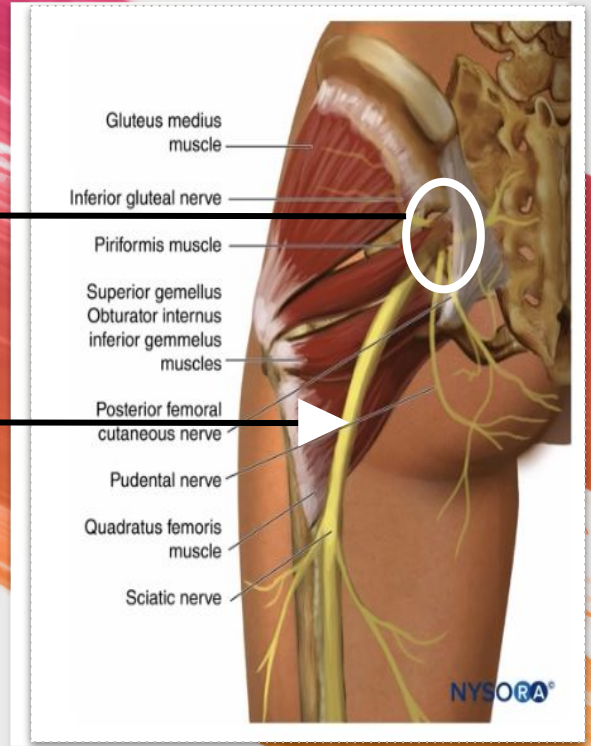
-**Sciatic nerve** pass upward to downward in the popliteal fossa then it will divide

Sciatic nerve

in the posterior aspect of the thigh

greater sciatic foramen

Sciatic nerve



-Sciatic nerve pass through greater sciatic nerve to the posterior aspect of the thigh

Course of sciatic nerve

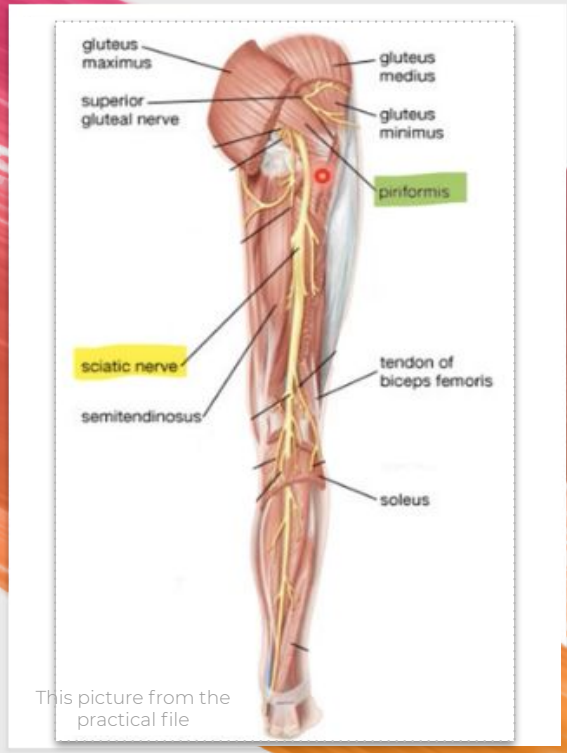
-The **sciatic nerve** enters the lower limb by exiting the pelvis through the greater sciatic foramen, below the piriformis muscle and above the superior gemellus muscle.

-Pass to the gluteal region then to the posterior aspect of the thigh between hamstring muscles **biceps femoris** and **semimembranosus & semitendinosus** .

-it will reach to the popliteal fossa and then divide into to branch :

1-**fibular nerve** (common peroneal nerve) is lateral branch leave the popliteal fossa around the neck of fibula to the anterior aspect of the leg

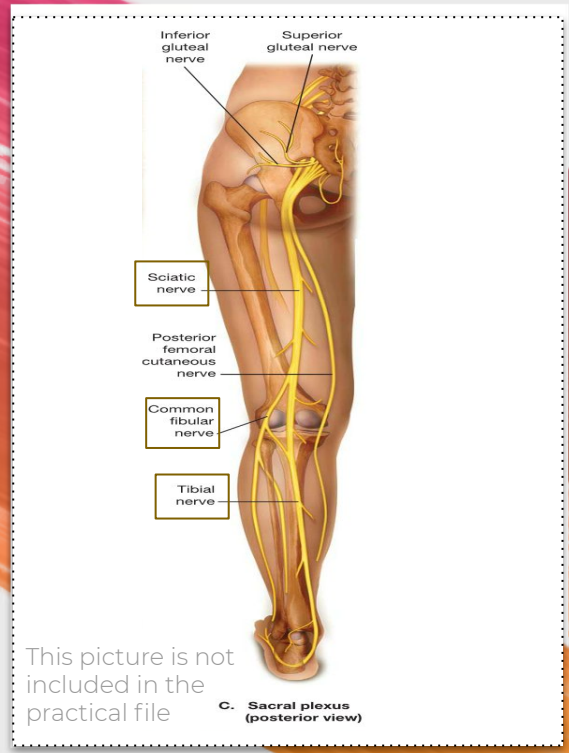
2-The continuation of the other branch called **tibial nerve** which is enter the posterior aspect of the leg and then end in the sole of the foot , to divide into two brach



This picture from the practical file

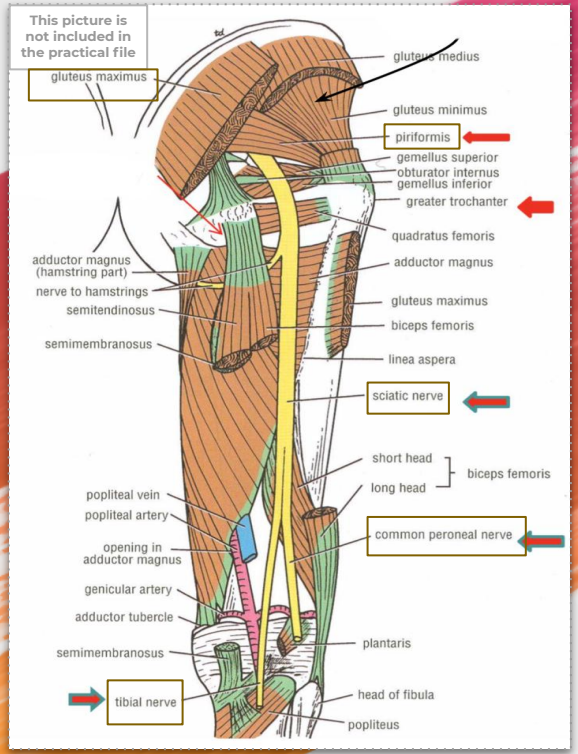
Branches of Sciatic nerve

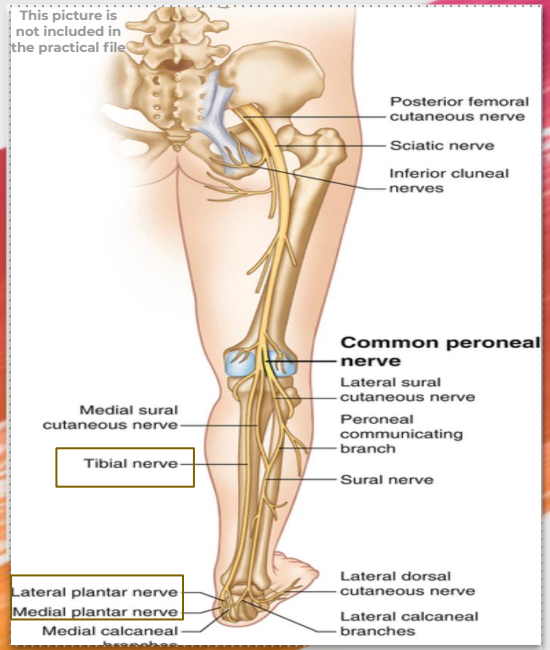
- **Sciatic nerve**
  - **Fibular nerve (common peroneal nerve)**
    - Divide into :
      - Superficial peroneal
      - Deep peroneal
    - Muscle Supply :
      - Muscles of anterior & lateral compartments of leg and dorsum of the foot
  - **Tibial nerve**
    - Divide into :
      - Medial plantar nerve
      - Lateral plantar nerve
    - Muscle Supply :
      - Muscles of posterior compartment of leg & Gastrocnemius and soleus muscles and other calf muscle



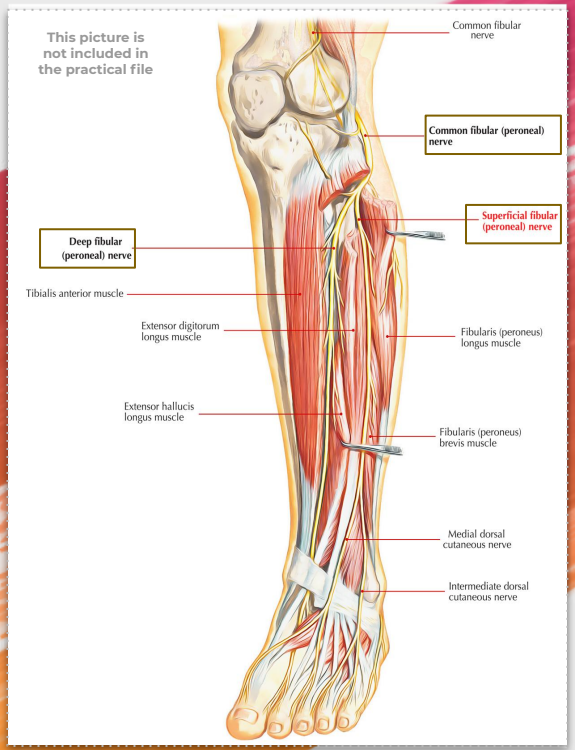
This picture is not included in the practical file

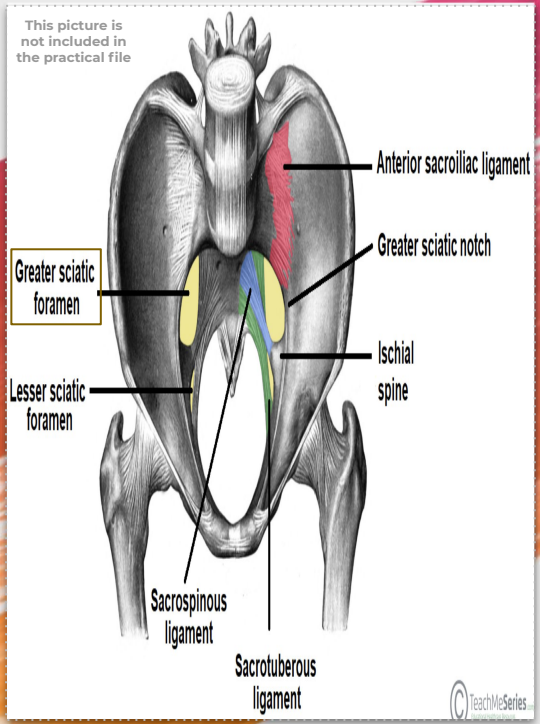
Branches of Sciatic nerve





Branches of Sciatic nerve

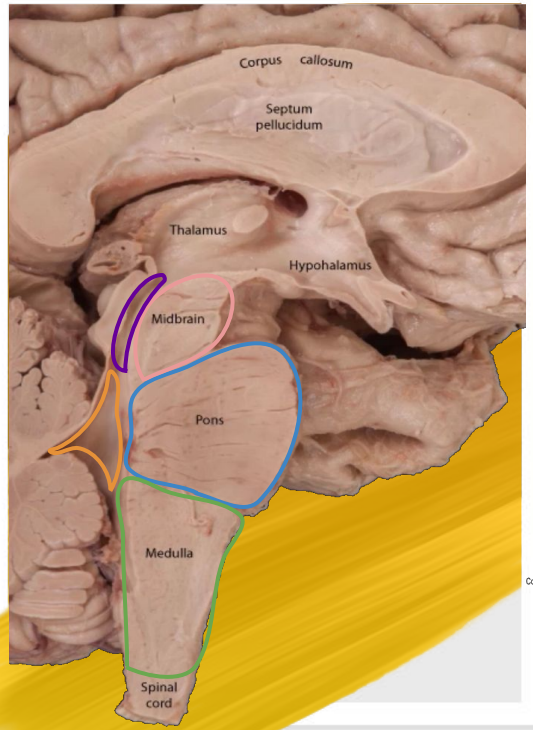


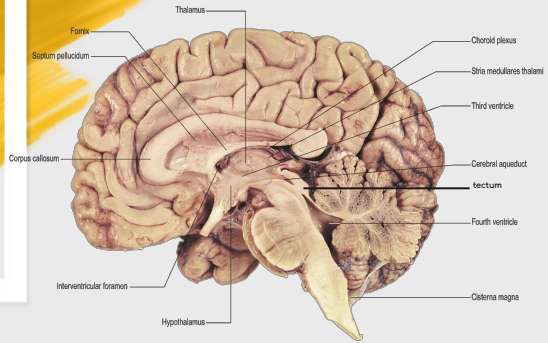


Brainstem and Cranial nerves

Brain stem

Sagittal section





The brainstem is the region of the brain that connects the cerebrum with the spinal cord.

- Site: It lies on the basilar part of occipital bone (**clivus**).
- Parts from above downwards :

1. Midbrain 2. Pons 3. Medulla oblongata

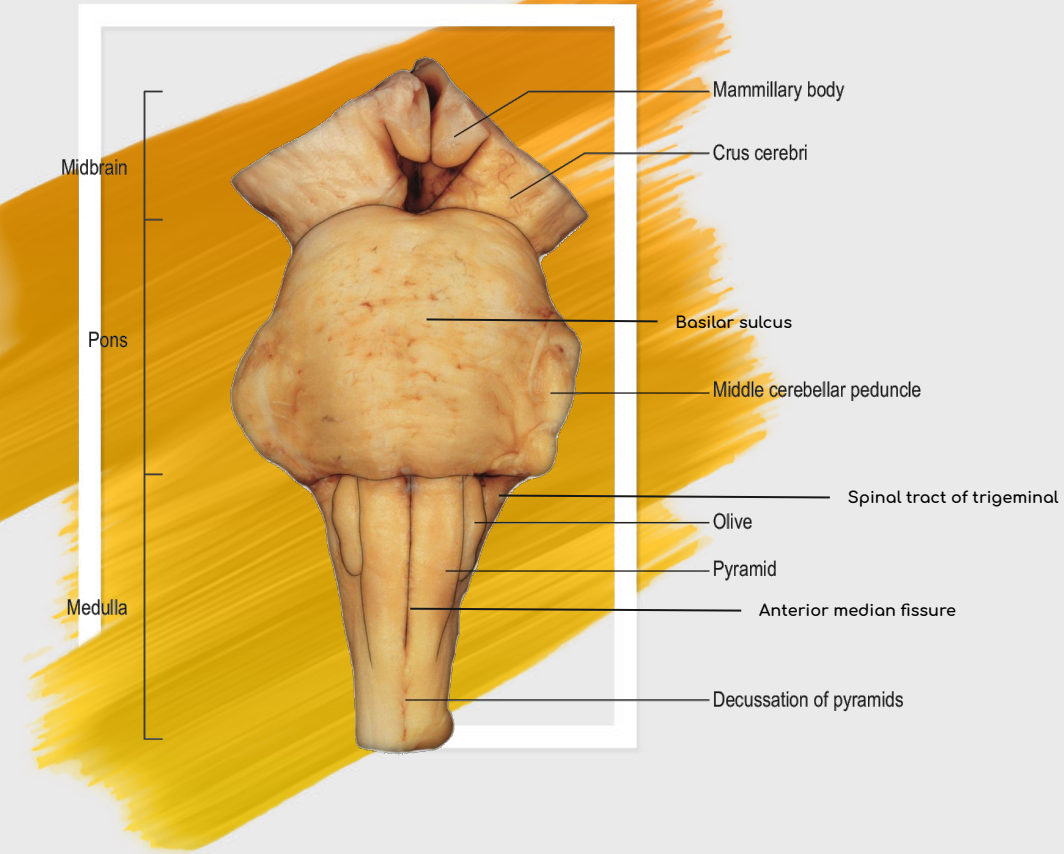
- Connection with cerebellum :

by **cerebellar peduncles** (superior, middle & inferior).

Important cavities :

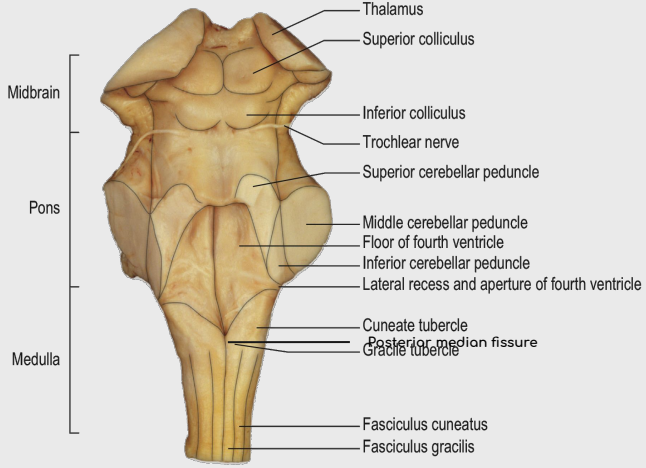
- Cerebral aqueduct (aqueduct of sylvius).
- 4th ventricle.

External features of the ventral surface of the Brain stem



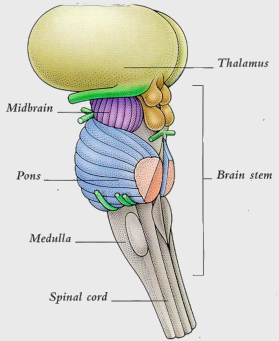
midbrain	Crus cerebri (cerebral peduncle)
pons	Basilar sulcus Middle cerebellar peduncle Transverse pontine fibers
medulla	Anterior median fissure Pyramid Olive Spinal tract of trigeminal (lateral to olive)

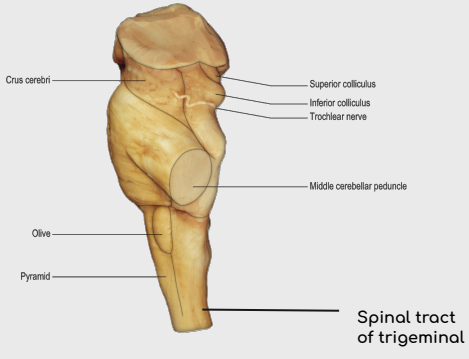
External features of the dorsal surface of the Brain stem



midbrain	2 superior colliculus 2 inferior colliculus Trochlear nerve
pons	Upper part of the 4th ventricle floor Middle cerebellar peduncle
medulla	Cuneate tubercle Gracile tubercle Posterior median fissure Lower part of the 4th ventricle floor

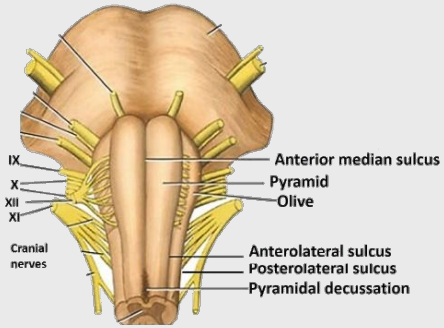
Lateral surface of the Brain stem

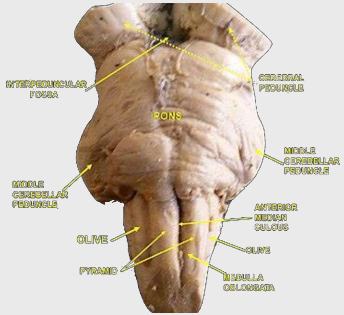


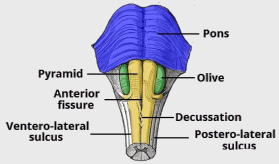


midbrain	2 superior colliculus 2 inferior colliculus Crus cerebri (cerebral peduncle)
pons	Middle cerebellar peduncle
medulla	Pyramid Olive Spinal tract of trigeminal

External features of the ventral surface of the Medulla oblongata

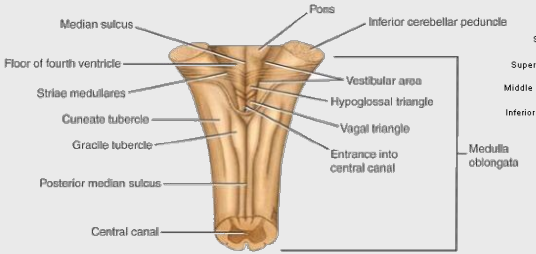


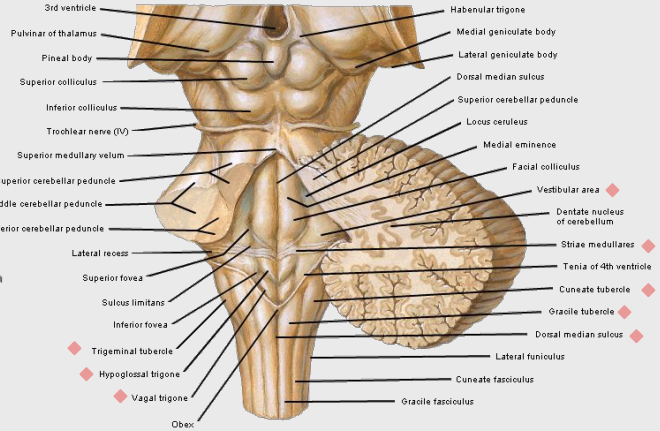




- Anterior median fissure
- Pyramid
- Olive
- Anterolateral sulcus
  Between the pyramid and olive, and its where the 12th CN emerge
- Posterolateral sulcus
  Between the olive and the spinal tract of trigeminal, and it where the 9th, 10th, and the 11th CNs emergs
- The 9th, 10th, 11th, and 12th cranial nerves

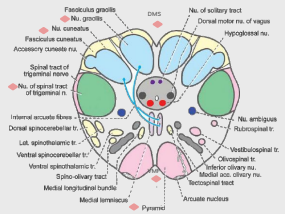
External features of the dorsal surface of the Medulla oblongata



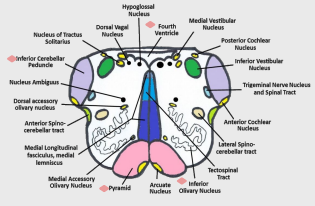


- Posterior median fissure
- Gracile tubercle
- Cuneate tubercle
- Trigeminal tubercle
- Stria medullaris
  Divide the floor of the 4th ventricle into pontine and medullary parts
- Vestibular area (triangle)
- Hypoglossal triangle
- Vagal triangle

Internal structures of the Medulla oblongata



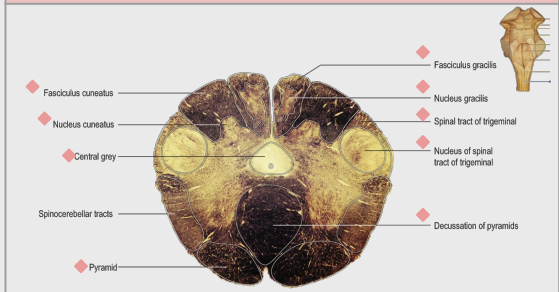
(Closed medulla)



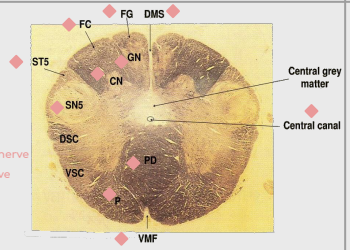
(Open medulla)

*The sections shown in the Figures have been stained by the Weigert-Pal method.
Areas rich in nerve fibres stain darkly, while areas rich in cell bodies are relatively pale.

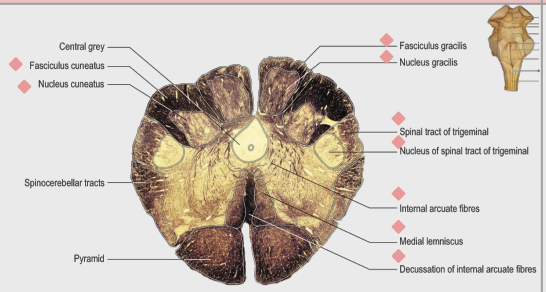
Caudal medulla oblongata
(level of decussation of pyramids)

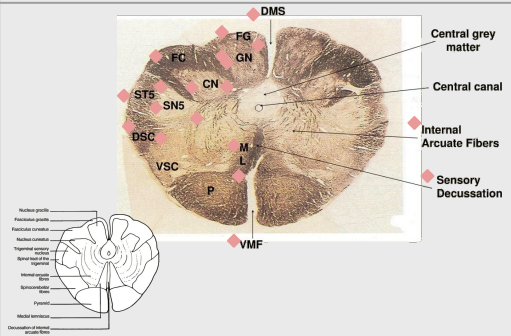


DMS: Dorsal median sulcus
FG: fasciculus gracilis
GN: Gracile nucleus
FC: Fasciculus cuneatus
CN: Cuneate nucleus
SN5: Spinal nucleus of trigeminal nerve
ST5: Spinal tract of trigeminal nerve
P: Pyramid
PD: Pyramidal decussation
DSC: Dorsal spinocerebellar tract
VSC: Ventral spinocerebellar tract
VMF: Ventral median fissure

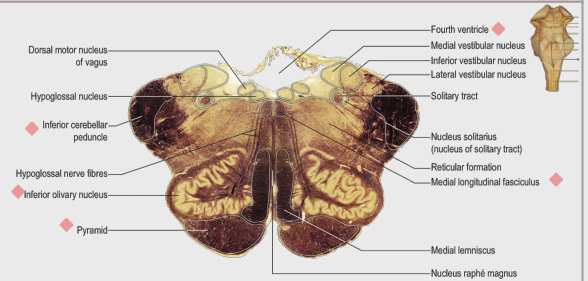


Mid medulla oblongata
(level of sensory decussation)

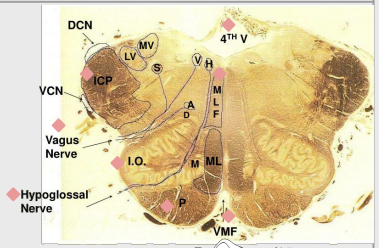




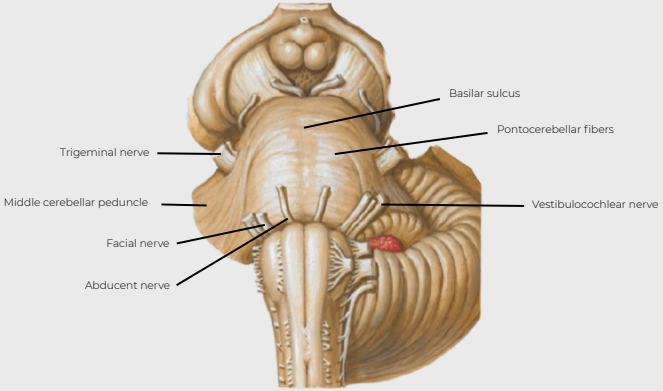
Rostral medulla oblongata
(level of inferior olivary nucleus, open medulla)



H : Hypoglossal nucleus
V : Dorsal vagal nucleus
S : Nucleus solitarius
A : nucleus ambiguus
MV : Medial vestibular nucleus
LV : Lateral vestibular nucleus
DCN : Dorsal cochlear nucleus
VCN : Ventral cochlear nucleus
ICP : Inferior cerebellar peduncle
I.O. : Inferior olive
D : Dorsal accessory olive
M : Medial accessory olive
MLF : Medial longitudinal fasciculus
ML : Medial lemniscus
P : Pyramid
VMF : Ventral median fissure

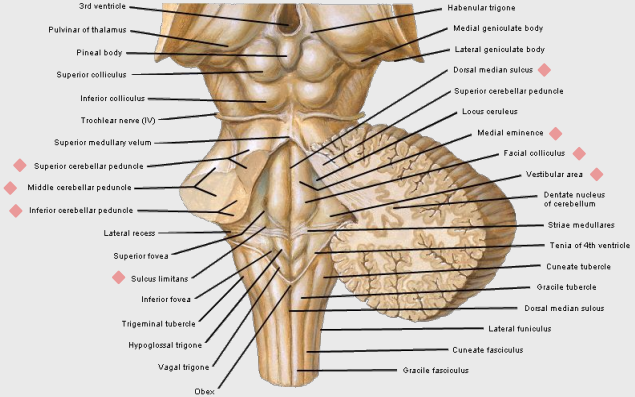


External features of the ventral surface of the Pons



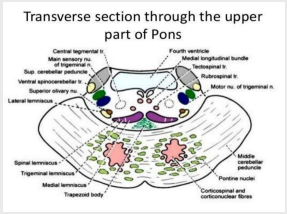
- Trigeminal nerve (V)
- Middle cerebellar peduncle
- Facial nerve (VII)
- Abducent nerve (VI)
- Vestibulocochlear nerve (VIII)
- Pontocerebellar fibers
  Gives pons striation appearance
- Basilar sulcus (groove)
  Where basilar artery lodges

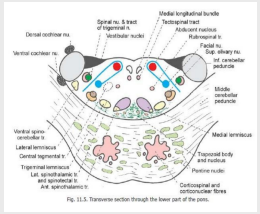
External features of the dorsal surface of the Pons



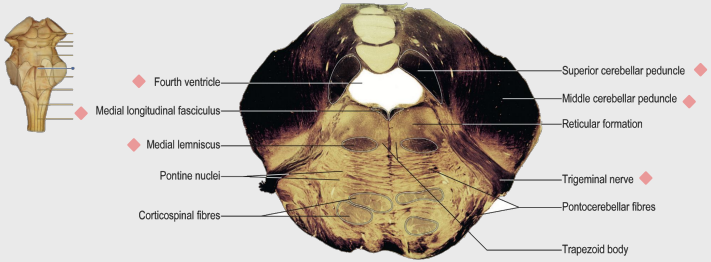
- Superior cerebellar peduncle
- Middle cerebellar peduncle
- Inferior cerebellar peduncle
- Sulcus limitans
- Vestibular area
- Facial colliculus
- Medial eminence
- Posterior medial sulcus

Internal structures of the Pons



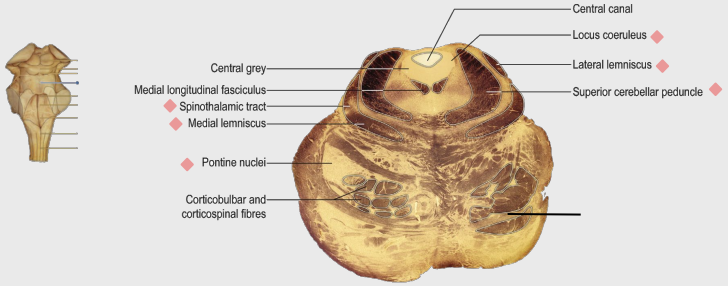


Trigeminal level



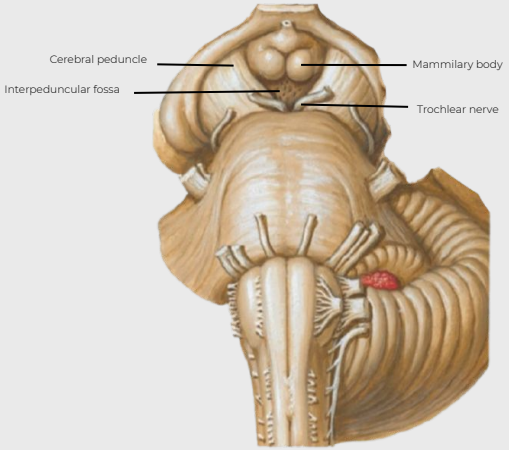
- Trigeminal nerve (V)
- 4th ventricle
- Superior cerebellar peduncle
- Middle cerebellar peduncle
- Medial longitodinal bundle
- Medial leminsci

Rostral



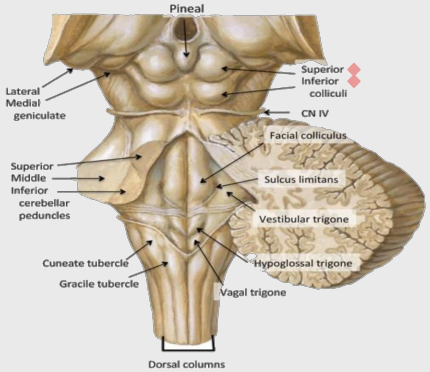
- Pontine nuclei
- Medial leminsci
- Locus coeruleus
- Medial longitodinal bundle
- Superior cerebellar peduncle
- Spinothalamic tract (Spinal leminsci)

External features of the ventral surface of the Midbrain



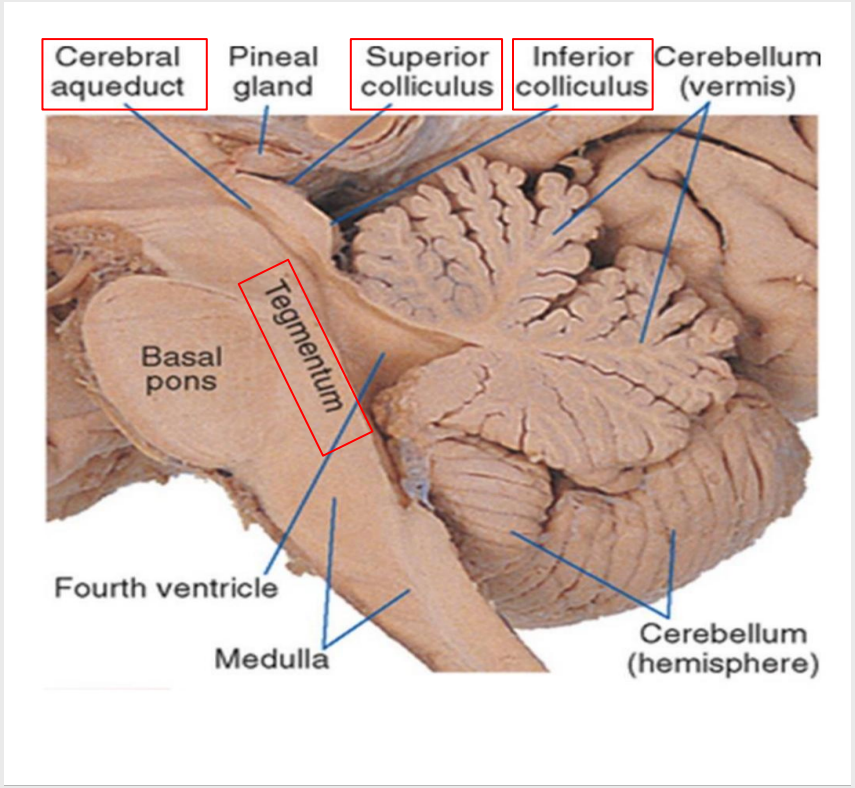
- Cerebral peduncle (Crus cerebri)
- Interpeduncular fossa
- Trochlear nerve (III)
- Mammilary body

External features of the dorsal surface of the Midbrain



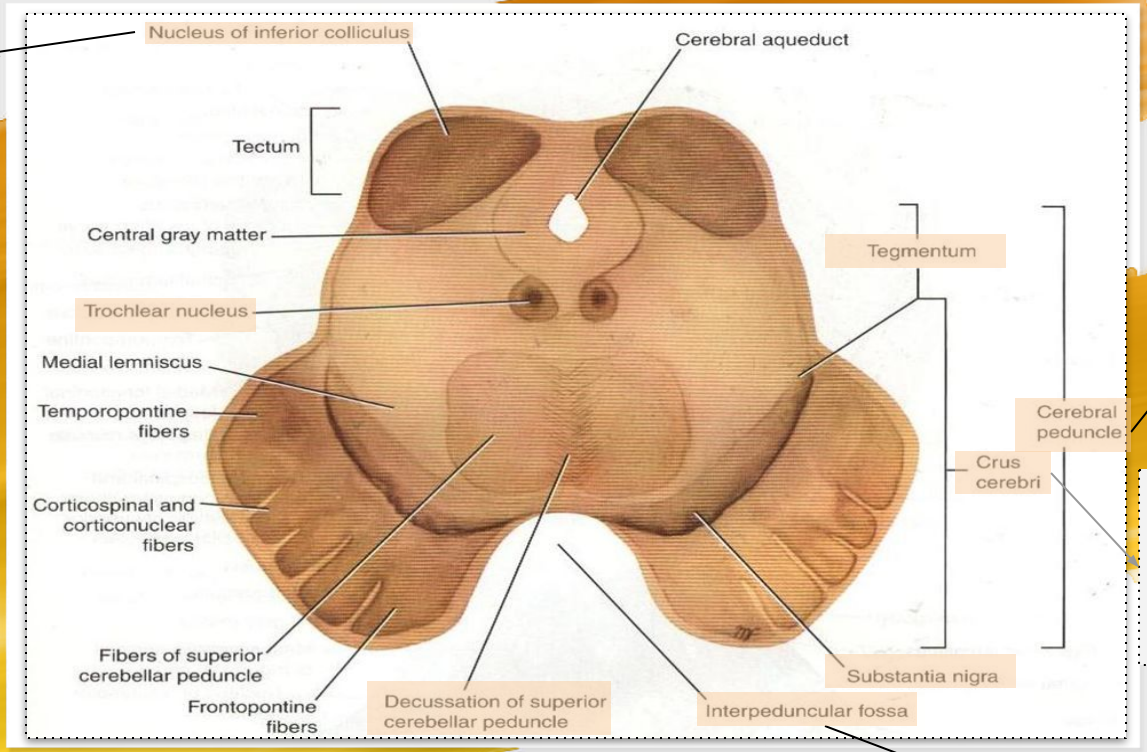
- Superior colliculi
- Inferior colliculi

Sagittal section of the Midbrain



Midbrain (At the level of inferior colliculus)

Behind the cerebral aqueduct



Formed by: tegmentum + crus cerebri

Formed of (medial to lateral):
1- Frontopontine fibers
2- Corticospinal & Corticobulbar fibers
3- Tempo Pontine fibers

At the level of inferior colliculus we can find (landmarks):
• trochlear nucleus (the only cranial nerve that emerges posteriorly)
• Decussation of superior cerebellar peduncle

Between the cerebral peduncles

Midbrain Internal structure (Inferior colliculus)
Caudal

Tectum

Cerebral peduncle

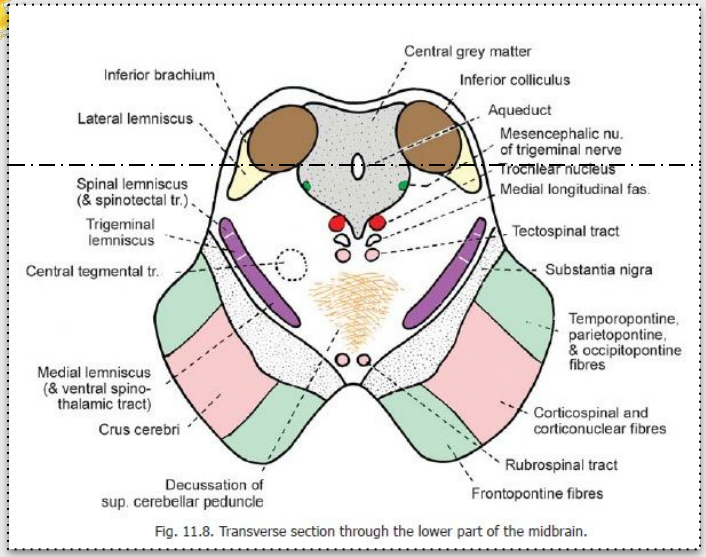
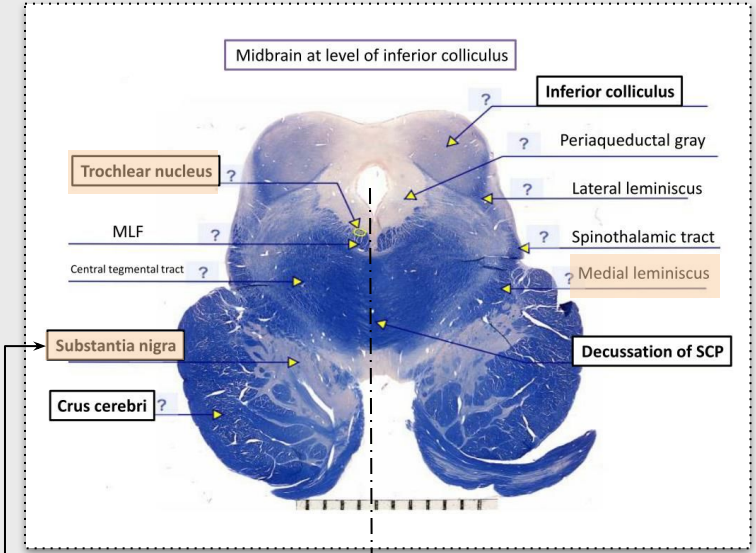


Fig. 11.8. Transverse section through the lower part of the midbrain.



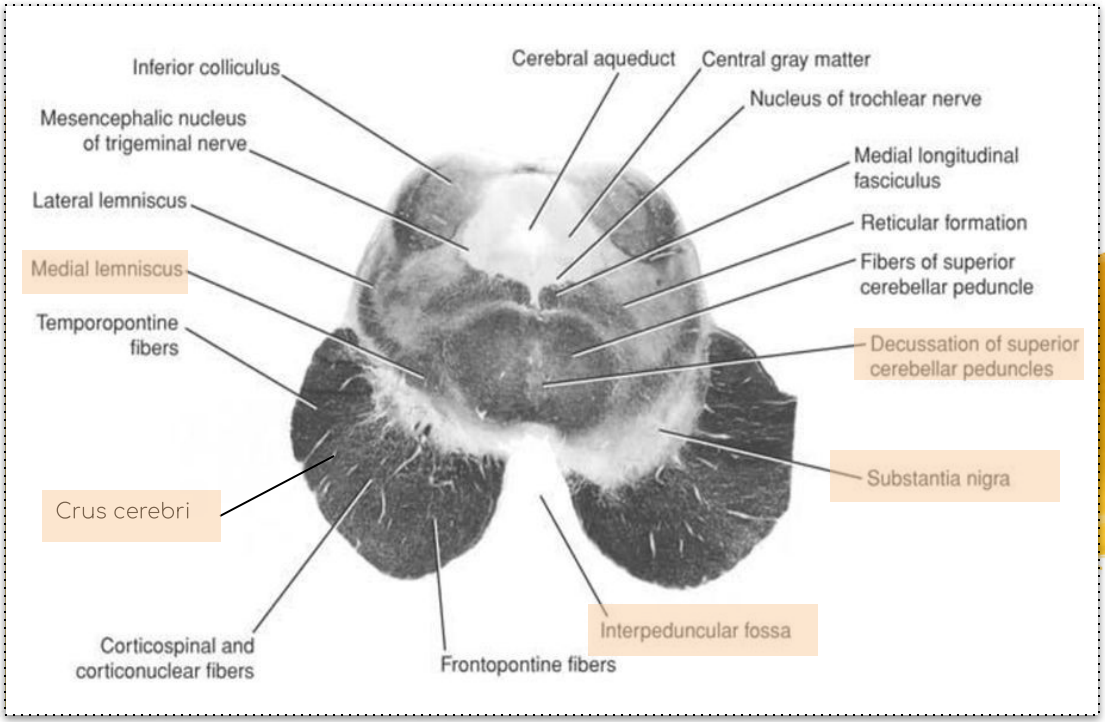
Posterior to the crus cerebri

Cerebral aqueduct

- Behind it we find the Tectum which contains the colliculi
- In front of it we find the cerebral peduncle (tegmentum + crus cerebri)

Midbrain

(At the level of inferior colliculus)



Midbrain Internal structure (Superior colliculus)
Rostral

Tectum

Cerebral peduncle

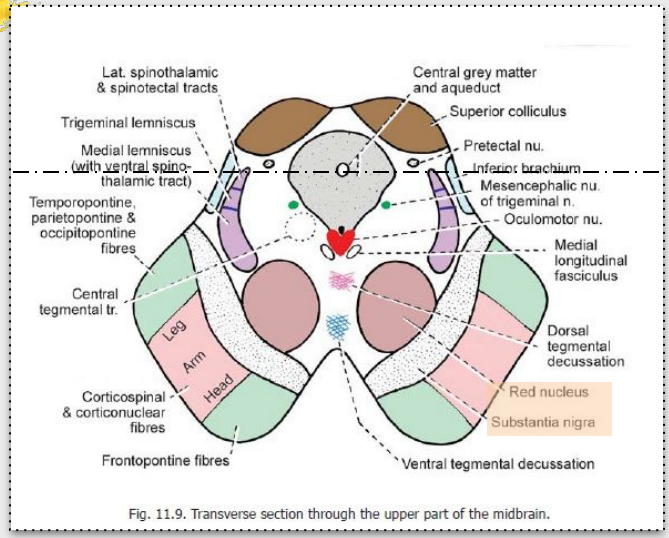
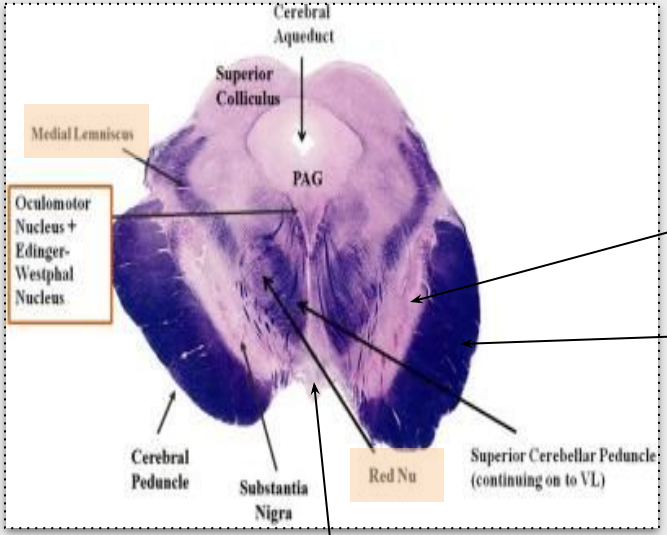


Fig. 11.9. Transverse section through the upper part of the midbrain.

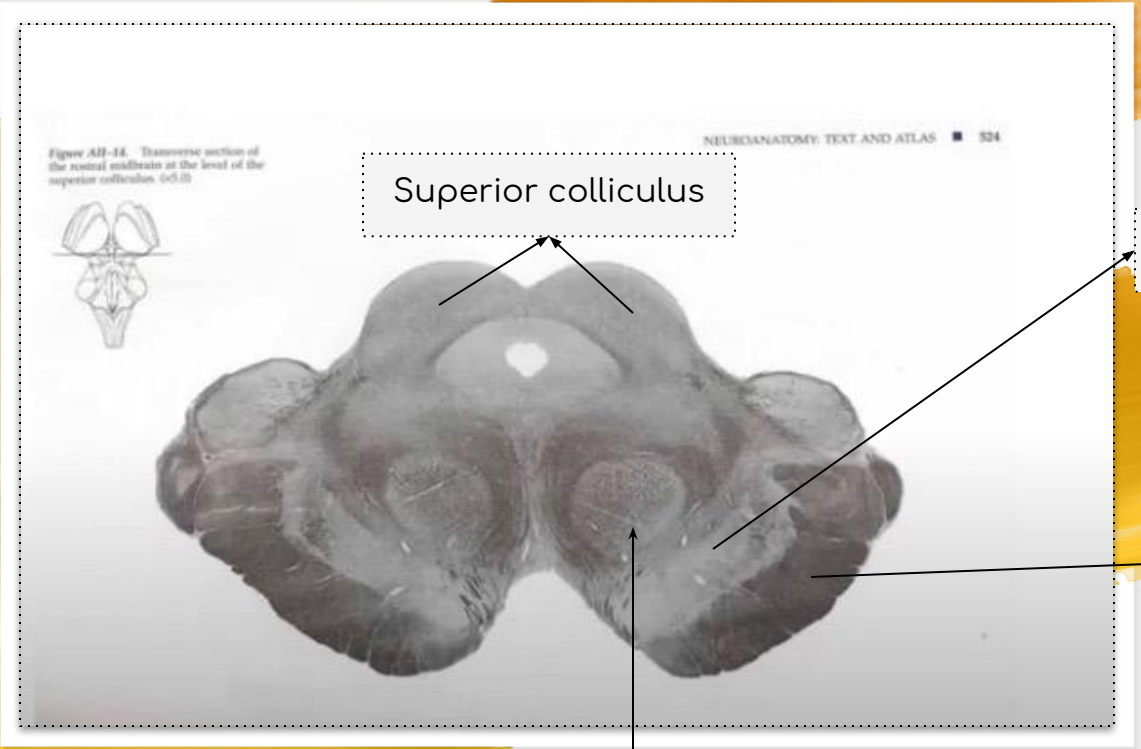


Landmarks at the level of the superior colliculus:

- Red nucleus

Midbrain

(At the level of superior colliculus)

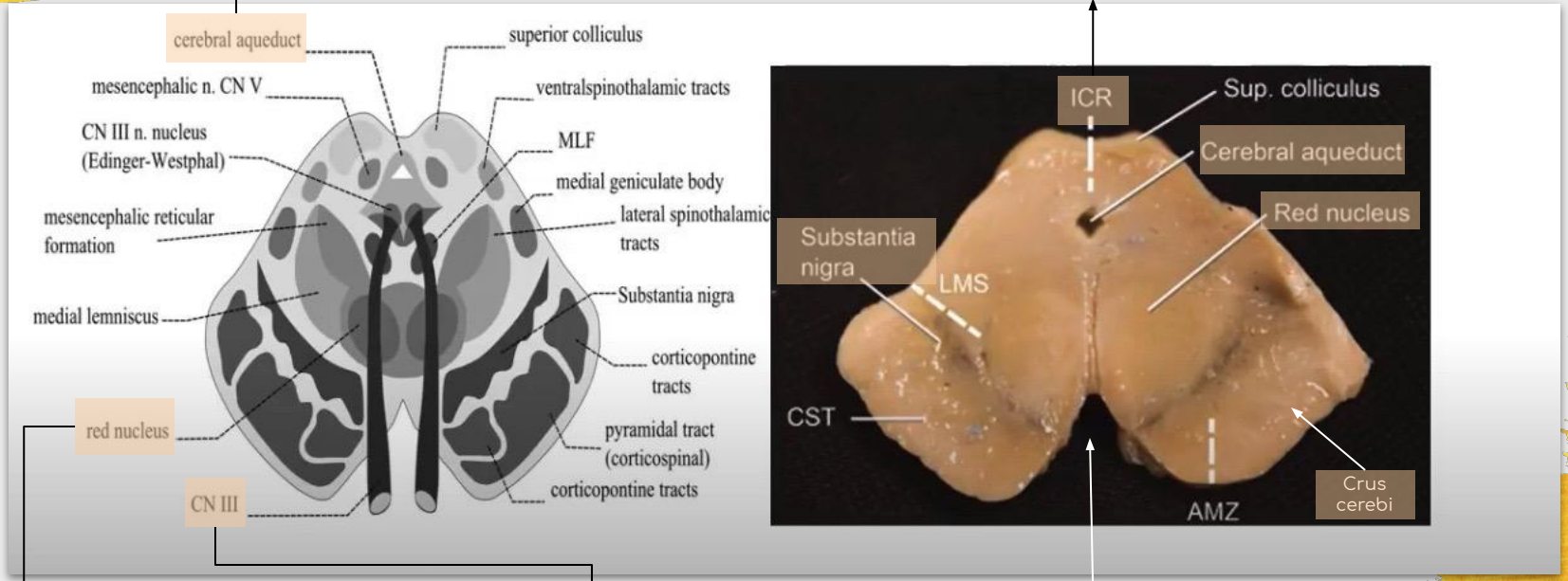


Cranial nerves related to the Midbrain:

- oculomotor (CN 3) emerges ventrally at the level of the superior colliculus
- Trochlear (CN 4) emerges dorsally at the level of the inferior colliculus

Another name for cerebral aqueduct is aqueduct of sylvius

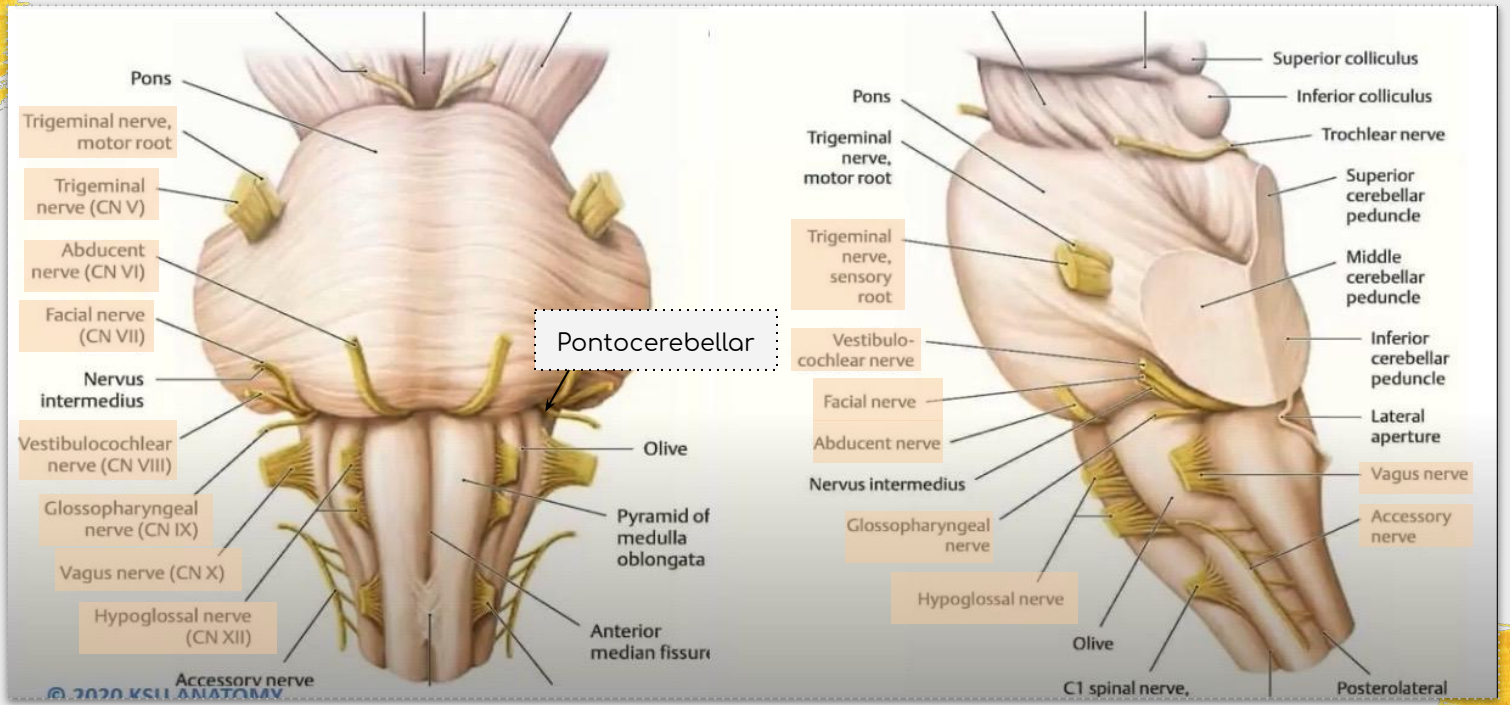
Intercollicular region



(So we are at the level of superior colliculus)

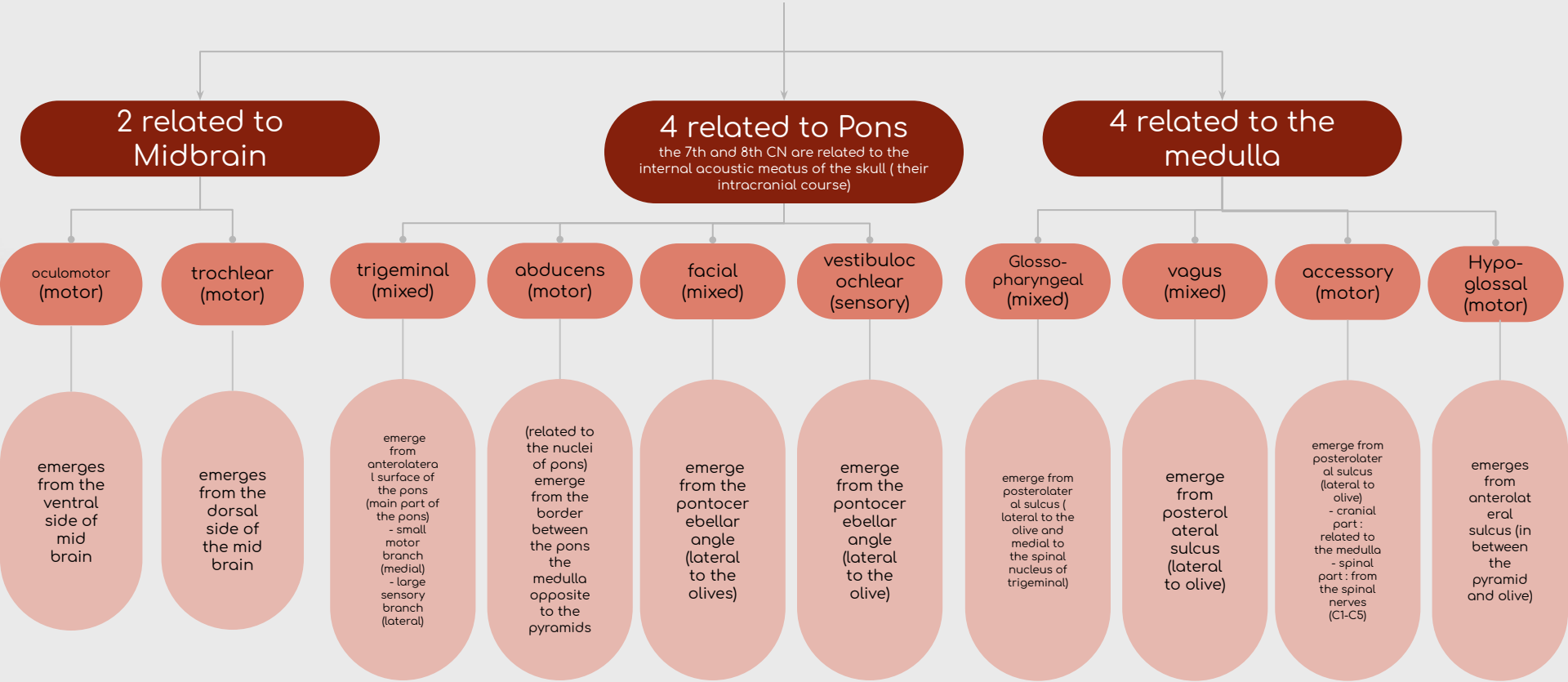
The oculomotor nerve emerges from the ventral aspect of the midbrain

Interpeduncular fossa

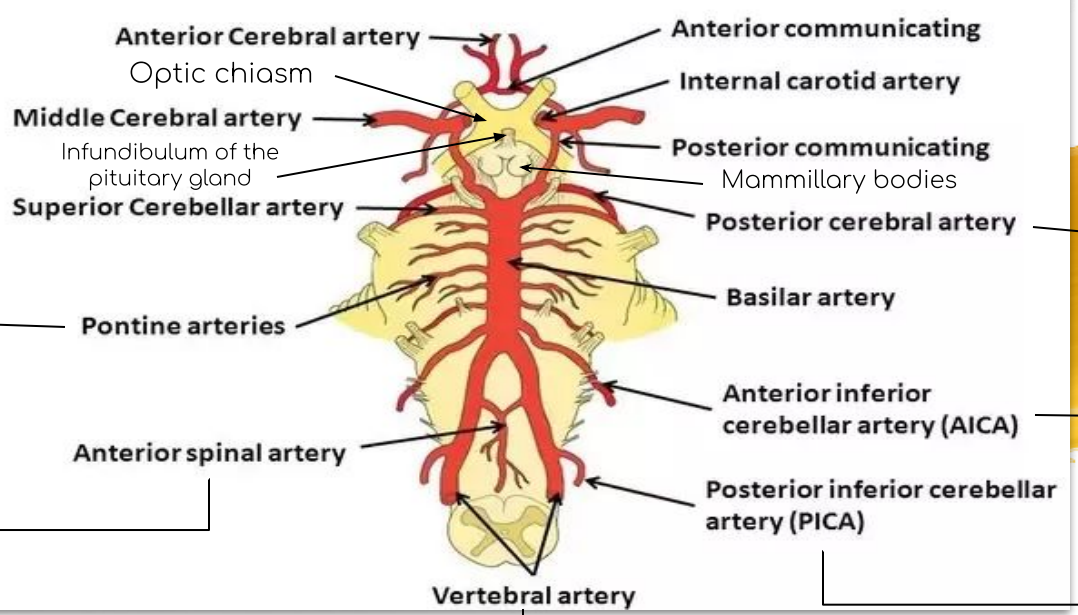

Pons
Trigeminal nerve, motor root
Trigeminal nerve (CN V)
Abducent nerve (CN VI)
Facial nerve (CN VII)
Nervus intermedius
Vestibulocochlear nerve (CN VIII)
Glossopharyngeal nerve (CN IX)
Vagus nerve (CN X)
Hypoglossal nerve (CN XII)
Accessory nerve
Pontocerebellar
Olive
Pyramid of medulla oblongata
Anterior median fissure
Superior colliculus
Inferior colliculus
Trochlear nerve
Pons
Trigeminal nerve, motor root
Trigeminal nerve, sensory root
Vestibulo-cochlear nerve
Facial nerve
Abducent nerve
Nervus intermedius
Glossopharyngeal nerve
Hypoglossal nerve
Olive
C1 spinal nerve
Superior cerebellar peduncle
Middle cerebellar peduncle
Inferior cerebellar peduncle
Lateral aperture
Vagus nerve
Accessory nerve
Posterolateral

Cranial nerves

The number of cranial nerves related to the brain stem is 10 (3-12)



Label the blood supply to the brainstem.



Circle of Willis is related to the interpeduncular fossa

That area also contains
-optic chiasma
-mammillary bodies
-infundibulum of the pituitary gland

Shares with other branches to form circle of willis

Supply Pons

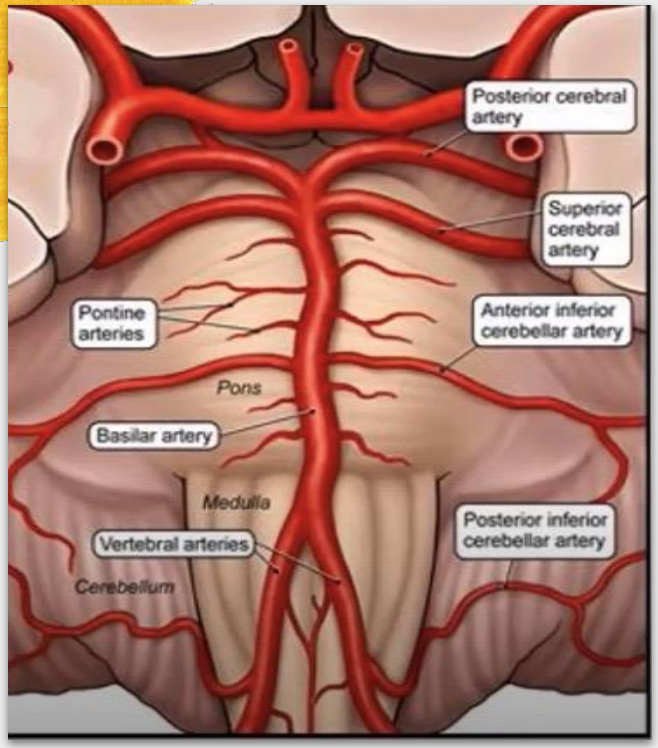
Supply cerebellum

Supply Spinal cord and part of medulla oblongata

Related to part of the medulla oblongata and cerebellum

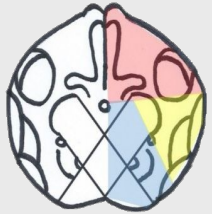
2 vertebral arteries (branch of the first part of the subclavian) move through foramen transversarium to reach foramen magnum
- the two branches unite at the lower border of the pons to form the basilar artery (related to the basilar groove of the pons)
- at the upper border of pons the basilar subdivides into two posterior cerebral arteries which is a part of the circle of Willis

Blood supply to the brainstem



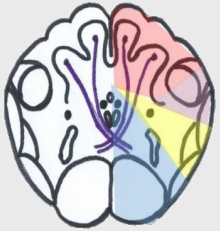
Medulla oblongata

Level of the decussation of the pyramids

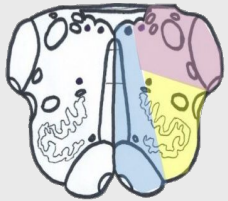


Anterior Spinal Artery
Vertebral Artery
Posterior Spinal Artery
Posterior Inferior Cerebellar

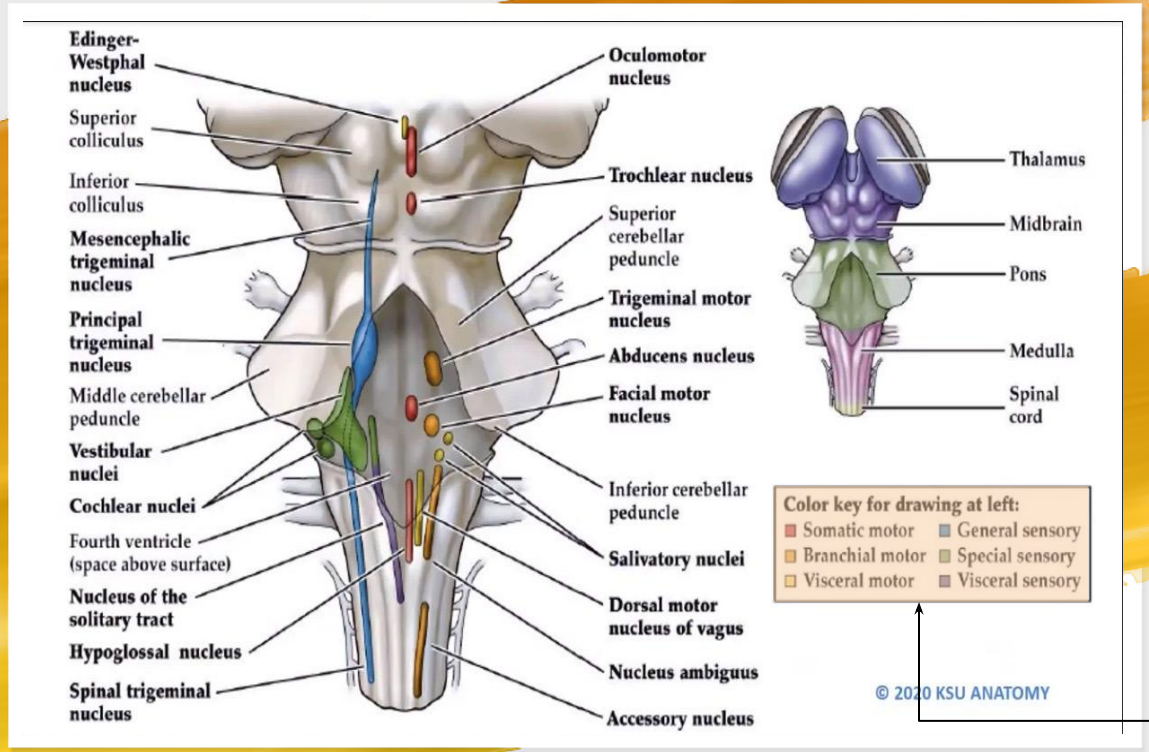
Level of the decussation of the medial lemniscus



Level of the olives

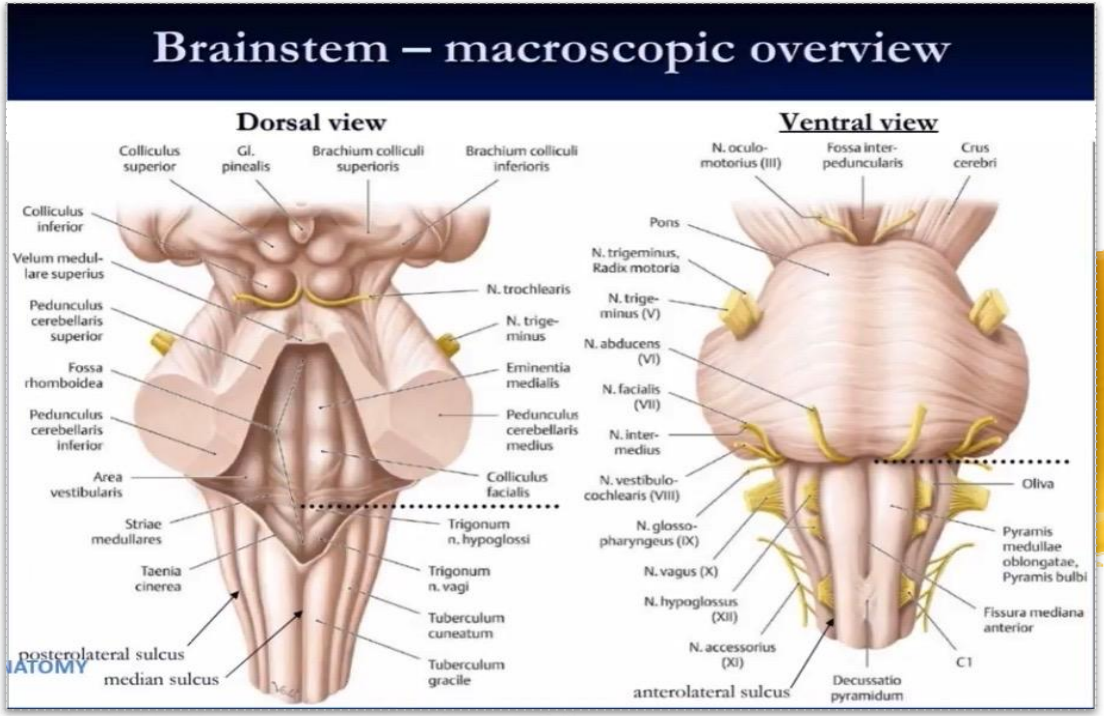


Cranial nerves sensation by coloring



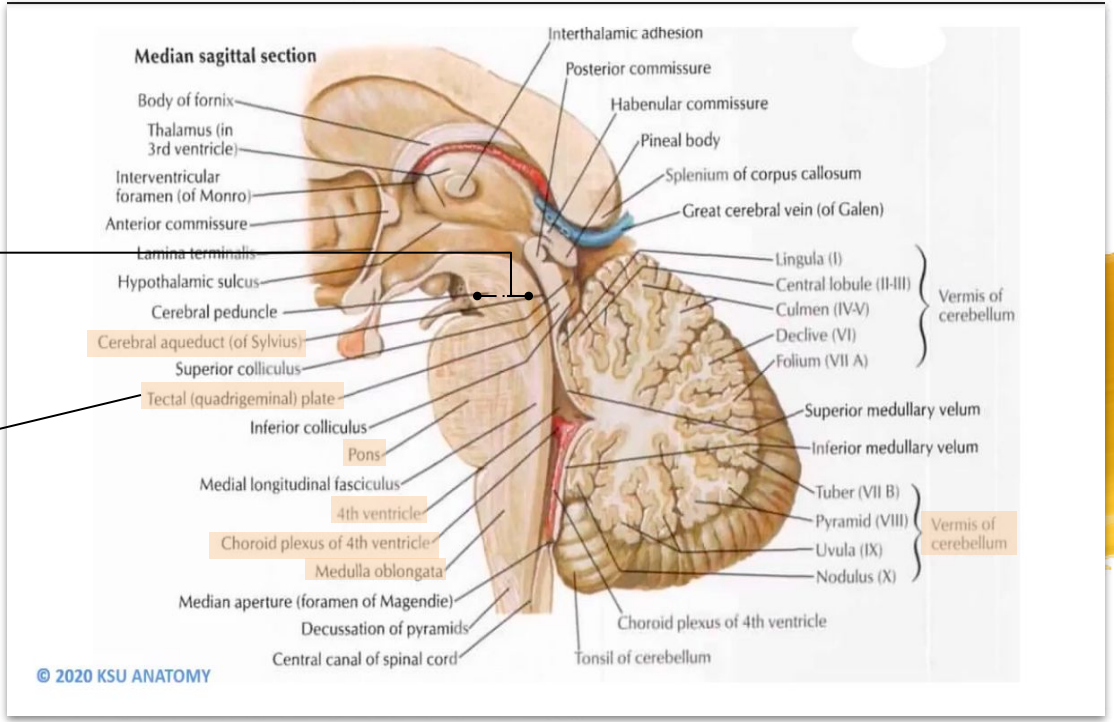
Each cranial nerve can be one of these and can be mixed
-pure sensory
-pure motor
-mixed

Revision


Brainstem – macroscopic overview
Dorsal view
Colliculus superior
Gl. pinealis
Brachium colliculi superioris
Brachium colliculi inferioris
Colliculus inferior
Velum medullare superius
Pedunculus cerebellaris superior
Fossa rhomboidea
Pedunculus cerebellaris inferior
Area vestibularis
Striae medullares
Taenia cinerea
posterolateral sulcus
median sulcus
N. trochlearis
N. trigeminus
Eminentia medialis
Pedunculus cerebellaris medius
Colliculus facialis
Trigonum n. hypoglossi
Trigonum n. vagi
Tuberculum cuneatum
Tuberculum gracile
Ventral view
N. oculomotorius (III)
Fossa interpeduncularis
Crus cerebri
Pons
N. trigeminus, Radix motoria
N. trigeminus (V)
N. abducens (VI)
N. facialis (VII)
N. intermedius
N. vestibulocochlearis (VIII)
N. glossopharyngeus (IX)
N. vagus (X)
N. hypoglossus (XII)
N. accessorius (XI)
anterolateral sulcus
Oliva
Pyramis medullae oblongatae, Pyramis bulbi
Fissura mediana anterior
C1
Decussatio pyramidum

Tegmentum or cerebral peduncle

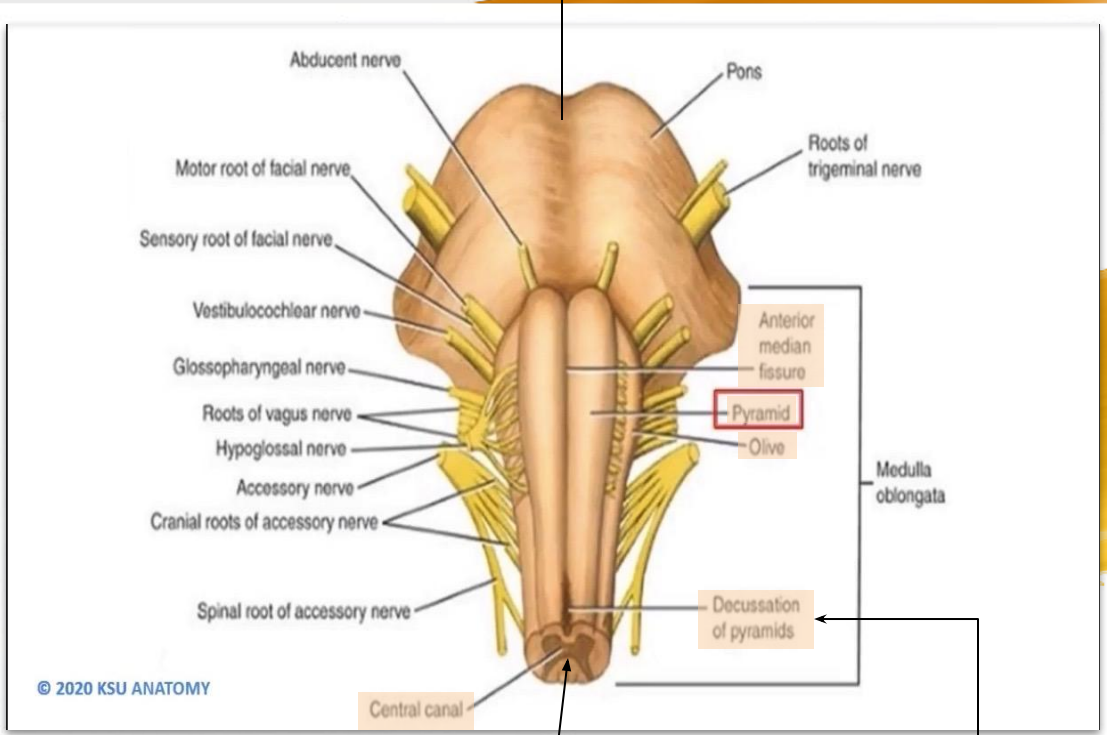
Tectum



Revision

Revision

Basilar sulcus



"H" shape of the spinal cord

At the lower part of medulla

Cerebral Hemispheres and Cerebellum

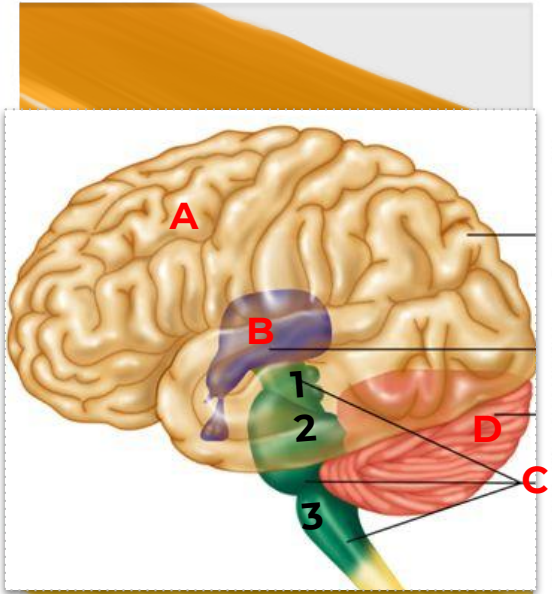
Cerebral hemisphere

A-Cerebrum
2 Cerebral hemispheres

B-Diencephalon:
Thalamus
Hypothalamus
Subthalamus
Epithalamus

C-Brainstem:
1-Midbrain
2-Pons
3-Medulla oblongata

D-Cerebellum

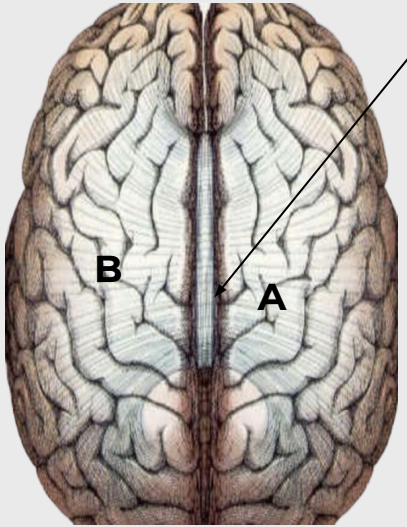


Dura mater

Flex cerebri

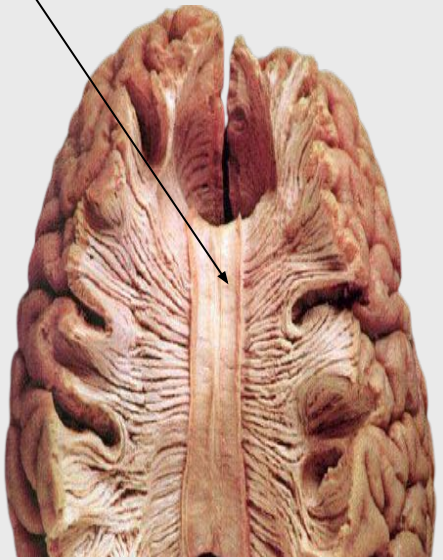
Medial longitudinal fissure

Corpus callosum

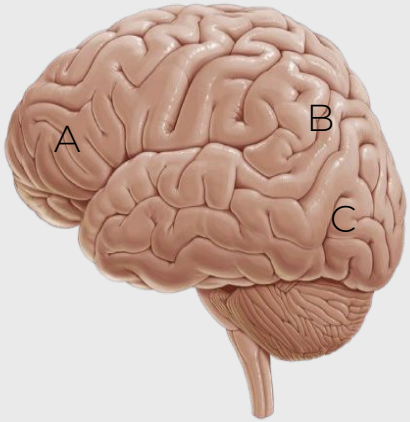


B- right hemisphere

A- left hemisphere

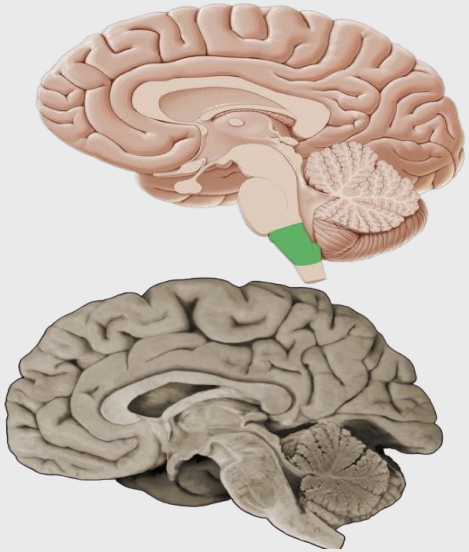


Cerebral surfaces

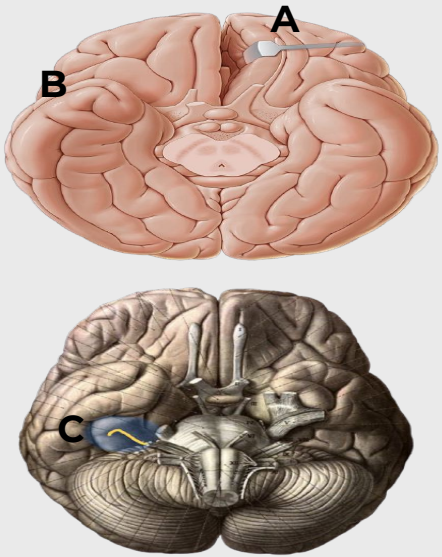


Lateral surface

A-frontal lobe
B-parietal lobe
C-occipital lobe



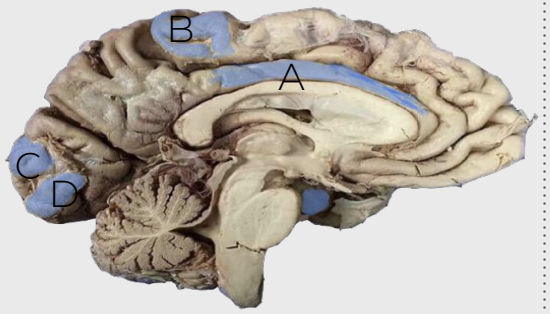
Medial surface



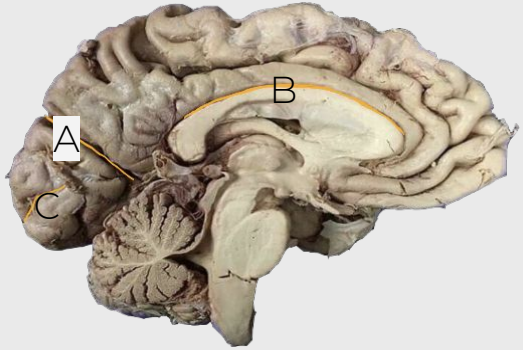
Inferior surface

A-inferior frontal lobe
B-inferior temporal lobe
C-collateral sulci (separate the hippocampus and uncus

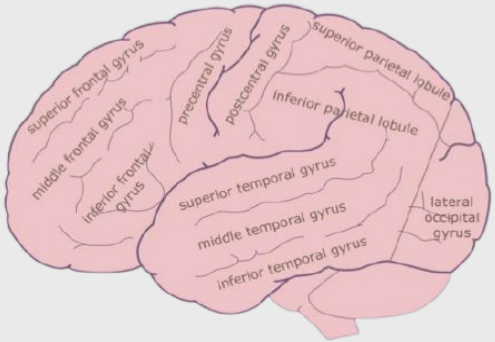
Cerebral gyri and sulci of the medial surface

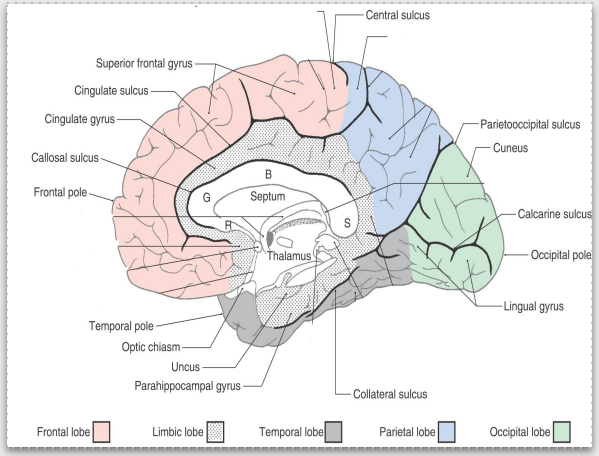


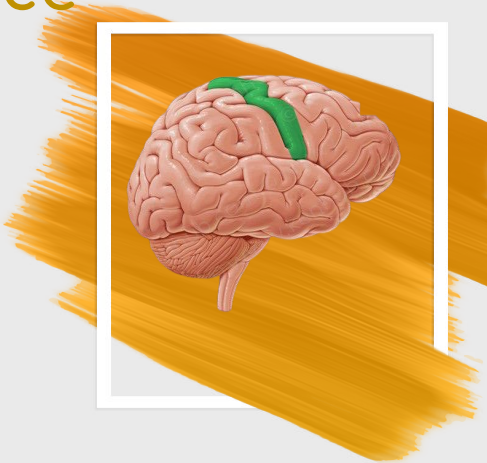
A-cingulate gyri
B-precentral gyri
C-cuneus
D-lingual gyri

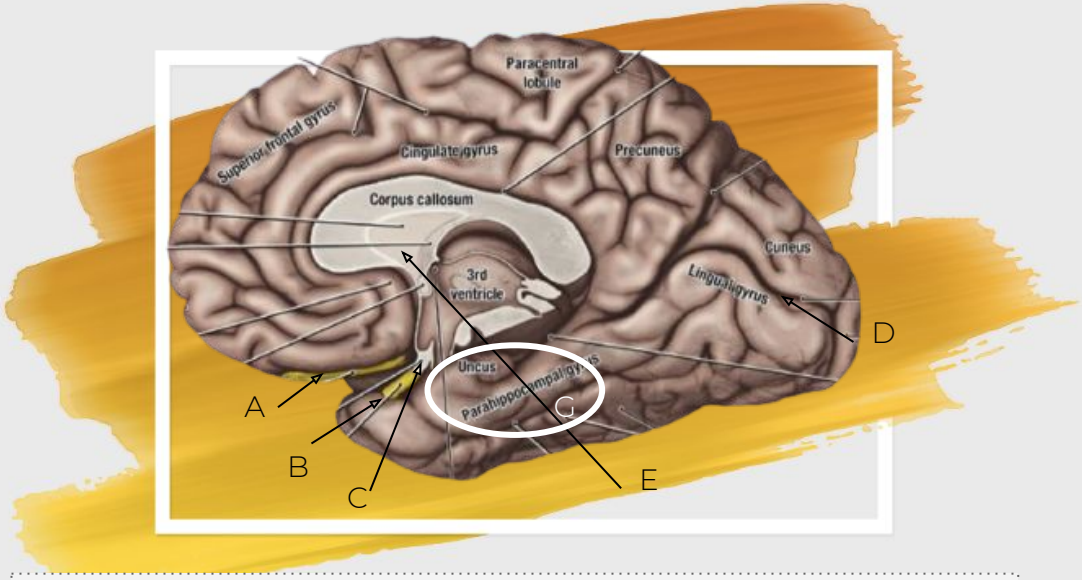


A-parieto-occipital sulcus
B-cingulate
C-calcarine

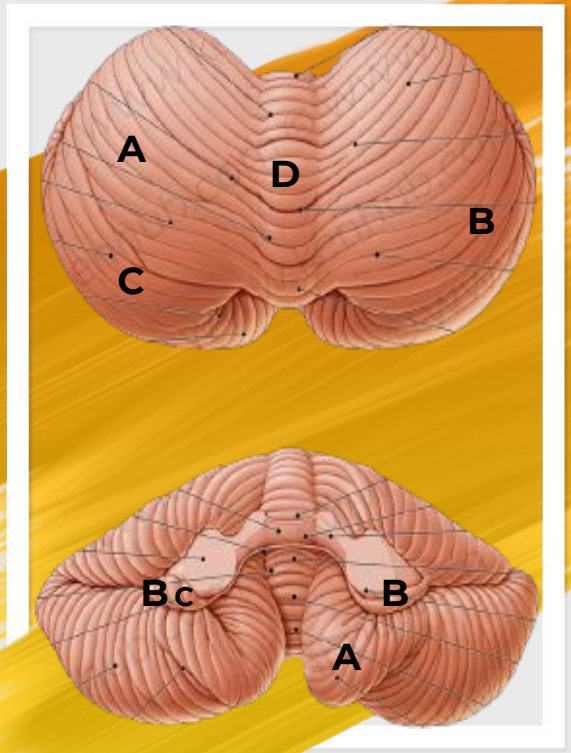








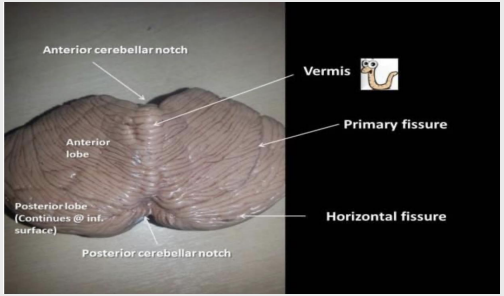
A-olfactory nerve
B-optic nerve
C-optic chiasm
D-calcarine sluci
E-thalamus
G-uncus and parahippocampal gyri separated by collateral sulci

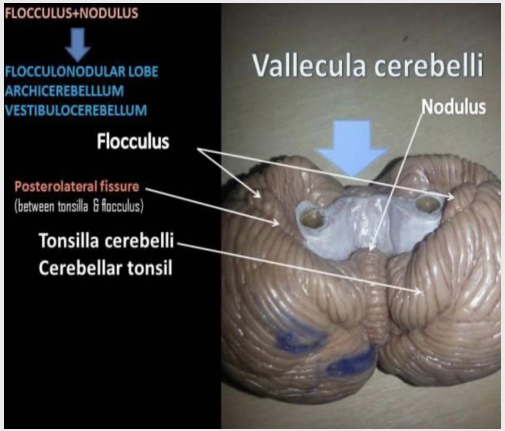


A-anterior lobe
B-primary fissure
C-Posterior lobe
D-vermis

A-tonsil
B-flocculus
C-Posterolateral fissure

Original image in slides





Median Sagittal Section

1-Cingulate Gyrus.

2-Body of Corpus Callosum (C.C.).

3-Genu of C.C.

4-Rostrum of C.C.

5-Septum Pellucidum.

6- Fornix.

7-Splenium of C.C.

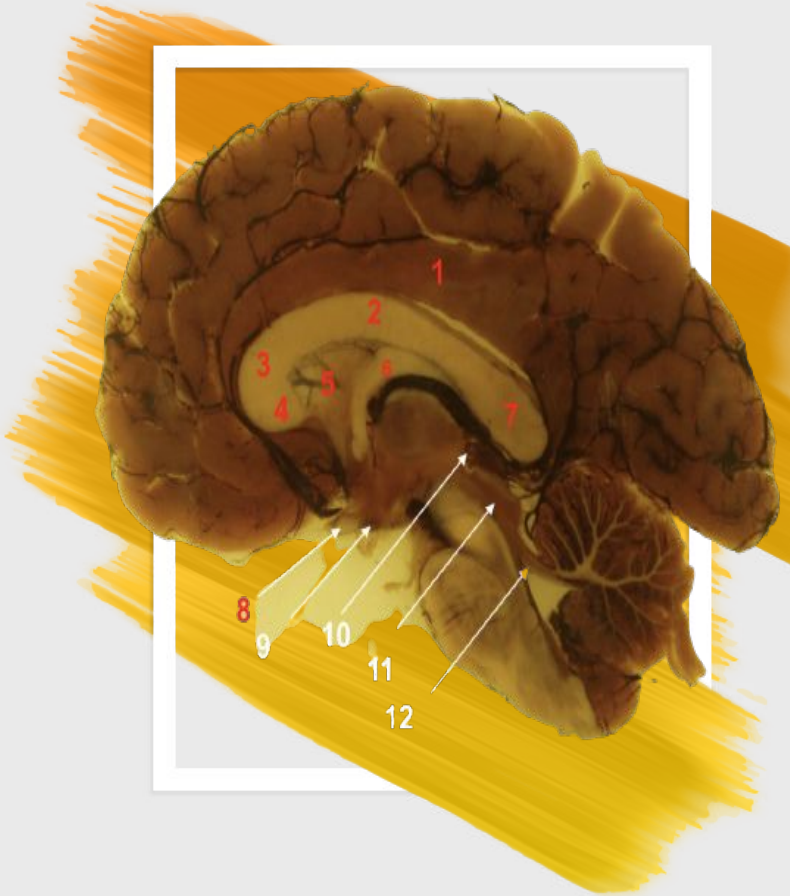
8-Optic Chiasma.

9-Mammillary Body.

10-Pineal Body

11-Cerebral Aqueduct.

12-Sup. Medullary Velum.



Median Sagittal Section

13- Superior Colliculus.

14- Inferior Colliculus.

15- 4th Ventricle.

16- Superior Cerebellar Peduncle.

17- Callosal Sulcus

18-Parieto-occipital Sulcus.

19- Precuneus. 20- Cuneus.

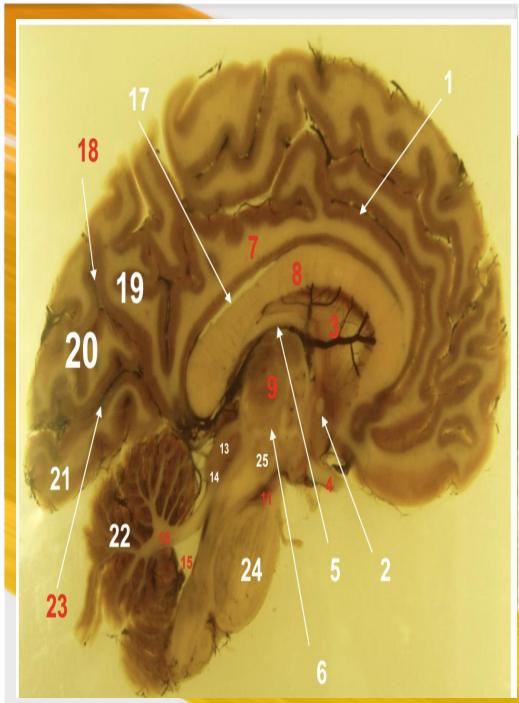
21- Lingual Gyrus.

22- Cerebellum.

23- Calcarine Sulcus.

24- Pons.

25- Crus Cerebri.



Coronal Section

-1- Body of corpus callosum.

2- Anterior horn of lateral ventricle.

3- Head of caudate nucleus.

4- Putamen.

5- Claustrum.

6- Septum pellucidum.

7- Fornix.

8- Insula.

9- Lateral fissure.

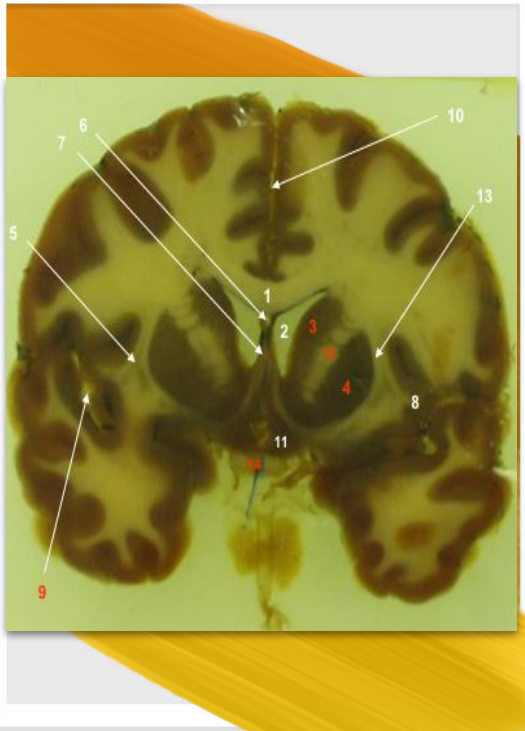
10- Cerebral longitudinal fissure.

11- Subcallosal area.

12- Anterior limb of I.C.

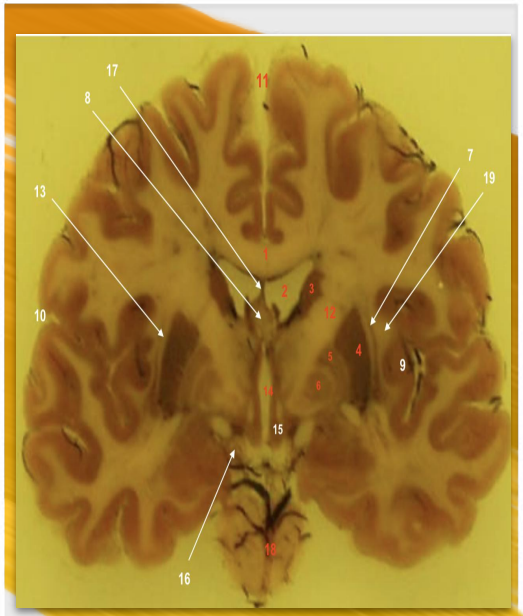
13- External capsule.

14- Optic chiasma.



Coronal Section

1- Body of corpus callosum.
2- Body of lateral ventricle.
3- Body of caudate nucleus.
4- Putamen.
5- Globus pallidus lateralis.
6- Globus pallidus medialis.
7- Claustrum.
8- Fornix.
9- Insula.
10- Lateral fissure.
11- Cerebral longitudinal fissure.
12- Anterior limb of I.C.
13- External capsule.
14- Third ventricle.
15- Hypothalamus.
16- Optic tract.
17- Septum pellucidum.
18- Pons.
19- Extreme capsule.



Coronal Section

1- Body of corpus callosum.

2- Body of lateral ventricle.

3- Body of caudate nucleus.

4- Thalamus.

5- Tail of caudate nucleus.

6- Hippocampus.

7- Insula.

8- Lateral fissure.

9- Vermis of cerebellum.

10- Superior cerebellar peduncle.

11- Middle cerebellar peduncle.

12- Posterior cerebellar notch

13- Third ventricle

14- Fornix.

Horizontal Section

1- Genu of corpus callosum.

2- Forceps minor.

3- Anterior horn of lateral ventricle.

4- Head of caudate nucleus.

5- Thalamus.

6- Septum pellucidum.

7- Body of fornix.

8- Inferior horn of lateral ventricle.

9- Third ventricle.

10- Hypothalamus (most likely).

11- Optic radiation.

12- Lateral sulcus.

13- Tail of caudate nucleus.

14- Putamen.

15- Claustrum.

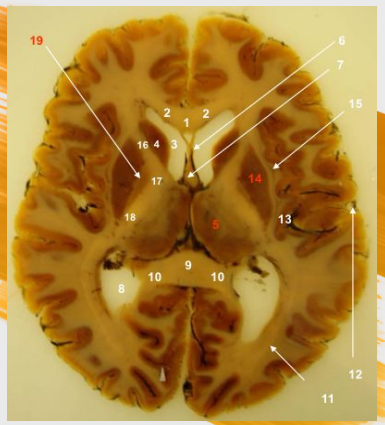
16- Anterior limb of I.C.

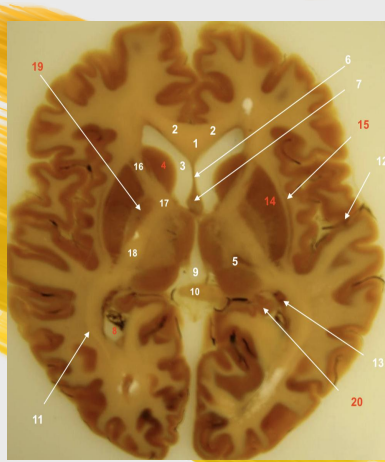
17- Genu of I.C ,

18- Posterior limb of I.C. ,

19- Globus pallidus.

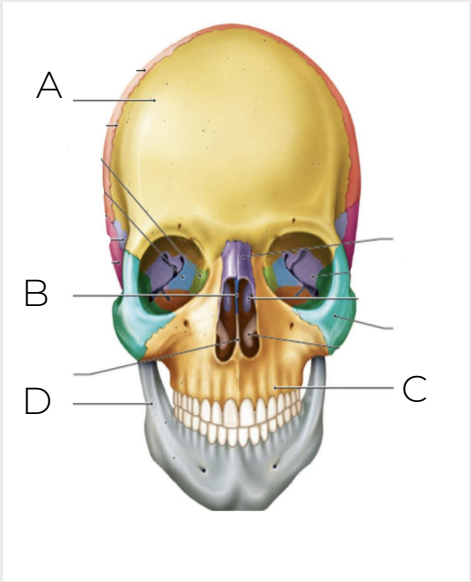
20- Hippocampus.



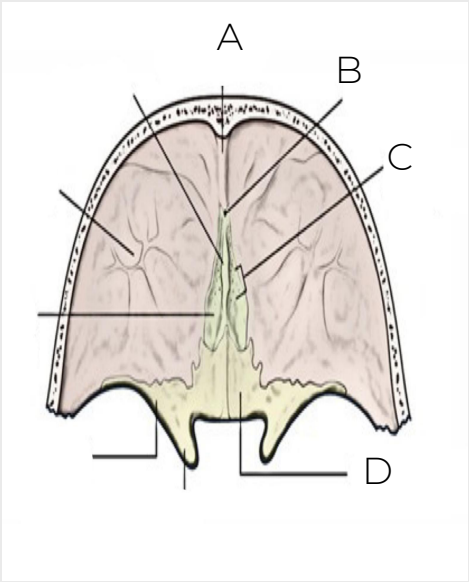


Quiz!

Identify the structures A,B,C and D



A:Frontal
B:Nasal septum
C:Maxilla
D: Mandible



A: frontal crest
B: foramen cecum
C: cribriform plate
D: lesser wing

Don’t stop until you are proud.

Team Members:

- Rania Almutiri
- Nourah Alklaib
- Arwa Alqahtani
- Najd Alzahrani
- Fatimah alhelal
- Samar Almohammadi
- Shatha Aldhohair
- Khalid Alosaimii
- Hadi Alhemsi
- Abdulmalik Mokhtar

Team Leaders:

- Renad Alhomaidi
- Bassam Alasmari