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Q1:- Write about the structure of Eye Also name the foraminas found in the base of skull.

Ans:-

Eye:-

=> Eye is organ that reacts to light and allow vision.

=> Rod and cones cell in the retina allow conscious light preception and vision including color differentiation and preception of depth.

= There are two eyes present situated on the left and right of the face.

= They sit in two bony cavities called the orbits which are present in the skull.

= Six extraocular muscles attach directly to the eyes to assist with movement.

The pars front visible part of the eye is made up of the whitish sclera a coloured iris and the pupil.

A thin layer called conjunctiva sits on top of this.

The front part is also called the anterior segment of eye.

Shape: The eye is not shaped like a perfect sphere, rather it is a fused two-piece unit composed of a anterior segment and the posterior segment. The anterior segment is made up of the cornea, iris and lens.

The cornea is trasparent and more curved, and is linked to the larger posterior segment. Which is composed of vitreous, retina, choriod and the outer white shell called the sclera. The cornea is typically about 11.5 mm (0.3 in) in a diameter and 0.5 mm (500 µm) in thickness near its center.

The posterior chamber constitutes the remaining five-sixths, it has diameter is typically about 24 mm.

The cornea and sclera are connected by an area termed the limbus.

The iris is the pigmented circular structure concentrically surrounding the center of the eye, the pupil, which appear to be black.

= The size of the pupil, which controls the amount of light entering the eye, is adjusted by the iris, dilator and sphicter muscles.

= Light energy enters the eye through the cornea.

= Through pupil and then through the lens.

= The ~~tenged~~ lens shap is changed for near focus and is controlled by ciliary muscle.

= Photons of light falling on the light sensetive cells of the retina.

= cones and rods are converted into electrical signals that ar trasmitted to the brain by the optic nerve and interpreted as sight and vision.

= Eye coted with three layers

= The outermost layer, know as the fibrous tunic.

= It is composed of cornea and sclera.

= Which provide shape.

= Middle layer is vascular tunic.

= consist of the choriod, ciliary body, pigmented epithelium and iris.

= The innermost is the retina, which gets its oxygenation from the blood vessels of the chorole as well as retinal vessels.

Space of the eye are filled with the aqueous humour. anteriorly between cornea and lens.

Vitreous body, a jelly like substance, behind the lens. filling the entire posterior cavity

The aqueous humour is a clear watery fluid that is contained in to two areas.

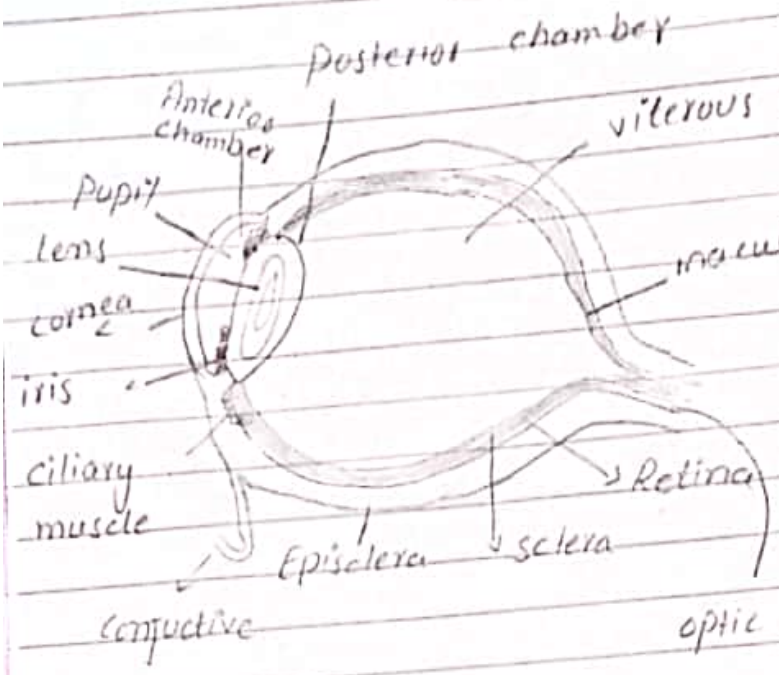
Anterio chamber between cornea and iris.

Posterior Chamber between iris and lens.

The lens is suspended by the suspensory to the ciliary body. by suspensary ligament.

Made up of hundred of fine transparent fibers. which Which transmit muscular forces. to change the shape of the lens for accomodation.

The vitreous body is clear substance composed of water and proteins. which. Which give it a jelly like and sticky composition.



Foraminas found in the base of skull:

- Cribriform plate foramina
- Optic canal
- Superior Orbital fissure
- Foramen Rotundum
- Foramen ovale
- Internal Acoustic Meatus
- Jugular Foramen
- Hypoglossal canal
- Foramen magnum
- Foramen spinosum

Q2:- Write the name of muscles of medial fascial compartment of thigh thigh and with their origin insertion?

Ans:- The muscles in the medial compartment of the thigh thigh collectively know as the hip adductors. There are five muscles in this group that is:

1. Gracilis
2. obturator externus
3. adductor brevis
4. adductor longus
5. adductor magnus

All the medial thigh muscles are inverted by the obturator nerves which arises from the lumber plexus. Arterial supply via the obturator artery.

① **Gracilis:-**

The Gracilis is the most superficial and medial of the muscles in this compartment It crosses at both the hip and knee joints. It is sometime transplanted into the hand or forarm to replace a damage muscles

Origin:-

It's originates from the inferior rami of the pubis and the body of the pubis.
Ischial ramus (pubic arch closed to its margin.

Insertion:-

Upper part of the medial surface of the shaft of tibia.
~~Obturator nerves (L2-L4)~~

Obturator Externus:-

This is one of the smaller muscles of the medial thigh, and it is located most superiorly.

Origin:-

fibro membrane of the obturator foramen and of adjacent bone.
passes under the neck of femor
attached to posterior aspect of greater trochanter.

Insertion:

Obturator nerve (L2-L4)

Adductor brevis:-

The adductor brevis is a short muscle, lying underneath the adductor longus.
Lies between the anterior and posterior divions of the obturator nerve.

Origin:-
inferior ramus of the pubic bone.

Insertion:-
Linea aspera of the femur.

Adductor longus:-

The adductor longus is a large, flate muscle. It partially covers the adductor brevis and magnus. The muscle form the medial border of the femoral triangle.

origin:-

Body of the pubic bone just below and medial to pubic tubercle.

Insertion:-

Linea aspera of the femur lateral to the origin of vastus medialis.

Adductor magnus:-

The adductor magnus is the largest muscle in the medial compartment.
It lies posteriorly to the other muscles.
functionally, the muscle can be divided into two parts:
In adductor part, and the hamstring part.

Origin:-

adductor part: inferior pubic ramus.
Ischeal part:
Hamstring part: from ischeal ramus and lateral part of the lower area of ischeal tuberosity.

Insertion:-

adductor part: linea aspera and medial supracondylar line.

Hamstring part: Adductor tubercle of the femur.

muscle

Q3: What is the effect of injury of external laryngeal nerve and also write about how to test the test the integrity of fasial nerve.

Ans: Injury to the external laryngeal nerve can occure as a complication of thyroidectomy. It will result in paralysis of the of the cricothyroid muscle and anesthesia of the region above the level of the vocal folds. It tends to be. however the external laryngeal branches that is affected

The external branch of the superior laryngeal nerve is at risk of injury during thyroid operations when dissection of the superior pole and ligation of the superior thyroid vessels. are carried out. The rate of injury to this nerve are highly ~~valuable~~ variable in the literature. but can be as high as 58%.

The external branch of the superior laryngeal nerve (EBSLN) is the sole motor nerve to the cricythroid muscle (CTM) and its dysfunction

result in lower voice projection, fatigue and inability to achieve high frequency sounds. On other hand, the perception of an abnormal voice impairs the quality of life and decrease the general health in many ways. Affected patient may be unable to shout for help, eg from that prespective. EBSLN injury poses a threat to handicap all patient undergoing thyroid operation.

Most common anatomic variation of the distal portion of the External Laryngeal nerve and its relation to the inferior constructor muscle cricle. And allows identifying and preserving the integrity of this nerve is most cases the external branch is susceptible to damage during thyroidectomy and cricothrotomy, as it lies immediatly deep to the superior thyroid artery. The ability to produce pitched sounds is then impaired along with easy voice fatigability.

Test the integraty of facial nerves.

In fasical parlysis as in most medical problems, history and physical examination usally provide more useful information than labotary test.

Usefull useful diagnostic test add information to what is already known, influence the choice of therapy, and ultimatly improve clinical out comes.

The facial nerve supplies motor branches of the muscles of facial expression.

This nerve is therefore tested by asking the patient to crease up their forhead close their eyes and keep them closed against resistance, puff out their cheeks and reveal their ~~theeth~~ teeth.

Q4: Write about the ~~structure~~ sutures of skull also write ~~or~~ note on Trigeminal nerve and its branches.

Suture of skull:-

(1) **Frontal suture:** (metopic suture)
The frontal suture is a fibrous joint that divides the two halves of the frontal bone of the skull infact ~~of~~ and children Typically. It completely fuses. b/w 8 and 9 month of age.

(2) **Fibrous Joint:-**
Redirect from sutures of skull.
Tooth and the socket in the maxilla or mandible.
A sutur is a type of fibrous joint that is only found in the skull (cronial suture).

(3) **Siggittal suture:-**
Saggital suture is a denses fibrous connective tissue joint between two parietal bones of the skull. The term is derived from the latin word Sagitta. meanig arrow. The sagittal suture is also known as the interparital suture, the sutura interparietalis.

Lambdoid suture:-

The lambdoid suture is a dense fibrous connective tissue joint on the posterior aspect of the skull that connects the parietal bones with the occipital bone. It was continous with the occiptomastoid suture.

Coronal suture:

The coronal suture is a dense fibrous connective tissue joint the separates the two parietal bones from the frontal bone of the skull.

Occipitomastoid suture:-

The occipitomastoid sture or occipitotemporal suture in the cranial suture betwee the occipital bone and the mastoid portion of the temporal bone.

Trigeminal nerve and its branches:

- The trigeminal nerve (the fifth cranial nerve, or simply CN V)
- Nerve responsible for sensation in the face and motor functions. e.g biting & chewing
- It is the most complex of the cranial nerves.
- Name derived from the fact that each of two nerves.
- One on each side of pons.

Branches

1. Cranial nerves:
   Nerves components of the peripheral nervous system (PNS).
   - It emerg directly from the brain.

(i) Maxillary nerves:
- One of the branch of trigemenal nerve.
- It comprises the principal functions of sensation from the maxilla, nasal cavity, sinuses the plate and subsequently both in position and size b/w the ophthalmic nerve and madibular nerve.

(2) Opthalmic nerve: V1

= Branch of trigemenal nerve

= That provide sensory innervation of the eye, skin of the upper face and anterior sclap.

= frontal nerve, lacrimal nerve, nasociliary nerve.

(3) Mandibular nerve:-

It is the largest of three divisions of trigemenal nerve.

the fifth cranial nerve.

Q5:- Write a note on spinal cord with reference to its anatomical position and structure. also write a short note on phyrnx with enumeration & to its constructors.

Ans:- **Spinal cord:-**

Spinal cord is a tubular bundle of nervous tissue and supporting cells that extend from the brainstem to the lumber vertebra. Together the spinal cord and the brain form the CNS.

- The spinal cord arises cranially as a continuation of the medulla oblongata.
- It then travels inferiorly within vertebral canal. surrounded by the spinal meinges containing cerebraspinal fluid.
- At the L2 vertebral column level the spinal cord tapers off forming the conus medullaris.

As a result the termination of the spinal cord at L2. It occupies around two third of the vertebral canal. The spinal nerves that arise from the end of the spinal cord are bundled togather, forming

= A structure know as cauda equina.

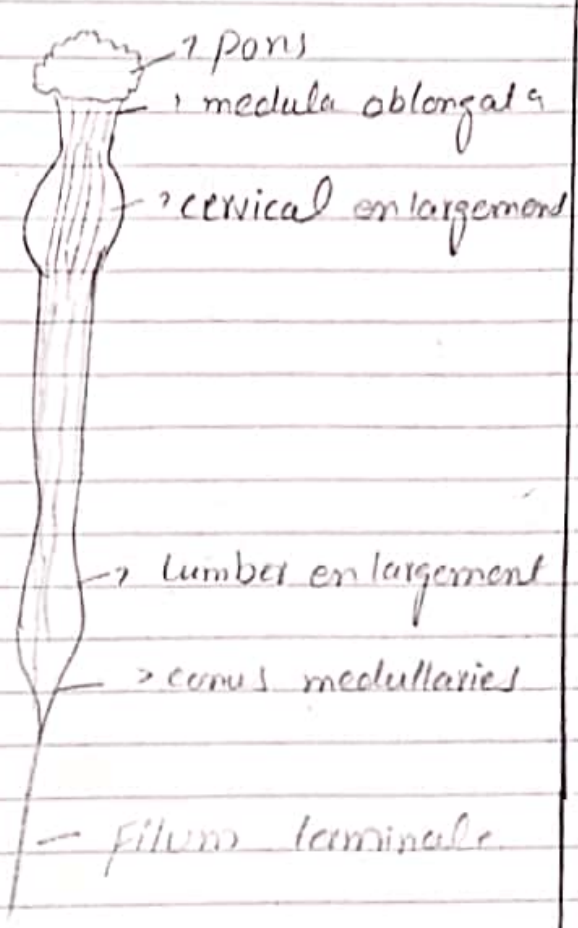
= There are two point's of enlargement is located poximally at the C_4 - T_1 level. It represents the origin of the brachial plexus.

= Between T_{11} and L_1 is the lumber enlargement, representing the origin of the lumber and sacral plexi.

= The spinal cord is marked by two depressions on its surface

= The anterior median fissure is a deep groove extending the length of the anterior surface of the spinal cord

= On the posterior aspect there is a slightly shallower depression, the posterior median sulcus.



Pharynx:

The pharynx is a part of the throat behind the mounth and nasal cavity and above the esophagus and laynx - the Lungs. It is found in vertebrates and invertebrates. through its structure varies across speeies.

There are three circular pharyngeal constructor muscles. the
superior
middle
inferior.

Superior:

- uppermost
- located in oropharynx
- originated from pterygomandibular liagement
- inserted posteriorly into the pharyngeal tubercle.

Middle pharyngeal:

- located in the laryngopharynx
- Origenates from the stylohyoid ligament and horn of the hyoid bone.

Inserted to posterioly into pharyngea raphe.

inferior pharangeal constructor:-

located in the laryngopharynx
It has two components.