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4th Semester

Regional and Radiological AnatomyQ1 Human eye :-

in Human eye is specialized sense organ capable of receiving visual image which are then carried to brain. The eye ball is a bilateral and spherical organ it lies in the bony cavity known as bony cavity. The eye ball divided into three parts.

- ① Fibrous Layer
- ② vascular Layer
- ③ inner Layer.

Fibrous

- ① outermost layers
- ② provide shape.
- ③ deeper structures.
- ④ Two part Sclera and cornea.

① Sclera

it is the dense connective tissue of the eyeball that forms the white of the eye. it is continuous the stroma layer of cornea. 85% of fibrous layer Sclera is attached to the movement muscles of eye.

② Cornea

Cornea is the clear front surface of eye. it is transparent and positioned centrally. Function is light refracted of eye.

Vascular layer

The vascular layer of the eye lie underneath the fibrous layer. it has three parts

① Choroid. layer of connective tissue and blood vessels. it provides nourishment to the

outer layer of retina.

② Ciliary body =

Comprised of two parts.

The ciliary muscle
and ciliary process.

Ciliary (M) is the collection
of smooth muscle fibers and
attached to lens by ciliary
process. Ciliary body controls
the lens shape.

③ Iris - it is circular
shaped in center called
pupil and altered to
smooth muscle fiber.

it is situated between the
lens of cornea in
innervated by autonomic nervous
system.

Inner layer

main part is retina. it
is detected part of
eye.

two parts.

① Neural part.

Light detecting cells of eye located laterally and posteriorly

(2) Pigmented layer:-

it is attached to choroid layer and support to neural layer and covered whole inner surface of eye.

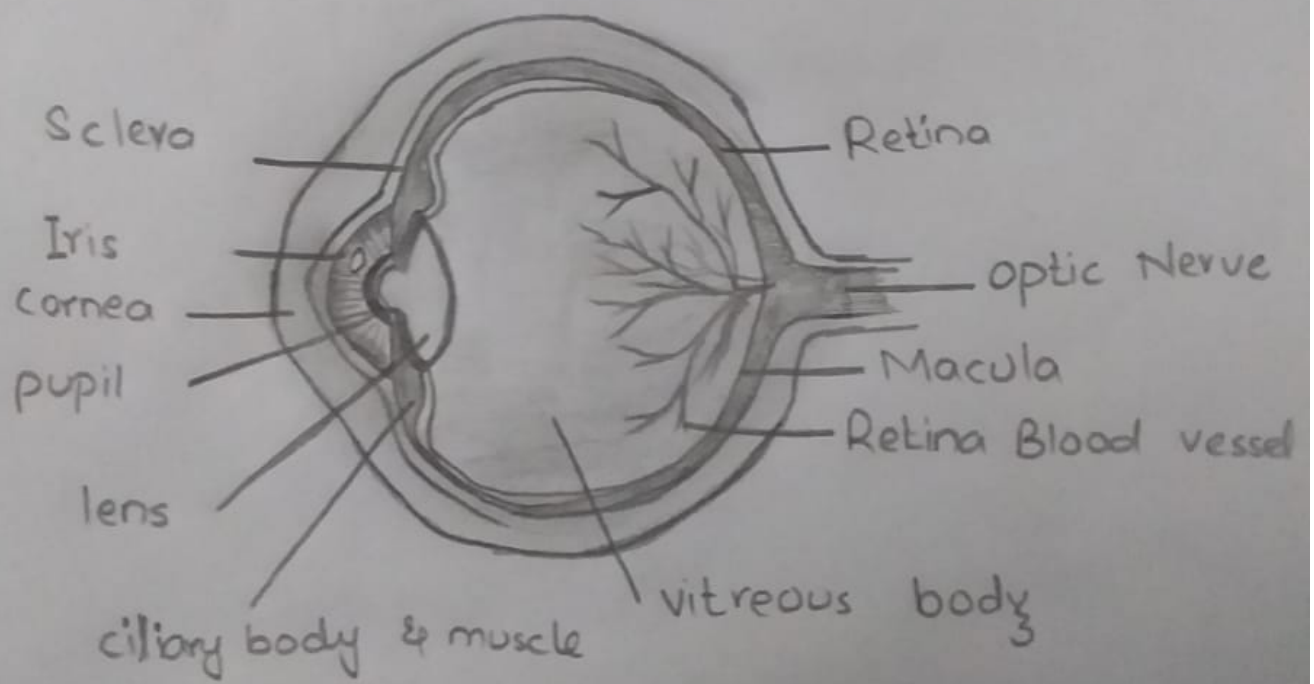
Lens.

Lens are located anteriorly in eye. its shape altered by ciliary body old age lens become opaque. Changing its refractive power.

Chamber

Located between cornea and iris are anterior chambers and between iris and ciliary processes are posterior chambers. These are fluid filled areas of eye.

Human Eye Anatomy



Foramina
& openings

CONTENTS

* Foramen & Cecum 1) Nasal emissary vein (to Superior sagittal sinus)
2) prolongation of dura mater

* Foramina of olfactory nerves bundles
Cribriform plate

Ethmoidal prolongation of dura mater
Hiatus

* Anterior Ethm- Anterior nerve and artery
oid foramen

* posterior Ethm- posterior ethmoid nerve & artery (sphenoidal) (Huschka
oid foramen nerve) innervates the ethmoidal cell & the sphenoid sinus.
2) Orbital branches of the pterygopalatine ganglion to innervate
the sphenoid sinus and the posterior ethmoidal cells. &
they innervates the periorbital & muscles of eye by their
sympathic fibers.

* Optic Canal 1) optic nerve
2) Frontal nerve
3) Trochlear nerve
4) Superior ophthalmic vein (to the cavernous sinus)

* The inferior wide medial part of the superior orbital fissure 5) Abducent
6) Trigeminal
7) Oculomotor
8) Sympathic ganglion. branches of the cavernous plexus to the ciliary

* Superior orbital fissure

9) orbital branch of the middle meningeal artery.

10) Recurrent meningeal branch of lacrimal artery

11) One of the two branches of inferior ophthalmic vein (the other is the infra-orbital vein) the inferior ophthalmic vein ends in the cavernous sinus with the superior ophthalmic vein.

* Olfactory incisure on each side

of crista galli formed by the cribriform plate it helps to attach the olfactory lobe to the cribriform plate.

Q2. Medial fascial Compartment Thigh

5 Muscles in this Compartment.

① Adductor Longus :-

Function # medial Compartment
rotation

Origin # Body of pubis medial
to Pubic tubercle.

Insertion # posterior surface of
shaft of femur

② Adductor brevis :-

~~Function # Adducts thigh at hip~~

Function # at the hip Adducts
Thigh

Origin # Inferior ramus of
pubis

Insertion # posterior surface of
shaft of femur.

③ Adductor magnus :-

Function # it the hamstring
position extends Thigh
to hip joint and
also medial rotation

Origin # Inferior ramus of
pubis - ramus of

ischium . ischial tuberosity
 insertion # posterior surface of
 shaft of femur
 adductor tubercle of
 femur

④ Gracilis :-

Function # Adducts thigh at hip
 joint & flexes leg at
 knee .

origin # inferior ramus of
 pubis . ramus of
 ischium

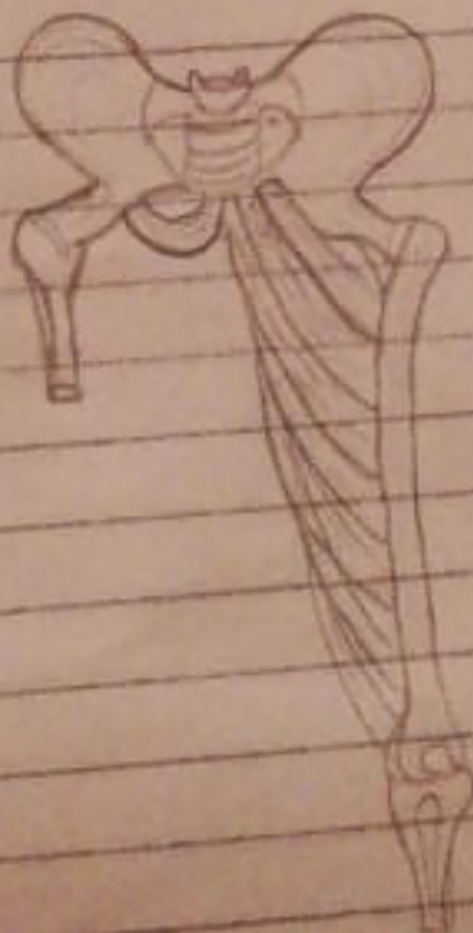
insertion # upper part of
 shaft of tibia on
 medial surface

⑤ obturator externus :-

Function # Laterally rotates at
 hip joint

origin # outer surface of
 obturator foramen and
 pubic and ischial rami

insertion # medial surface of
 greater trochanter.



Q3 Ans. The injury of external laryngeal nerve produces weakness of the voice because the cricothyroid muscle is paralyzed and vocal fold cannot be tensed.

* facial nerve -

it supplies motor branches to the muscles of facial expression. The nerve is three fold tested by asking the patient to crease up their forehead close their eyes and keep them closed against resistance pull out their cheek and reveal their teeth.

• Motor -

- (1) Raise both eyebrows.
- (2) Frown
- (3) Close both eyes tightly so that you can not open them. Test muscular

M T W T F S

H/W - C/W

Dated:/...../20.....

Strength by trying to
open them

(4) Show both upper and
lower teeth

(5) Smile.

(6) Puff out both cheeks
Sensory :) Test of taste.

Q4

Structure of Skull :-

The skull is a bony structure that supports the face and forms a protective cavity for the brain. It is comprised of many bones formed by intermembranous ossification which are joined together by fibrous joints. The joint together in adulthood.

Cranium (neurocranium)

It is formed by the superior aspect of the skull. Cranium enclosed and protects the brain and meninges.

two parts

(1) Calvarium # Comprised of the frontal, occipital and two parietal bone

(2) Cranial #

Cranial is the combination of 6 bones

There are important bone

because these are articulation

with 1st Cervical vertebra
as well as the facial bones
and the mandible.

Face of Skull - (viscerocranium)

facial skeleton supports the
soft tissue of the face.
and they determine our
facial appearance.

total bones are 14 in
face. including orbits of eye
nasal and oval cavities

2 - Zygomatic bone forms
the cheek bones and
articulation with frontal.

2 - Lacrimal -

These are small bones
of face form wall of orbit

2 Nasal.

slender bones placed in
nose

2 Inferior nasal conchae.

The bone increased the
surface area of nasal
cavity in nose.

#1 2. palatine.

Situated at oval cavity

2 Maxilla -

Comprises part of the upper jaw and hard palate

#- 1 vomer.

it forms the posterior aspect of nasal septum

1 ~~Maxilla~~ Mandible.

it articulates with the base of the cranium

Sutures of skull

Sutures are a type of fibrous joint that are unique to the skull

They are immovable and fuse completely at 20 year of age.

① Coronal suture -

② Sagittal suture.

③ Lambdoid suture.

① Coronal suture are fused ~~with~~ frontal bones with two parietal bones.

Sagittal suture

These are suture which fused ~~pa~~ parietal bone which each other

Lambdoid suture

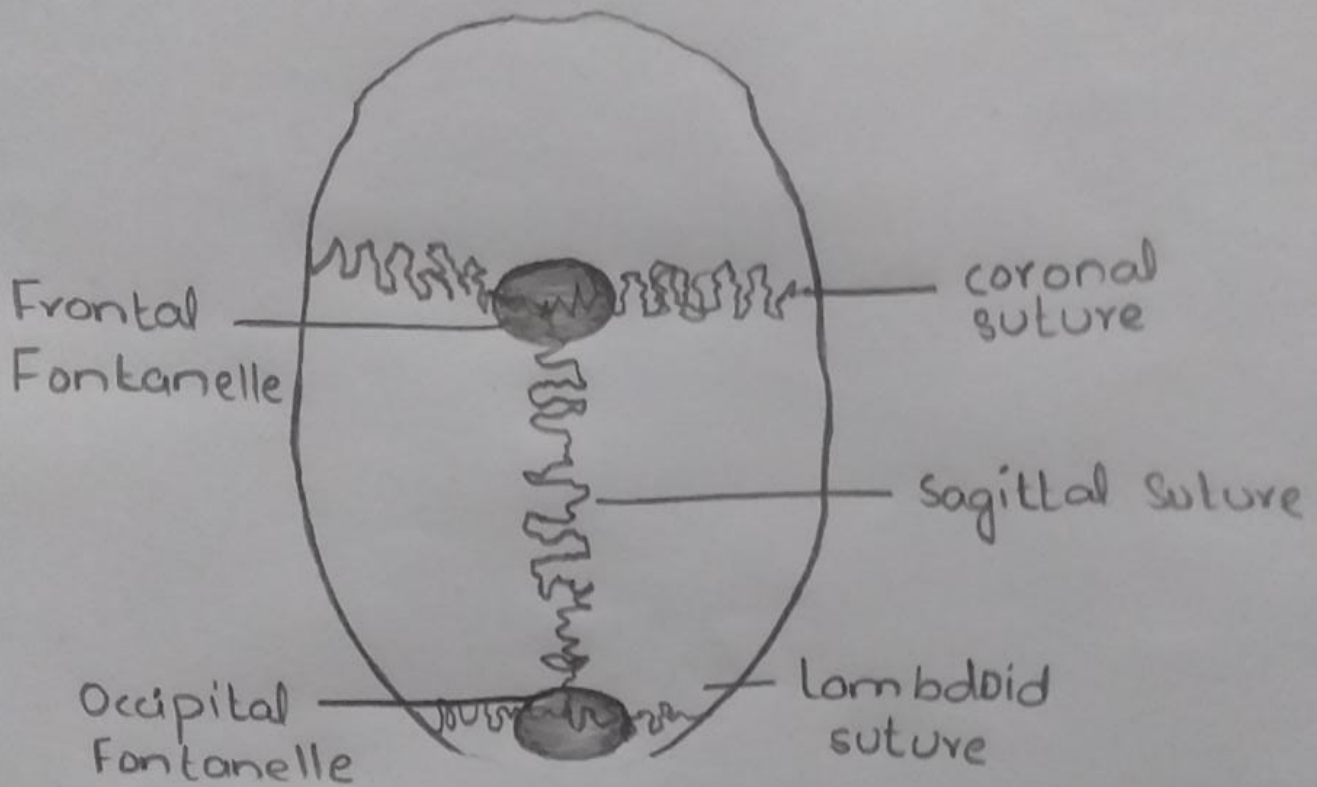
These are suture which fused occipital bone with parietal bone.

In neonates the incompletely fused suture joint give rise to membranous gaps between the bone known as

fontanelles.

two fontanelles \neq frontal located in the junction of coronal and sagittal sutures. occipital. = located between the sagittal and lambdoid sutures.

Sutures of Skull.



Trigeminal. nerve.

it is the largest Cranial nerve it leaves the anterior aspect of the pons as a small motor root and a large sensory root and it passes forward. out of the posterior Cranial fossa.

Three branches.

① Mandibular Nerve.

and both motor and + Sensory Nerve - The sensory root leaves the trigeminal ganglion and pass out of the skull and enter to infratemporal fossa + Motor root.

it leaves the skull through foramen ovale mandibular nerve.

② Maxillary

Maxillary are purely Sensory nerve.

(3) Ophthalmic Nerve.

The ophthalmic nerve is also purely sensory it runs forward in the lateral wall of the cavernous sinus in the middle cranial fossa and divided into three branches.

Q5

Spinal Cord.

The Spinal Cord is a long thin tubular structure made up of nervous tissue which extends from the medulla oblongata in the brainstem of the lumbar region of the vertebral column. It encloses the central canal of the spinal cord which contains cerebrospinal fluid.

Together spinal cord and brain form (CNS)

Anatomical position ::

The Spinal cord is most important between head and brain. It extends from the foramen magnum where it is continuous with the medulla to the level of the first or second lumbar vertebra.

Pharynx.

It is the part of throat behind the mouth and nasal cavity and above the esophagus and larynx. The tubes going down to the stomach and the lungs.