

NAME = Zohaib Hassan

ID = 15308

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Question No = 1

ANSWER

Structure of Eye.

- the eye ball
- the extraocular muscle
- the bony orbit.

the Eye ball.

The eyeball is a bilateral and spherical organ, which houses the structure

responsible for vision. It lies in a bony cavity within the facial skeleton known as the bony orbit.

Anatomically the eyeball can be divided into 3 parts. The fibrous, vascular and inner layer. In this

articles we shall
consider the anatomy
of the eye ball in detail
and its clinically correlation.

Layer of the Eyeball

i) Fibrous Layer

The fibrous layer of the eye is the outermost layer. It consists of the sclera and cornea, which are continuous with each other. The main functions are to provide the shape to the eye and support the deeper structures.

The sclera comprises the majority of the fibrous layer. It provides attachment to extraocular muscles, which are responsible for the movement of the eye.

The Cornea is transparent, and positioned centrally at the front of the eye. Light entering the eye is refracted by the Cornea.

(2) Vasculer layer.

The vasculer layer of the eye lies underneath the fibrous layer. It consists of the Coroid, Ciliary body and iris.

Coroid → A layer of connective tissue and blood vessels. It provides nourishment to the outer layer of the retina.

Ciliary body → Comprised of two parts

Ciliary process and Ciliary muscles.

Iris → A Circular Structure with an aperture in the centre (called pupil) the diameter of the pupil is altered by smooth muscle fibres which are innervated by the autonomic nerve system.

Inner layer.

The inner layer consists of the retina, the light detecting cell of the retina it is located posteriorly and laterally in the eye.

The retina is composed of two cellular layers.

Neural layer → consists of photoreceptor, the light detecting cell of the retina. it is located posteriorly

and laterally to the choroid.

Pigment layer → lies underneath the neural layer and is attached to the choroid layer. It acts to support the neural layer, and continues the inner surface of the eye.

Other Structure of the eye.

Lens → The lens of the eye is located anteriorly to the vitreous humor and the pupil. The shape of the lens is altered by the ciliary body changing its refractive power.

In old age the lens becomes opaque.

• Anterior and Posterior Chamber.

There are two fluid-filled chambers in the eye, known as the anterior and posterior chamber. The anterior chamber is located between the cornea and the iris. and the posterior chamber is between the iris and ciliary process.

The chambers are filled with aqueous humor, a clear plasma-like fluid that nourishes and protects the eye.

Vasculature.

The eyeball receives arterial blood primarily via the Ophthalmic artery, which is a branch of the internal carotid artery, arising immediately distal to the Cavernous Sinus.

Venous drainage of the eye ball is carried out by the Superior and inferior Ophthalmic veins. These drain into the Cavernous Sinus, a dural venous sinus in close proximity to the eye.

The extraocular muscle.

The extraocular muscles are located within the orbit, but are extrinsic and separate from the eyeball itself. They act to control the movement of the eyeball and the superior eyelids.

There are seven extraocular muscles, levator palpebrae superioris, superior rectus, inferior rectus, medial rectus, lateral rectus, inferior oblique and superior oblique.

Responsible for eye movement
Recti and oblique muscle,
Responsible for superior eyelid movement.

Foramina found in the base of Skull.

- 1) Forame Caecum
- 2, optic Canal
- 3; Superior orbital fissure
- 4, foramen rotundum
- 5, foramen ovale
- 6, foramen spinosum
- 7, foramen lacerum
- 8, Carotid Canal
- 9, foramen magnum
- 10, jugular foramen
- 11, internal acoustic meatus
- 12, Hypoglossal Canal.

Question No=2

Answers

Muscle of Gluteal Region.

- 1) Gluteal maximus
- 2) " " medius
- 3) " " minimus
- 4) Tensor fasciae latae
- 5) Piriform
- 6) Obturator internus
- 7) Gemellus Superior
- 8) Gemellus inferior
- 9) Quadratus femoris

Muscle of Anterior facial Compartment of The thigh.

- 1) Serratus anterior
- 2) Iliacus
- 3) Psoas
- 4) Pectineus
- 5) Quadriceps femoris

Muscle of Medial Compartment of the thigh.

- 1) Cruraeilis & adductor longus
- 2) Adductor brevis & Adductor magnus
- 3) Abc Abductor externus

Posterior Compartment.

- 1) Bicep femoris
- 2) Adductor magnus
- 3) Semitendinosus
- 4) Semimembranosus

Origin

Insertion

inferior ramus
of pubis, ramus
of ischium

upper part of
shaft of tibia
on medial surface

body of pubis, medial
to pubic tubercle

posterior
surface of
shaft of
femur.

inferior ramus of
pubis

posterior surface
of shaft of
femur,

inferior ramus of
pubis, ramus of
ischium, ischial
tuberosity

adductor tubercle
of femur

outer surface of
obturator foramen
and pubic and
ischial rami

medial surface
of greater
trochanter

Question NO = 4

ANSWERS

Sutures of the Skull

Sutures are of types of fibrous joint that are the unique to the skull. They are immovable and fuse completely around the age of 20. Sutures are of clinical importance, as they can be point of potential weakness in both childhood and adulthood. The main suture in adulthood are

• Coronal Suture.

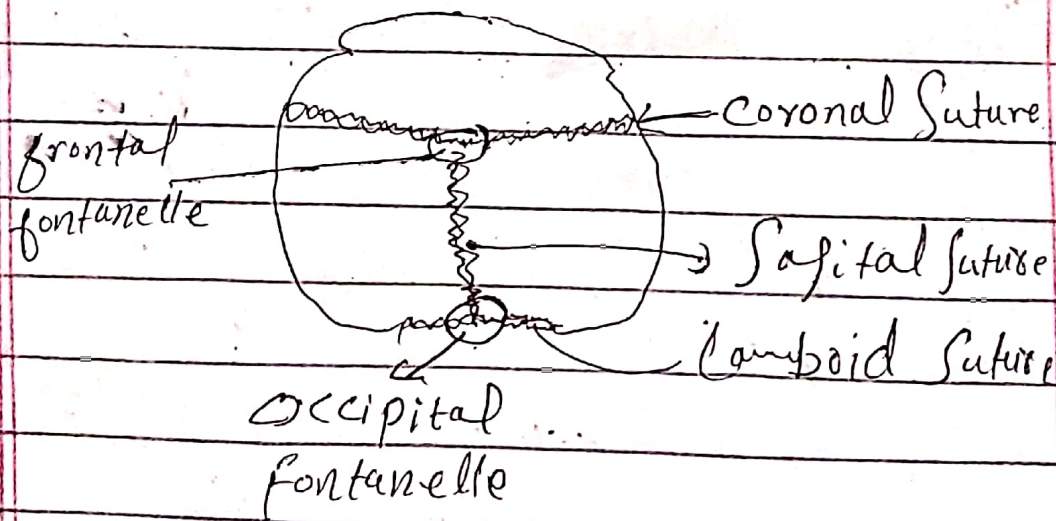
with fuse the frontal bone with the two parietal bone.

Sagittal Sutures.

Sagittal suture which fuse both parietal bone to each other.

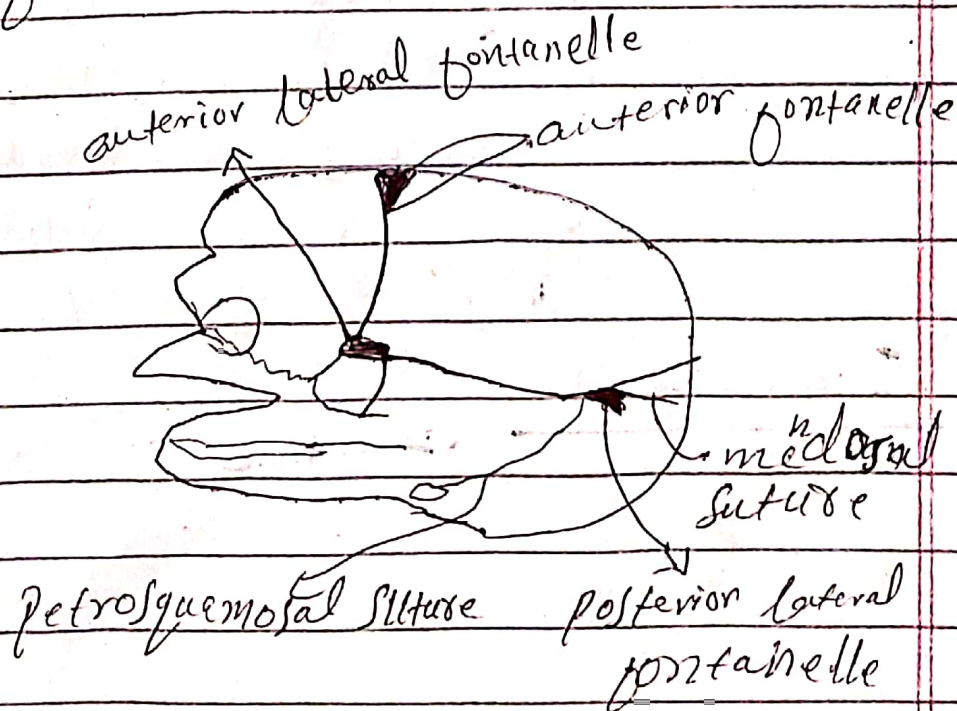
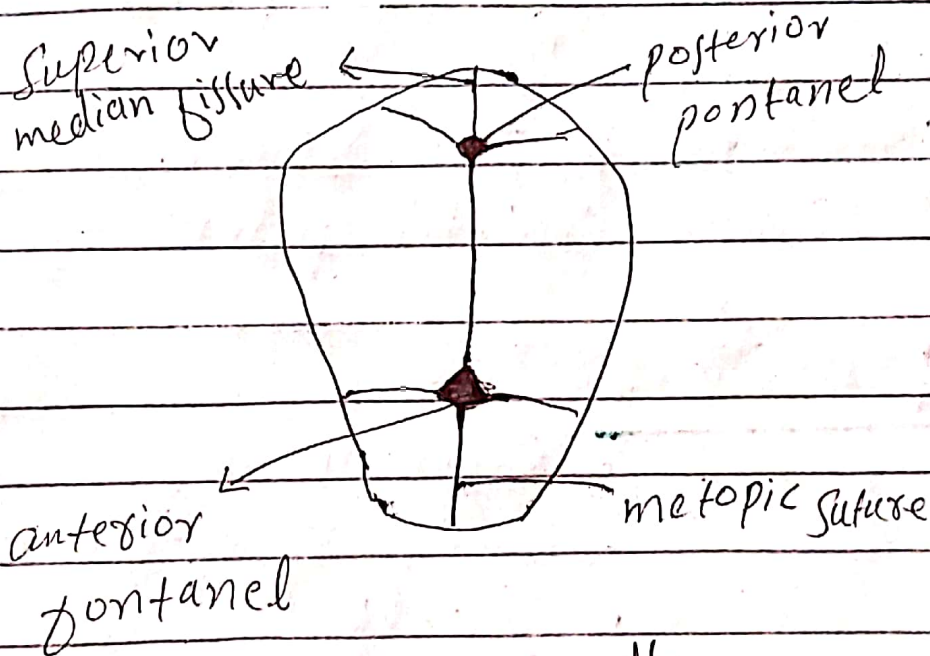
Lamboid Sutures.

which fuse with two parietal bone.



in neonates, the incompletely fused suture joint give rise to membranous gaps b/w the bone, known as fontanelles. The two major fontanelle are the

frontal fontanelle (located
 at the junction of the coronal
 and sagittal suture.
 and the occipital
 fontanelle (located at the
 junction of the sagittal and
 lamboid suture)



Trigeminal nerve and its branches.

Trigeminal nerve branches.

↳ Ophthalmic Nerve (V1)

Origin →

Anterior aspect
of the pons.

→ Opening
function of the Skull,
superior orbital fissure.

Function

- Cornea
- Skin of forehead
- Scalp
- Eyelids and nose
- mucous membrane
of paranasal sinus
and nasal cavity.

Component →

~~Sensory~~ Sensory

V2: Maxillary Nerve

Component → Sensory

→ Function

- Skin of the face over maxilla
- Teeth of the upper jaw
- mucous membrane of the nose, the maxillary sinus and palate.

Origin → anterior aspect of the Skull

Opening of the Skull

foramen ovale,

V3 - mandibular Nerve

Component A. Motor & Sensory

Function

- muscle of mastication
- mylohyoid
- Tensor Tympani
- Tensor palatine

Origin

Anterior aspect
of pons

opening of the Skull,
foramen Rotundum

Function

- Skin of cheek
- Teeth of lower jaw and TMJ
- Skin over mandible and side of head.

Origin

anterior aspect
of the pons

opening of the Skull
foramen Rotundum

Question No = 5

Answer

Spinal Cord.

- The spinal cord is a tubular bundle of nervous tissue and supporting cells that extend from the brainstem to the lumbar vertebrae.
- Together, the spinal cord and the brain form the central nervous system.

Anatomical position and structure.

- The spinal cord is a cylindrical structure, greyish-white in colour. It has a relatively simple anatomical course.
- The spinal cord arises cranially as a continuation

of the medulla oblongata
(part of the brainstem.)

- It then travels inferiorly within the vertebral canal surrounded by the spinal meninges containing cerebrospinal fluid.
- At the L2 vertebral level the spinal cord tapers off, forming the conus medullaris.
- As a result of the termination of the spinal cord at L2, it occupies around two-thirds of the vertebral canal.
- The spinal nerves that arise from the end of the spinal cord are bundled together, forming a structure known as the cauda equina.

During the course of the spinal cord, there are two points of enlargement.

The cervical enlargement is located proximally, at the C₄-T₁ level. It represents the origin of the brachial plexus.

Between T₁₂ and S₁ is the lumbar enlargement, representing the origin of the lumbar 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.

Spinal Meninges.

- the spinal meninges are three membranes that surround the spinal cord.
- the dura mater
- Arachnoid mater
- Pia mater
- they contain cerebrospinal fluid, acting to support and protect the spinal cord. they are analogous with the cranial meninges.

Cerebrospinal fluid.

Cerebrospinal fluid is a clear, colourless body fluid found in the brain and spinal cord. It is produced by specialized ependymal cells in the choroid plexuses of the ventricles of the brain. absorbed in the arachnoid granulation.

Pharynx.

The word throat is used for the part of the neck anterior to the vertebral column, especially the pharynx.

The pharynx is the part of the digestive system situated posterior to the nasal and oral cavities and posterior to the lungs. It is therefore divisible into nasal, oral and laryngeal part.

1. The nasopharynx
2. Oropharynx
3. Laryngopharynx.

The pharynx extends from the base of the skull

down to the inferior border of the cricoid cartilage where it became continuous with the esophagus.

The pharynx is a common channel for deglutition and respiration. and the food and air pathway cross each other in the pharynx. in the anesthetized patient, the passage of air through the pharynx is facilitated by extension of the neck.

Constrictor of Pharynx.

There are three
Circular pharyngeal
Constrictor. The
Superior, middle and
inferior pharyngeal
Constrictor.

1) Superior Pharyngeal Constrictor.

The upper most pharyngeal
Constrictor. It is located
in the oropharynx.

Originates from pterygomandibular
ligament, alveolar process of
mandible and medial
Pterygoid plate and pterygoid
hamulus of the sphenoid bone.

Insert posteriorly into the
pharyngeal tubercle of the
occiput and the median
pharyngeal raphe.

Medial pharyngeal Constrictor.

- located in the laryngopharynx.
- Originates from Stylohyoid ligament and the horns of the hyoid bone.
- insert posteriorly into the pharyngeal raphe.

Inferior Pharyngeal Constrictor

located in the laryngopharynx

it has two components

- 1) Superior Components
- 2) inferior Components

Question No=3

Answer

injury of External laryngeal Nerve.

injury to the external laryngeal nerve can occur as a complication of a thyroidectomy. it will result in paralysis of the cricothyroid muscle and anesthesia of the skin above the level of the vocal folds. it tends to be, however, the external laryngeal branch that is affected. therefore, it would affect only the cricothyroid muscle.

Some patient may not have difficulty in changing the pitch of

Their voice or reduced stamina in their voice. This can have disastrous consequences for those who use their voice in their careers, for example, singers and public speakers.

Test the integrity of facial nerve.

If this nerve is therefore tested by asking the patient to crease up their forehead (raise their eyebrows), close their eyes and keep them closed against resistance, puff out their cheeks and reveal their teeth.