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paper Radiological Anatomy

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Q1:→ Write about the Structure of the eye. Also name foraminas found in the base of Skull?

Ans:→ Structure of Eye:→

There are three Coats in the eye e.g Fibrous layer, vascular layer/coat, and Nervous inner layer/coat.

Fibrous Coat:→

This is the outermost layer, it consist of Sclera and cornea, which are Continous with each other. The main function to provide support and shape to the deeper Structures.

Sclera:→

The muscles which are responsible for the movement of the eye (extraocular Muscles), the sclera provide attachement to these extraocular muscles.

The Sclera Comprises the majority of the fibrous layer about 87%.

Cornea:→

The light which is entering the eye is refracted by the cornea. The Cornea is transperent and positioned centrally at the front of the eye.

The reflective power on the anterior surface of the Cornea.

The Cornea is nourished by the diffusion from aqueous humor and from Cappillaries.

Vascular Coat:→

The vascular layer of the eye lies underneath the fibrous Coats. The vascular layer consists of choriod, cillary bodies and iris.

Choroid:→

The Choroid is a layer of connective tissue and blood vessels. It is Composed of an outer pigmanted layer

and an inner highly vascular layer. It provides nourishment to the outer layer of the retina.

Cillary Body:→

The cillary body is comprised of two parts the cillary muscle and cillary processes. The cillary muscle consist of a collection of smooth muscles fibres. These are attached to lens of the eye by cillary processes - This function as to controls the shape of the lens -

Iris:→

The diameter of the pupil is ~~the~~ altered by smooth muscles fibers within the iris, which are innverated by automomic nervous system. The iris is situated between the lens and cornea. The iris is circular structure with an aperture in the centre (pupil).

Inner nervous Coat:→

The inner nervous layer is formed by the retina; it is a light detecting Component.

Pigmented layer:→ This layer is formed by a Singal layer of cells. It is attached to the Choroid and Support the Choroid in absorbing light

Neural layer:→

This is Consist of photoreceptors, the light detecting Cells of the retina. This is located posteriorly and laterally in the eye.

Lens:→ The transparent structure Suspended behind the iris that helps to focus light on the retina.

Aqueous Humor:→

The aqueous humor is a clear fluid that occupy the anterior and posterior Chamber of the eye ball.

* Names of Foraminas found in the base of skull are given below.

↳ Cribriform Plate
↳ olfactory n (CNI)
↳ Optical Canal
optic n (CNII)
↳ Superior orbital fissure
Oculomotor n (CNIII)
Trochlear n (CNIV)
Opthalmic n (CNV1)
Abducens n (CNVI)
Foramen rotundom
~~Mat~~ Maxillary n
Formen ovale
Mandibular n
Internal acoustic metus
Facial n (CNVII)
Vestibulocochlear n (CNVIII)
Jugular Foramen
Glosopharyngeal n (CNIX)
vagus n (CNX)
Accessory n (CNXI)
Hypoglossal Canal
Hypoglassal n (CNXII).

Q2:→ Write the name of muscle of medial fascial compartement of thigh with their origin and insertion?

Ans:→ **Medial Fascial Compartent of Thigh:→**

(1) Gracilis muscle:→

Origin:→

This is originated from the inferior ramus of pubis, ramus of ischium.

Insertion:→

This muscle is inserted upper part of shaft of tibia on medial surface.

(2) Adductor longus muscle:→

origin:→

originated from Body of pubis, medial to pubic tubercle.

Inseration:→

posterior surface of Shaft of femur.

(3) Adductor brevis:→

origin:→ This muscle is originated

from Inferior ramus of pubis.

Insertion:→ It is inserted to the posterior surface of shaft of femur.

④ Adductor magnus muscles:→

origination:→ It is originated from inferior ramus of pubis, ramus of ischium, ischial tuberosity.

Insertion:→ Muscle is inserting in posterior surface of the shaft of femur, adductor tubercle of femur.

⑤ Obturator Externus muscle:→

origination:→ This muscle is orgins from outer surface of obturator membrane and pubic and ischial rami.

Insertion:→ It is inserted in the medial surface of greater trochanter.

Q3:→ What is the effect of injury of external laryngeal nerve and also write about how to test integrity of facial nerve?

Ans:→ Effect injury to external laryngeal Nerve:→

"Cricothyrotomy" and "thyroidectomy" are the factors that may Cause injury to the external laryngeal nerve.

↳ This injury Can paralyze the cricothyroid muscle and it can make a region located just above the vocal folds anesthetic.

↳ The external laryngeal nerve is located just beneath the superior laryngeal nerve and it branch of Superior laryngeal nerve.

↳ The injury of external laryneal nerve Can effects the person voice directly. The injury Can't show affect

on some peoples and it may be severe in some patient.

↳ They doesn't changes their voice pitch and will facing difficulty in changing, and they may face a very reduced stamina in their speaking voice.

Test Integrity of facial Nerve:→

↳ The motor branches to the muscles of facial expression is supplies by the facial nerve.

↳ This nerve is therefore tested by asking the patient to crease up there forehead mean to raise their eyebrow, close their eyes and keep them closed against the resistance puff out their cheeks and reveal their teeth.

↳ The nerve can be tested by giveng some

instruction, the physician may ask the patient to do the following in order to his fascial nerve integrity.

↳ Raised eyebrows or Crease up your forehead.

↳ open your mouth and reveal your teeth.

↳ Closing eyes and Keeping the eyes closed against the resistance.

↳ Make the Cheek larger, or puff your Cheek.

By doing such thing the doctor/physician Check the integrity of the facial nerves.

Q4:→ Write about the sutures of skull also write a note on trigeminal nerve and its branches?

Ans:→

Suture:→ Simply we define the sutures as the immovable junction between two bones, such as those of the skull as known by sutures. The Sutures are type of fibrous joint that are unique to the skull. They fused togather at about 20 years of age and are immovable.

Skull Sutures:→

① Coronal Suture:→

The Coronal suture is a dense, fibrous Connective tissue joint that seperates the two parietal bones from the frontal bone of the skull, unites the frontal bone with Parietal bones.

② Sagittal Suture:→

The Sagittal suture is a dense connective tissue joint between the

two parietal bones of skull. This Sagittal bone fuse both the parietal bones to each other.

(3) Lambdoid Sutur:→ The lambdoid suture is a dense fibrous Connective tissue joint on the posterior aspect of the skull that Connect the parietal bones with occipital bone.

(B) Trigeminal Nerve:→

The nerve which is responsible for the Sensation of the face and motor function such as biting and chewing. The trigeminal as a most complex crimal nerve.

Tri → three
geminus → twin, thrice
So it means that it Consist of three branches nerves, i) opthalmic nerve ii) maxillary nerve iii) mandibular nerve

Branches of the trigeminal nerve:→

p.T.O.

① Ophtalmic Nerve:→

It has three branches that provides Sensory innervation to the eye, skin of the upper face and anterior scalp.

This ~~muscle~~ nerve is originated from the anterior aspect of the pons.

↳ The opening to the skull by superior orbital fissure.

② Maxillary Nerve:→

This is one of the three branches of trigeminal nerve.

It comprises the principal functions of sensation from maxilla, nasal cavity, sinuses, the plate and subsequently that of the mid face and is intermediate both in position and size, between the opthalmic nerve and the mandibular nerve.

↳ opening to skull: Foramen ovale

↳ The origination of the maxillary nerve is from the anterior aspect of the pons.

(3) Mandibular Nerve:→

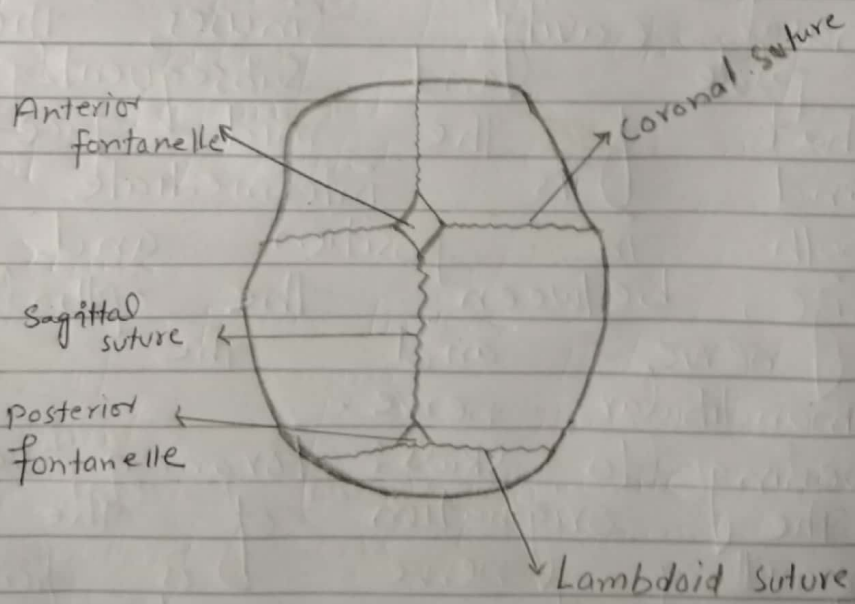
The mandibular is the largest of the three divisions of trigeminal nerve, the fifth of the Crinal nerve.

↳ The mandibular nerve is originated from the anterior aspects of the pons.

↳ Foramen Rotundum is the opening to the Skull.

↳ It may be Sensory or motor Component.

Fig 1 Diagram of Sutures:→



Qs:→ Write a note Spinal cord with refrence to its anatomical position and structure, also write a short note on pharynx with enumeration to its constrictors?

Ans:→ Spinal Cord:→

The Spinal Cord is a long, thin, tubular structure made of nervous tissue, which extend from the medulla oblengata in the brainstream to the lumbey region of the vertebral column. It encloses the central nervous system of Spinal Cord, which contain Cerebrospinal fluid.

Togather the brain and Spinal cord is said to be Central nervous System.

Anatomical position & structure:→

The Spinal Cord greyish white in color and as likes cylindrical structure. It has Simple anatomical Cource.

The Spinal Cord arises Crinally as the Continuation of the medulla oblengata, it then travels inferiorly within the vertebral Canal Sorounded by the Spinal meninges Containing Cerebrospinal fluid.

At the L_2 vertebral level the Spinal Cord tapper off forming the Conus medullaris.

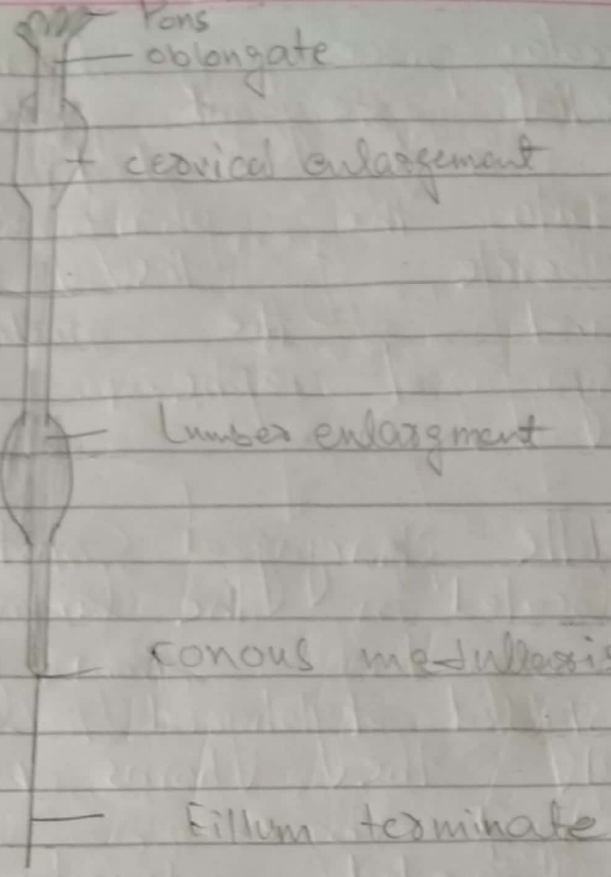
↳ It occupies around two thirds of the vertebral Canal, because as a result of termination of the spinal Cord at L_1.

↳ A structure known as Cauda equina are formed as the spinal nerves that arises from the end of the spinal cord.

↳ There are two points of enlargement during the Course of spinal cord.

↳ At the $C_4 - T_1$ level there is Cervical enlargement and represent the the origin of brachial plexus.

↳ Between T_{11} and S_1 is the lumber enlargement.



(B) Pharynx with enumeration to its Constrictors:→

There are three circular pharyngeal Constrictor muscle; which are Superior, middle and inferior pharyngeal Contrictors.

They are Stacked like glasses.

① Superior Pharyngeal Constrictor:→

It is located in the oropharynx, it is the uppermost pharyngeal Constrictor.

It originates from the pterygomandibular ligament,

alveolar process of mandible & medial pterygoid plate.
↳ It is inserted posteriorly into the pharyngeal tubercle of the occiput and the median phyaryngeal raphe.

2) Middle pharyngeal Constrictor:-
Located in the laryngopharynx.
It originates from the ~~Styloid~~ Stylohyoid ligament and the horns of hyoid bone.
It inserted posteriorly into the pharyngeal raphe.

3) Inferior Pharyngeal Constrictor:-
Located in the laryngopharynx.
↳ Its superior compartement has oblique fibres that attach to the thyroid Cartilage.

↳ Its inferior Compartement has horizental fibres that attaches to the cricoid Cartilage.