Date:

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Anatomy
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Radiology

Submitted to sir waqas.

Q1:- Write a note on the structure of Human Ear.

→ Structure Of Human Ear:-

The human ear consists of three parts.

- External ear
- Middle ear
- Internal ear

→ External part:-

The external ear is further divided in to the following parts.

→ Auricle: (Pinna)

The auricle comprises a thin plate of elastic cartilage covered by a layer of skin.

→ It consist of funnel-like

Curves that collect sound waves and transmits them to the middle ear.

→ The lobule consists of adipose & fibrous tissue supplied with blood capillaries.

→ External Auditory Meatus:- It is a slightly curved canal supported by bone in its interior part & cartilage in the exterior part. The meatus or the canal is lined with stratified epithelium & wax glands.

→ Tympanic membrane:- Middle This membrane separates the middle ear & external ear.

→ Tympanic cavity:- A narrow air filled cavity. The tympanic cavity has an auditory tube know as the eustachin tube in its anterior wall.

→ Eustachain tube :-

it is 4cm long tube that equalizes air pressure on either side of the tympanic membrane

→ It connects the tympanic cavity with the nasopharynx.

→ Ear ossicles :-

There are three ear ossicles in the human ear.

1) Malleus :-

A hammer-shaped part that is attached to the tympanic membrane through the head.

2) Incus :-

An anvil-shaped ear ossicle connected with the stapes.

3) Stapes :-

it is smallest ossicle & also the smallest bone in the human body.

→ Inner Ear :-

it comprises two parts.

- Bony labyrinth
- Membranous labyrinth

→ Bony labyrinth :-

The bony labyrinth comprises a vestibule three semi-circular canals & a spirally coiled cochlea. it is filled with perilymph.

→ Membranous labyrinth :-

it surrounds the membranous labyrinth. It comprises sensory receptors responsible for balance & hearing.

→ it is with endolymph & comprises three semi-circular ducts
  - → cochlear duct
  - → saccule
  - → utricle

→ The sensory receptors include cristea, organ of corti & ampullaris maculea.

Q2:- What is know about sub mandibular & sub lingual glands?

→ Submandibular :-

→ It is the second of the ~~second~~ three major head salivary glands. after the parotid

→ It is situated both superior aspect of the mandible in the submandibular triangle of the neck & make up part of the floor of the oral cavity.

→ Function:-

→ Their mixed serous & mucous secreations are important for the lubrication of food during mastication, to enable effective swallowing & aid digestion.

→ Sublingual glands:-

→ It is almond-shaped & lie on the floor of oral cavity.

→ They are situated underneath the tongue, bordered laterally by the mandible & medially by genioglossus muscle of the tongue.

→ The glands form a shallow groove on the medial surface of the mandible know as the sublingual fossa.

→ **Function :-**

→ it prevents cavity formation and enamel wear.

→ saliva also lubricates food as you chew it to help the food pass from esophagus to your stomach.

→

Q3:- Why stone formation is more common in the sub mandibular gland than other salivary glands?

Ans:-

Stone formation occurs most commonly in the submandibular gland for several reasons.

→ The concentration of calcium in saliva produce by the

Submandibular gland is twice that of the saliva produce by the parotid gland.

→ The submandibular gland saliva is also relatively alkaline & mucous.

→ The submandibular duct is long. meaning that saliva secretions must travel further before being dicharged in to the mouth.

→ The duct possesses two bends. the first at the posterior border of the mylohyid muscle and the second near the duct orifice.

→ The flow of saliva from the submandibular gland is often against gravity due to variations in the location of the duct orifice.

→ Salivary calculi sometimes are associated with salivary disease

Qus- What do you know about the vertebra of the human skeleton. Explain?

- Vertebrea are the 33 individual bone that interlock with each other to form the spinal column.
- The vertrea are numbered & divided in to regions: cervical thoraic, lumbar, sacrum and coccyx.
- only the top 24 bones are moveable, the vertebrea of the sacrum & coccyx are fused.

→ Cervical (neck):-

→ The main function of the cervical spine is to support the weight of the head.

→ The seven cervical vertrea are numbered C_1 to C_7.

→ The neck has the greatest range of motion because of two specialized vertebrea that directly to the skull.

→ Thoracic:-

→ The main function of the thoracic spine is to hold the rib cage & protect the heart and lungs.

→ The twelve thoracic vertebrea

are numbered T_1 to T_{12}.

→ The range of motion in the thoracic spine is limited.

→ Lumbar :-

→ The main function of the spine is to bear the weight of the body.

→ The five lumber vertebrea are numberd L_1 to L_5.

→ These vertebrea are much larger in size to absorb the stress of lifting and carrying heavy objects.

→ Sacrum :-

The main function of the ~~lumber~~ sacrum is to connect the spine to the hip bones.

→ There are five sacral vertebrea which are fused together with iliac bone.

→ form ring called pelvic girdle.

→ Coccyx region :-

The four fused bones of the coccyx or tail bone provide attachment for ligament and muscles of the pelvic flour.

→ Intervertebral discs:-

→ Each vertebra in spine is seperated & cushioned by an intervertebral disc.

→ which keeps the bones ~~the~~ from rubbing together.

Q5:- Write about importance of radiology in medical field?

→ diagnostic tool for several diseases

→ Provide detailed information about structural or disease related changes.

→ It also play a wide role in treatment of disease.

→ In today's medical field doctor rely heavily on radiographer. They need accurate test to be able to diagnose the issue and provide the proper treatment.