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Dis # Radiology
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Final assignment # anatomy

QUESTION No # 1

Write a note on the structure of Human Ear?

ANSWER No # 1 :

The human ear consists of three parts:

- the outer ear,
- middle ear
- and inner ear.

Outer ear :

- The outer ear is the external portion of the ear and includes the fleshy visible pinna (also called the auricle)
- the ear canal, and the outer layer of the eardrum (also called the tympanic membrane).

Middle ear :

- The middle ear lies between the outer ear and the inner ear.
- It consists of an air-filled cavity called the tympanic cavity.
- and includes the three ossicles and their attaching ligaments; the auditory tube; and the round and oval windows.
- The middle ear also connects to the upper throat at the nasopharynx via the pharyngeal opening of the Eustachian tube.

inner ear :

- The inner ear sits within the temporal bone in a complex cavity called the bony labyrinth.
- A central area known as the vestibule contains two small fluid-filled recesses, the utricle and saccule.

blood supply :

- The outer ear is supplied by a number of arteries. The posterior auricular artery provides the majority of the blood supply.
- The middle ear is supplied by the mastoid branch of either the occipital or posterior auricular arteries and the deep auricular artery, a branch of the maxillary artery.
- The inner ear is supplied by the anterior tympanic branch of the maxillary artery; the stylomastoid branch of the posterior auricular artery; the petrosal branch of middle meningeal artery.

QUESTION No # 2

What do you know about sub mandibular and sub lingual glands?

ANSWER No # 2 :

Sub mandibular gland :

- The submandibular glands are bilateral salivary glands located in the face.

- Their mixed serous and mucous secretions are important for the lubrication of food during mastication to enable effective swallowing and aid digestion.

sub lingual gland :

- The sublingual glands are almond-shaped and lie on the floor of the oral cavity.
- They are situated underneath the tongue, bordered laterally by the mandible and medially by genioglossus muscle of the tongue.
- The glands form a shallow groove on the medial surface of the mandible known as the sublingual fossa.

QUESTION No # 3

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

ANSWER No # 3 :

- Stone formation occurs most commonly in the submandibular gland for several reasons:
- The concentration of calcium in saliva produced by the submandibular gland is twice that of the saliva produced by the parotid gland.

QUESTION No # 4

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

ANSWER No # 4 :

- Vertebrae are the 33 individual bones that interlock with each other to form the spinal column.
- The vertebrae are numbered and divided into regions: cervical, thoracic, lumbar, sacrum, and coccyx.
- Only the top 24 bones are moveable; the vertebrae of the sacrum and coccyx are fused.

Cervical (neck)- the main function of the cervical spine is to support the weight of the head (about 10 pounds). The seven cervical vertebrae are numbered C1 to C7. The neck has the greatest range of motion because of two specialized vertebrae that connect to the skull. The first vertebra (C1) is the ring-shaped atlas that connects directly to the skull. This joint allows for the nodding or “yes” motion of the head. The second vertebra (C2) is the peg-shaped axis, which has a projection called the odontoid, that the atlas pivots around. This joint allows for the side-to-side or “no” motion of the head.

Thoracic :

the main function of the thoracic spine is to hold the rib cage and protect the heart and lungs. The twelve thoracic vertebrae are numbered T1 to T12. The range of motion in the thoracic spine is limited.

Lumbar :

the main function of the lumbar spine is to bear the weight of the body. The five lumbar vertebrae are numbered L1 to L5. These vertebrae are much larger in size to absorb the stress of lifting and carrying heavy objects.

Sacrum :

the main function of the sacrum is to connect the spine to the hip bones (iliac). There are five sacral vertebrae, which are fused together. Together with the iliac bones, they form a ring called the pelvic girdle.

Coccyx region :

the four fused bones of the coccyx or tailbone provide attachment for ligaments and muscles of the pelvic floor.

Intervertebral discs :

Each vertebra in your spine is separated and cushioned by an intervertebral disc, which keeps the bones from rubbing together. Discs are designed like a radial car tire. The outer ring, called the annulus, has crisscrossing fibrous bands, much like a tire tread. These bands attach between the bodies of each vertebra. Inside the disc is a gel-filled center called the nucleus, much like a tire tube.

QUESTION No # 5

Write about the importance of Radiology in medical field?

ANSWER No # 5 :

Importance of Radiology :

- Radiology is a key diagnostic tool for several diseases, helps with monitoring treatment and can even help with predicting specific outcomes. With several imaging modalities, the field has become crucial to medical care.
- Radiology started with the X-ray, which changed the field of medicine forever. The ability to use imaging to see inside the body, diagnose a broken bone, diagnose diseases and so much more has made radiology necessary for medical care.
- In today's medical field, doctors rely heavily on radiographers. They need accurate tests to be able to diagnose the issue and provide the proper treatment.

The End

Thank you