

Anatomy Page (1)

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Q1

Ans Structure of Human ear  
The human ear is the organ of hearing and in mammal. In mammal the ear is usually described as having three parts

1) outer ear

2) Middle ear

3) Inner ear

Outer ear

The outer ear is the external portion of the ear and include the fleshy visible pinna also called auricle. The ear canal and the outer layer of the eardrum. The pinna consist of the curving outer is called helix

The inner curved rim called the antihelix and open into the ear canal.

The first part of canal surrounded by cartilage while the second part of cartilage is near the eardrum surrounded by bone.

The middle large ear lie between the outer ear and inner ear.

### Middle Ear :-

The middle ear are lie between the inner and outer ear. It is consist of air filled cavity called the tympanic cavity.

and include the three ossicles and their attaching ligaments. the auditory tube and the oval window around the sound from eardrum to they the inner ear.

The three ossicle transmitted sound from the outer ear to inner ear. vibration are transmitted through the oval window causing the movement of fluid within the cochlea.

### Inner Ear

The inner ear sits within the temporal bone in a complex cavity called the labyrinth. A central area is know as vestibule contain two small

3)  
fluid and filled recesses. The utricle  
connect to saccule. They are  
canals and the semicircular  
the cochlea is the cochlea.  
shell shaped organ a spiral  
for hearing - These responsible  
together create the structure  
membranous labyrinth.

The bony labyrinth refer to the  
body compartment which  
contain the membranous labyrinth  
contained with in the  
temporal bone  
The three cochlea consist of the  
fluid filled spaces.

The vestibular duct the cochlear  
duct and tympanic duct.

## Blood supply

inner ear  
blood supplied by inner ear

Anterior tympanic branch  
the of stylo mastoid Artery.  
the posterior auricular of  
Artery

Outer ear  
The outer ear supplied  
by a number of arteries

The posterior auricular artery provides the majority of the blood supply of

Anterior auricular supply to the outer rim of the ear which are branch from superficial temporal artery.

Middle ear by either the mastoid branch of the occipital or posterior auricular arteries.

the deep articular artery branch of maxillary artery.

Q2

Ans sub mandibular gland

Submandibular glands also the paired called submaxillary gland are major salivary gland located between the floor of the mouth. Each weigh about 15 gram and contribute some 60-67% of unstimulated saliva secretion. on stimulation their contribution decrease in proportion a the parotid secretion rise to 50%.

The submandibular duct called Warthin duct enter the floor of mouth under the front

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the front of the tongue is

In serous secretion the main type of protein secreted is alpha amylase and enzyme that break down starch into maltose and glucose whereas in mucous secretion the main protein secreted is mucin lying superior to the digastric muscles each submandibular gland is divided into superficial and deep lobes. mylohyoid muscle run under it.

⇒ The deep lobe is the smaller part

secretion are delivered into the submandibular duct on the deep portion after which they back around the posterior edge of the mylohyoid muscle and proceed on the superior surface laterally

The parotid and sublingual gland account for the remaining

## Blood supply

The gland receives the blood supply from facial and lingual arteries. The gland supplied by sublingual and submental arteries.

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## Lymphatic drainage

The lymphatic gland from first submandibular and subsequently jugular nodes drain into lymph nodes into digastic lymph nodes.

see also

Submandibular duct.

## 2) Sublingual glands :-

The sublingual gland and are the almond shaped of the oral cavity. They are situated underneath the tongue bordered laterally by the mandible and medially by the genioglossus muscle of the tongue.

The gland from a shallow groove on the surface of the mandible known as the sublingual fossa.

The submandibular and lingual nerve pass alongside the medial aspect of the sublingual gland.

Both sublingual glands unite anteriorly and from a single mass through a horseshoe configuration around the lingual frenulum. The superior aspect of this U shape from the elevated.

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secretion drain into the oral cavity  
by minor sublingual ducts of  
which there are 8-20 excretory  
ducts per gland each opening out  
onto the sublingual folds.  
Drainage the follow the submandibular  
duct out through the  
sublingual papillae.

Blood supply Blood supply is via  
the sublingual and  
submental arteries  
which arise from the lingual  
and facial arteries  
receptively both of the  
external carotid artery.

Innervation :-

The sublingual gland  
receive autonomic innervation through  
parasympathetic and sympathetic  
fibers which directly  
and indirectly regulate salivary  
secretion respectively.

Q5

Ans Importance Role of Radiology in  
medical field

Radiology is a  
branch of medicine that use  
imaging to treat and diagnose  
diseases seen within the body  
with the evolving technology,  
medical field industry day, by  
getting more advanced in  
imaging.

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## History of Radiology

working in a Laboratory while  
Wurzburg in German Wilhelm  
Conrad Rontgen. radiology  
physician noticed that in a  
room after some time.  
he was honored with the  
first Noble prize physics in 1901

## Diagnostic Radiology

- 1) Computed Tomography
- 2) Ultrasound
- 3) X ray
- 4) MRI
- 5) CT
- 6) Fluoroscopy
- 7) Nuclear medicine

## Role of Radiology and medical field

Radiology play importance role  
in disease management by  
giving physician more options,  
tool and technique for  
detection and treatment.

or  
Radiology play a importance role  
in disease management by  
giving physician.



Radiology is all about imaging for medical field. it include radiograph, radiologist, Sonographers, biomedical engineer, nurse, medical physicists, are other staff. AT CME science we will the radiology filed are very importance Role in medical field are many Reason. which we will define at.

Q3

Ans The stone formation occur most commonly in the submandibular than salivary gland are several Reason. - The concentration of calcium in saliva produced by the submandibular gland is twice that of than saliva produce by the parotid gland. The sublingual gland saliva is also relatively alkaline and mucous.

Salivary stone form from the chemical in the saliva accumulate in duct or gland.

The mostly contain calcium. The exact cause is not known.

The stone cause no symptom and there form saliva back up the gland causing pain and swelling.

Q4

ANS

vertebrae are the 33 individual interlocking bone that form the spinal column. Each vertebra has three main functional components:

- The vertebrae body for load bearing.
- The vertebrae arch to protect the spinal cord.
- and transverse process for ligament attachment.

The human skeleton perform six major function which are the following.

- Support
- movement
- protection
- storage of mineral
- endocrine regulator
- production of blood cell.

### vertebrae

The vertebrae within each region possess distinctive feature. However, all vertebrae share a common structural floor plan.

A typical vertebra is consist of a rounded body anteriorly and a vertebral arch posteriorly. These enclose a space termed the vertebral foramen.

It an articulated skeleton. The vertebral foramina are aligned to form a continuous passage way termed by vertebral canal.

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which convey the spinal cord and its coverings.

The vertebral arch gives rise to seven processes. One is spinous, two are transverse and four are articular.

The spinous process is directly posteriorly from the junction of two laminae.

The transverse process are directly lateral from the junction of the laminae the pedicles.

### Typical vertebral Regional characteristics

The distinguishing features of typical cervical, thoracic and lumbar vertebrae are summarized.

The anterior and posterior nerve roots of a spinal nerve unite within these foramina with their meningeal covering from the segmental spinal nerves.

The End