

 **DEPARTMENT OF ALLIED HEALTH SCIENCES**

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**PROGRAM: BS DT:**

# SEMESTER: 4th:

# Course Title: Histology ll

#  Q1: Distinguish the fibrous capsule and articular disc?

# Answer no 1:

# The fibrous capsule and articular disc are present in temporal mandibular joint.

# Temporo mandibular joint:

* It is a ginglymoarthrodial joint.
* A term that is derived from ginglymus , means a hinge joint
* and an arthrodial means sliding joint which
* Allows motion backward and forward.
* Type of mobile joint.
* Formed between head of mandible and articular fossa of temporal bone.
* Articulation is between mandible and temporal bone

## Structure of TMJ:

* Ligament
* Fibrous capsule.
* Articular dise.

## The fibrous capsule and articular disc

### Fibrous capsule:

* Attached above the articular tubercle.
* Circumference of the mandibular fossa in front
* And behind the squmotypanic fissure
* And below the neck of the mandibular.
* Capsule is of loose Varity above the intra-articular disc,
* Tight below the intra-articular disc.
* Synovial membrane lines the fibrous capsule and the neck of mandible.

## Articular disc:

* Oval predominately a fibrous palate.
* Divid the joint into upper and lower component.
* Upper component permits gliding movement.
* Lower compartment permits rotatory as well as gliding movement.
* Disc is a superior concave, convex superior surface.
* As well as a concave inferior surface.
* Periphery of the disc is attached to the fibrous capsule.

## Function of articular disc:

* Reduce wear of TMJ
* Stabilize the TMJ
* Aid lubrication of the joint.
* Make articular surface congrument.

## Synovial fluid:

* Synovial fluid serves 2 purposes.
* Medium for providing metabolic requirements.
* To the man vasculerarticuler surface of the joint.
* Lubricant between articular surfaces during function.
* Two mechanisms by which synovial fluid lubricants.
* (1) boundary lubrication
* (2) Weeping lubrication.

(1) Boundary lubrication: the boundary lubrication occurs when joint is moved and synovial fluid is forced from one area of cavity into another.

(2) Weeping lubrication: refers to the ability of articular surface to absorb a small amount of synovial fluid.

# Q2: Write a short note on the clinical consideration of salivary glands.

# Answer no 2

# **Clinical consideration of salivary gland:**

* Careful examination of a patient’s medical history and profile
* Can lend clues to dysfunction of the salivary glands
* they are often associated with other systemic disorders
* Such as hormonal imbalances, diabetes mellitus, arteriosclerosis, and neurological disorders.
* Tumors
* Carries
* Periodontal disease.
* Viral and bacterial infection.
* Cystic fibrosis.

Radiation caries:

* Tooth decay that results from radiation-induced dry mouth (xerostomia).
* increased incidence of tooth decay in post radiation patients
* Caused by radiation to the major salivary glands.
* Occur in individuals who receive a course of radiotherapy.
* Include exposure of salivary glands.

Sjogren’s syndrome:

* Consists of keratoconjunctivitis (inflammation of cornea and conjunctiva)
* Xerostomia (dry mouth)
* Rheumatoid arthritis (inflammation of joint).
* And also cause of the disease can be genetic, auto immunological,

Features

* Include dry mouth and dry eyes due to hypo function of lacrimal and salivary glands.
* Most patients are treated symptomatically.
* Ocular lubricants and salivary substitutes are given.

Xerostomia (dry mouth):

* Subjective complaint of dry mouth.
* Result from a decrease in the production of saliva.
* Not a disease but a symptom caused by many factors.

## Other consideration

* Viral inflammation of the gland causes it to swell
* Resulting pain on movement of the jaw.
* Abscesses or cysts of the gland.
* Result in pressure to the facial nerve.
* Calculi in the duct can block.
* Causes painful swelling of the gland.
* Aplasia, Atresia, stafnnes cyst, Fordyce's granules
* Local/systemic disease, endocrine
* Autoimmune, infectious etc.

 Parotid gland:

* Fibrous fascia is covering the parotid; its inflammatory swelling is tense and hard.
* Parotid duct is slightly larger along their course than at their caruncle.
* Permits storage of secretions so that a ready flow may be available on stimulation without waiting for secretary process.
* This relatively static reservoir may form obstructions
* Ready nisus for bacterial activity.
* Close association of the facial nerve with the gland
* Very important consideration, during surgical procedures.

 Submandibular gland

* submandibular gland and duct system lies in a dependent position
* This predisposes it to retrograde invasion by oral flora.
* Similar to the parotid duct, the Wharton's duct is also wider before reaching the papilla.
* This can lead to sangulation of saliva and organic matter.

Sublingual gland

* Minor salivary glands have short ducts.
* Chances of stasis are less.
* Obstructive lesions do not occur in the glands.
* Minor salivary glands are placed superficially.
* Traumatic lesions such as mucoceles commonly affect these glands.

# Q3: Describe the factors that play a role in shading?

# Answer no 3

# Factors that play a role in shading:

There are two types of factor that involves in tooth shading.

## Local factors:

## Genetic factors:

## 1) Local factors:

* In local factor that occur due to two Mechanicham.

1) Pressure:

* + From erupting successional tooth plays as in important role in shedding.

2) Growth;

* + Due to the growth of the jaws and ligament of masticatory muscle probably increase the force applied over the deciduous teeth.

## Genetic factors:

In this factor apoptosis occurs:

* + In apoptosis the periodontal ligament fibers the initiation of root resorption is inherent developmental process.
* Permanent incisors, canines, and premolars develop,
* Increase in size, and begin to erupt,
* They influence the pattern of resorption of the deciduous teeth and their exfoliation (shedding).

## Histology of shedding:

* Resorption of the hard tissue odontocalst.
* Resorption of the soft tissue pulp.

## Pattern of Shedding

* Pattern of exfoliation is symmetrical for the right and left sides of the mouth.
* Except for second molars,
* The mandibular primary teeth are shed before their maxillary counterparts.
* Exfoliation of all four secondary primary molars is practically simultaneous.
* Exfoliation occurs in girls before it does in boys.
* Greatest discrepancy between the sexes is observed for the mandibular canines.
* sequence of shedding in the mandible follows the anterior-to-posterior order.
* Maxilla the first molar exfoliating before the canine disrupts this sequence. permanent incisors, canines, and premolars develop,
* increase in size, and begin to erupt,
* They influence the pattern of resorption of the deciduous teeth and their exfoliation (shedding).

# Q4: Explain the classification of tooth movement?

# Answer no 4:

# Classification of tooth movement

## Tooth movement:

* Term tooth movement refers to.
* Slight tipping of the tooth in its socket.
* And change in tooth position.
* That’s occur during and eruption.

## Classification of tooth movement:

1) Physiologic tooth movement.

1. Eruption.
2. Drifting.

2) Pathologic tooth movement.

A) Periodontal pathology.

B) Oral pathologies (cysts, tumors etc.)

 3) Orthodontic tooth movement:

A) Tooth movement under external clinical force.

## Physiologic tooth movement:

* Naturally occurring tooth movement.
* Take place during and after tooth eruption.

In this tooth movement also include:

1. Tooth eruption
2. Migration or drift of teeth.

## 2) Pathologic tooth movement.

A) Periodontal pathology.

* gum diseases or periodontal diseases,
* are diseases involving the periodontium (the tooth supporting structures)

B) Oral pathologies (cysts, tumors)

* **Cysts** form because **of** infection coming from a tooth which is broken or bad.

## 3) Orthodontic tooth movement:

* Orthodontic tooth movement causes local hypoxia and fluid flow.
* Pathological process from which the tissue recovers.

# Q5: Enlist the function and component of TMJ.

# Answer no 5:

## Function and component of TMJ.

## Temporal mandibular joint:

* a term that is derived from ginglymus , means a hinge joint
* and an arthrodial means sliding joint which
* Allows motion backward and forward.
* Type of mobile joint.
* Formed between head of mandible and articular fossa of temporal bone.
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| --- |
| Function of TMJ: |
| * Excessive retraction.
 |
| * Moving backward of mandible.
 |
| * Help in breathing
 |
| * eating
 |
| * speech
 |
| * close of mouth
 |
| * mastication
 |

### Component of temporomandibuler joint:

###  Fibrous capsule:

* Attached above the articular tubercle.
* Circumference of the mandibular fossa in front
* And behind the squmotypanic fissure
* And below the neck of the mandibular.
* Capsule is of loose Varity above the intra-articular disc,
* Tight below the intra-articular disc.
* Synovial membrane lines the fibrous capsule and the neck of mandible.

## Articular disc:

* Oval predominately a fibrous palate.
* David the joint into upper and lower component.
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* Disc is a superior concave, convex superior surface.
* As well as a concave inferior surface.
* Periphery of the disc is attached to the fibrous capsule.

## Ligaments:

1. **Lateral temporomandibuler ligament:**
* Thickened lateral portion of capsule.
* Two parts (1) outer oblique portion.
* (2) Inner horizontal portion.
* Base is attached to zymogenic process of temporal bone.
* And above the articular tubercle.
* Apex is attached to the lateral side of the neck of mandible.
1. **Sphenomendibuler ligament:**
* Accessory ligament.
* Lies on a deep plane away from the fibrous capsule.
* Attached superiorly to the spine of sphenoid bone.
* Inferiorly to the lingual of mandibular foramen.

**Relation (lateral):**

* Lateral pterygoid muscle.
* Auriculotemporal nerve
* Maxillary artery.

**Medial:**

* Chordia tympani nerve
* Wall of the pharynx.
1. **Stylomandibuler ligament:**
* Represents a thickened part of the deep cervical fascia.
* Which separate the parotid and submandibular glands?
* Attached to the lateral surface above of styloid process.
* And below to the angle and post border of ramus of mandible.

**Synovial fluid:**

* Synovial fluid serves 2 purposes.
* Medium for providing metabolic requirements.
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**Blood supply and innervation:**

**Atrial supply:**

* Lateral superficial temporal artery.
* Medially maxillary artery.

**Nerve supply:** Massetric and Auriculotemporal nerve.