

## Unit 16:

# Temporal regions and ear

### GENERAL OBJECTIVES:

- general considerations of the organization of layers in parotid and temporal/infratemporal regions
- muscles of mastication and TMJ
- structure and function of the ear
- irrigation and innervations of parotid, temporal/infratemporal regions

### SPECIFIC OBJECTIVES:

#### **1. Parotid region**

Boundaries (Parotid Bed):

*Sup., Inf., Ant., Post., Med.* (Styloid Process),  
*Lat.* (Superficial Fascia with Great Auricular Nerve)

Contents: Parotid Fascia (continuous with Investing Fascia)

**Parotid Gland:** *Position, Parts, Parotid Duct*

Structures within the Gland:

*Ext. Carotid Artery* -> Terminal Branches  
*Retromandibular Vein* -> Anterior & Posterior Branches  
Parotid Lymph Nodes  
*Facial Nerve* -> 5 Terminal Branches

#### **2. Temporal and infratemporal regions**

Boundaries and contents:

Sphenomandibular Ligament  
Pterygoid Muscles (Lateral & Medial)  
Maxillary Artery (1st., 2nd. & 3rd. Parts)  
Branches: Middle Meningeal (Extracranial Course) Others  
Pterygoid Venous Plexus & Communications  
*Mandibular Nerve (V3): Ant. & Post. Divisions*  
Branches: Muscular, Buccal & Auriculotemporal Nerves  
*Inferior Alveolar & Lingual Nerves*  
Chorda Tympani  
Otic Ganglion (Parasympathetic)

#### **3. Temporomandibular Joint**

*Articular Surfaces*

Capsule & Ligaments, Sphenomandibular Ligament

*Articular Disc (2 separate joint cavities & movements)*

Movements of the T.M.J.: [(i) Rotation, (ii) Anterior Gliding]

-> *Opening/Closing*

Protraction/Retraction

#### **4. Branchial (pharyngeal arch) muscle groups (Muscles of mastication)**

Muscles of Mastication

Masseter, Temporalis, Lateral & Medial Pterygoids

#### **5. Ear**

##### a. External Ear

Auricle

*External Acoustic Meatus, Tympanic Membrane*

Vessels

Nerves (Sensory)

**b. Middle Ear**

Walls: Roof (Tegmental Wall), Floor (Jugular Wall)  
Lat (Membranous Wall), Med. (Labyrinthine Wall) .  
Post. (Mastoid Wall), Ant. (Carotid Wall)

Contents: Auditory Ossicles (Malleus, Incus, Stapes)  
Tympanic Muscles (Tensor Tympani, Stapedius)  
Chorda Tympani Nerve

Auditory Tube

Epitympanic Recess

Mastoid Antrum & Cells

**c. Internal Ear**

Bony labyrinth: cochlea, vestibule and semicircular canals

Membranous labyrinth: endolymphatic vs. perilymphatic spaces,  
Vestibular vs. cochlear labyrinth and semicircular ducts