**\*ANATOMY \* INFRATEMPORAL FOSSA \* LEC.10**

* **Temporal fossa:
- page #1:** 🡪 Zygomatic arch is formed by union of 2 processes : 1. Temporal process of zygomatic bone
 2. Zygomatic process of temporal bone

 🡪 **Lateral view of the skull**:
 - There are 2 lines : 1. Upper 🡪 superior temporal line
 2. Lower 🡪 inferior temporal line

 - Temporal fossa formed bu union of 4 bones: 1. Frontal
 2. Parietal
 3. Temporal
 4. **Greater wing** of sphenoid

 - so, temporal bone is formed of : 1. Temporal fossa
 2. 2 lines
 3. Mastoid process
 4. Styloid process
 5. Mandibular fossa
 6. External auditory meatus
 7. Zygomatic process
 8. Supramastoid crest of temporal bone

**- page #2:** 🡪zygomatic arch is the lateral boundary ot temporal bone, because it’s the site of insertion for the **temporal facia** that is located laterally.

 🡪the inferiolateral boundary of temporal fossa is “ zygomatic arch”
 (2 processes).

**- page #3:** 🡪 notice the boundaries of temporal fossa: 1. Zygomatic arch
 2. Superior and inferior temporal line
 3. Temporal fossa contributed by 4 bones :
 - frontal
 - parietal
 - temporal (squamous part)
 - greater wing of sphenoid
 4. roof : - temporalis covered by temporal fascia

🡪 related structures to temporal **fossa**: - coronoid process
 - articular process
 - mandibular notch
 - mastoid process
 - styloid process
 - external auditory meatus

🡪 pterion : - sutures forming a letter “H”
 - on the lateral side of the skul
 - in the floor of temporal fossa
 - landmark for the ant. Division of **middle meningeal artery**
 🡪 originates as branch from maxillary artery
 🡪 passing through spinosum foramen
 🡪 main arterial supply to dura matter
 🡪 passing between dura and periosteum

**floor**

🡪**Note:**
- Hitting the pterion area by a stone causes bleeding from the middle meningeal artery, that will be collected between dura an periosteum, therefore compressing the soft tissue of the brain (medially)🡪 specifically **anterior cerebral gyrus (motor area)**.

- this collection of blood called “**extra dural hemorrhage**”

- treatment is by opening the skull through pterion by “drill” and pull the blood in a process called “**prompt evacuation**”

 **- page #6: “contents”**

🡪 temporal facia
 🡪 temporalis
 🡪 massiter muscle
 🡪 maxillary artery “stem” : - a branch from external carotid artery
 - gives branches : 1. “**inferior alveolar artery**”
 2. “**Deep temporal arteries”🡪 for temporalis**
 🡪 **branches “not stem”** of mandibular nerve : **1.** **Deep temporal nerves for temporalis “motor”**
 **2.** **Buccal nerve “sensory” for:** - mucous membrane “mucosa”
 - gyngiva
 - skin over cheek

 **3. Lingual neve “sensory”
 4. Inferior alveolar nerve “sensory”
 5. Auriculotemporal nerve “sensory”**
 🡪 2 heads of lateral pterygoid muscle

* **Note:**
- pic. On page #6, we remove the coronoid process, most of ramus of mandible, and outer cortex of body of mandible to show the whole **inferior alveolar nerve** that pass outside the mental foramen to end as mental nerve.

- temporal fascia descend to be attached to both surfaces (inner and outer) of zygomatic arch to seal the temporal fossa

- we can use temporal fascia to replace the tympanic membrane (ear drum) in a process called “**tempanoplasty**”
* **Tempanoplasty: a process through which we can replace the fractured tympanic membrane by part of temporal fascia.**

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 **- page #7:
 🡪TEMPORALIS**: - fan shaped muscle
 - it’s fibers pass in 2 directions
 - it’s origin makes it to be attached perfectly, so as to seal the temporal fossa
 - it will pass “**medial**” to zygomatic arch to be inserted into coronoid process
 - then extend to anterior border of the ramus until it reaches the lower third molar
 - action : - biscuits 🡪 elvation
 - retract **protruded** mandible by lateral pterygoid

 **- page #8:
 🡪 Masseter: -** it’s powerful because, it’s formed of 2 superimposed parts
 - it’s the muscle of clidging "كز عاسنانك"
 - for crushing nuts
 - massetric nerve is deep nerve of mandibular nerve
 - masseteric artery is branch from maxillary artery
 - both nerve and artery pass through mandibular **notch** “where **extra** oral block is done”
 - extra oral block of nerve 🡪 no elevation “paralysis”

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 🡪 **Infratemporal fossa:**
 - in order to see this fossa clearly, you have to remove : \* ramus of the mandible
 \* processes of zygomatic arch

 -Greater wing of sphenoid will give pterygoid plate (lateral & medial) inferiorly

 - between the pterygoid plate and the maxilla there is a **pterygomaxillary fissure (related to the third part of maxillary artery)** - this fissure leads to pterygopalatine **fossa** that contains within it the pterygopalatine **ganglion from maxillary artery** “ causes **hey fever**” - an important part of maxilla related to infra temporal fossa is “**tuberosity of maxilla**”

 - closer to the tuberosity, there is “**posterior superior alveolar foramen**” for posterior superior alveolar nerve

 - inferior surface of greater wing of sphenoid is the floor of infratemporal fossa, that is related to the middle cranial “fossa superior view” , consists of : \* foramen ovale 🡪 mandibular nerve
 \* foramen spinosum 🡪 middle meningeal artery

 - inferatemporal part of maxilla (posterior surface of maxilla) contains the “tubrosity of maxilla”

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 #Hope every thing is clear ☺

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