**\*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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