

# TMJ & Muscles of Mastication

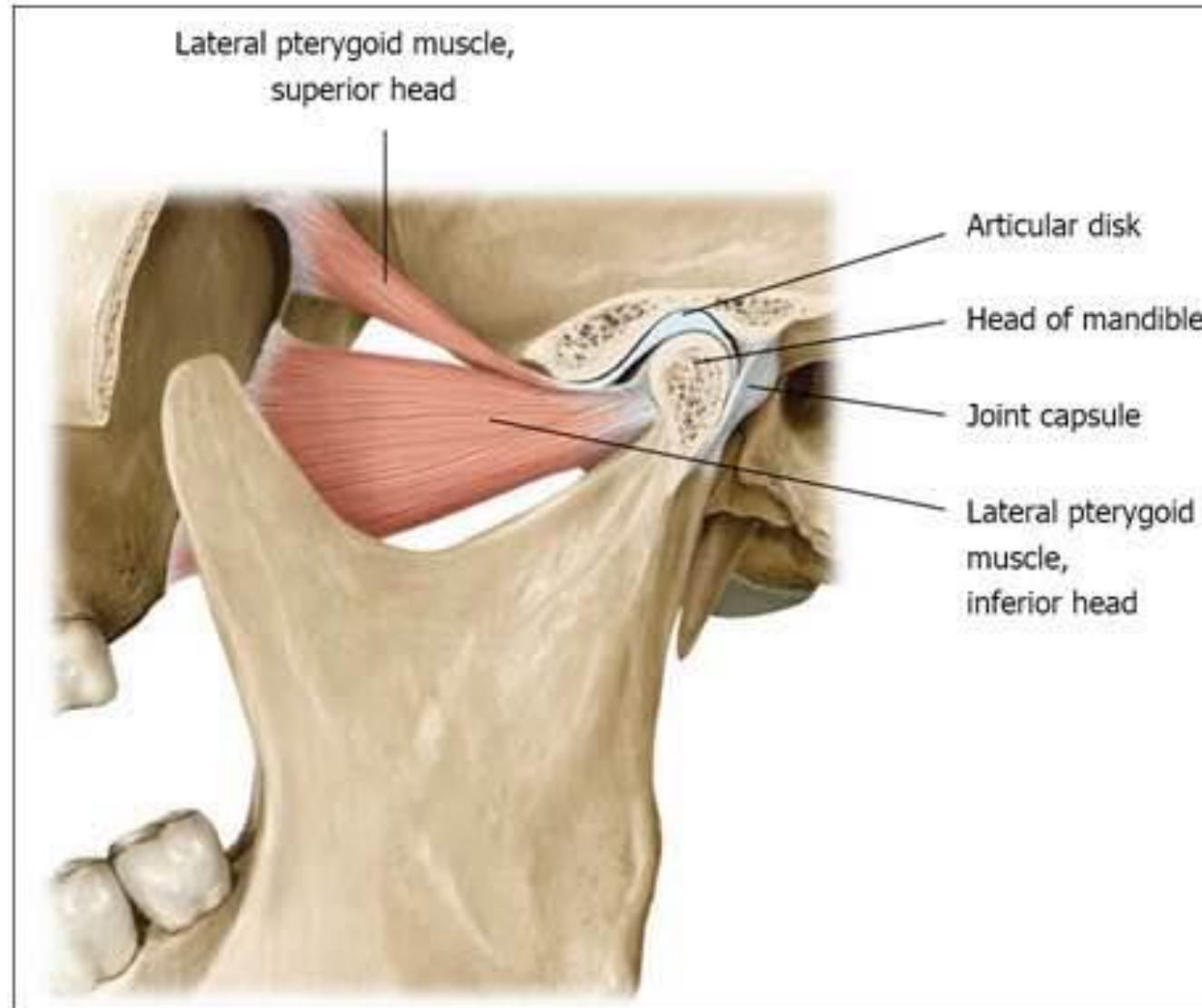
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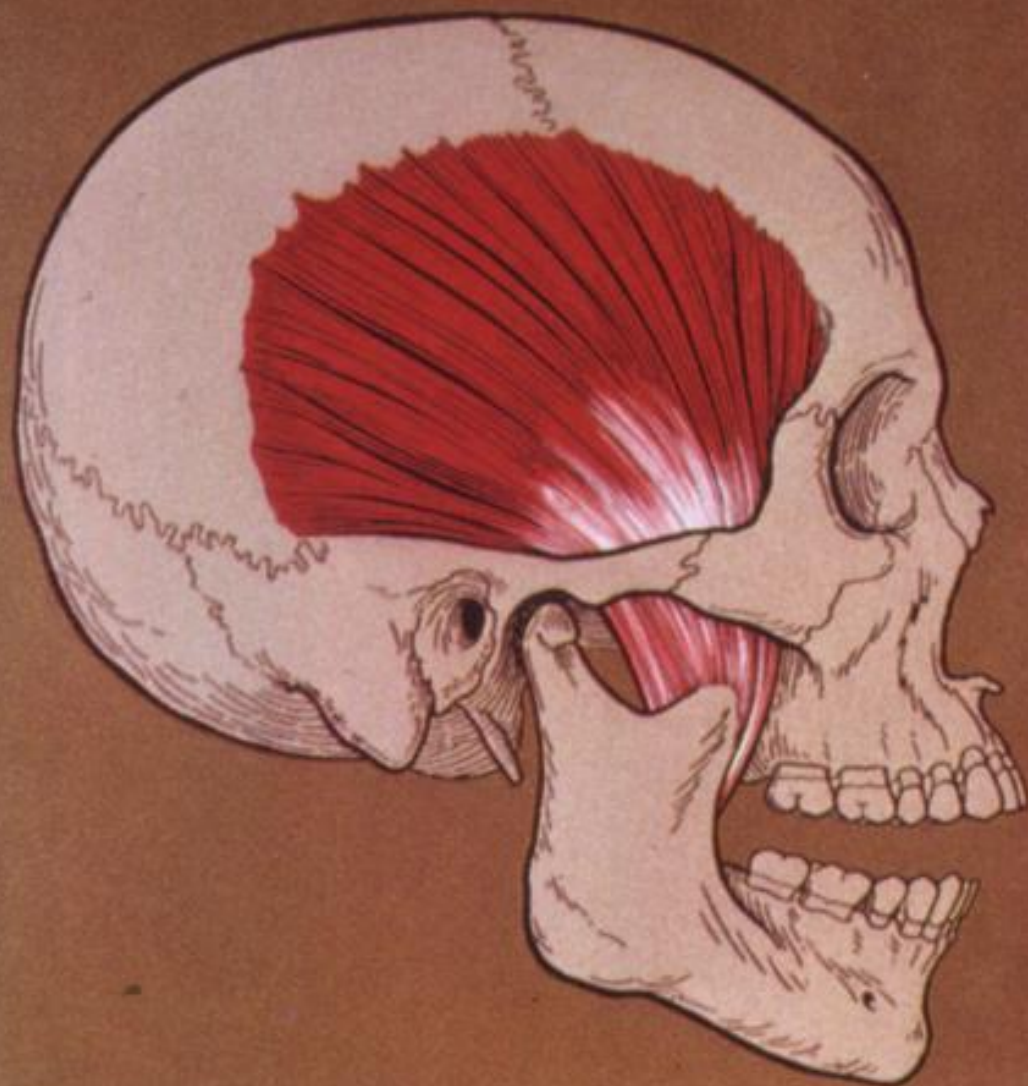
MSc

MBChB

# Lateral Pterygoid muscle



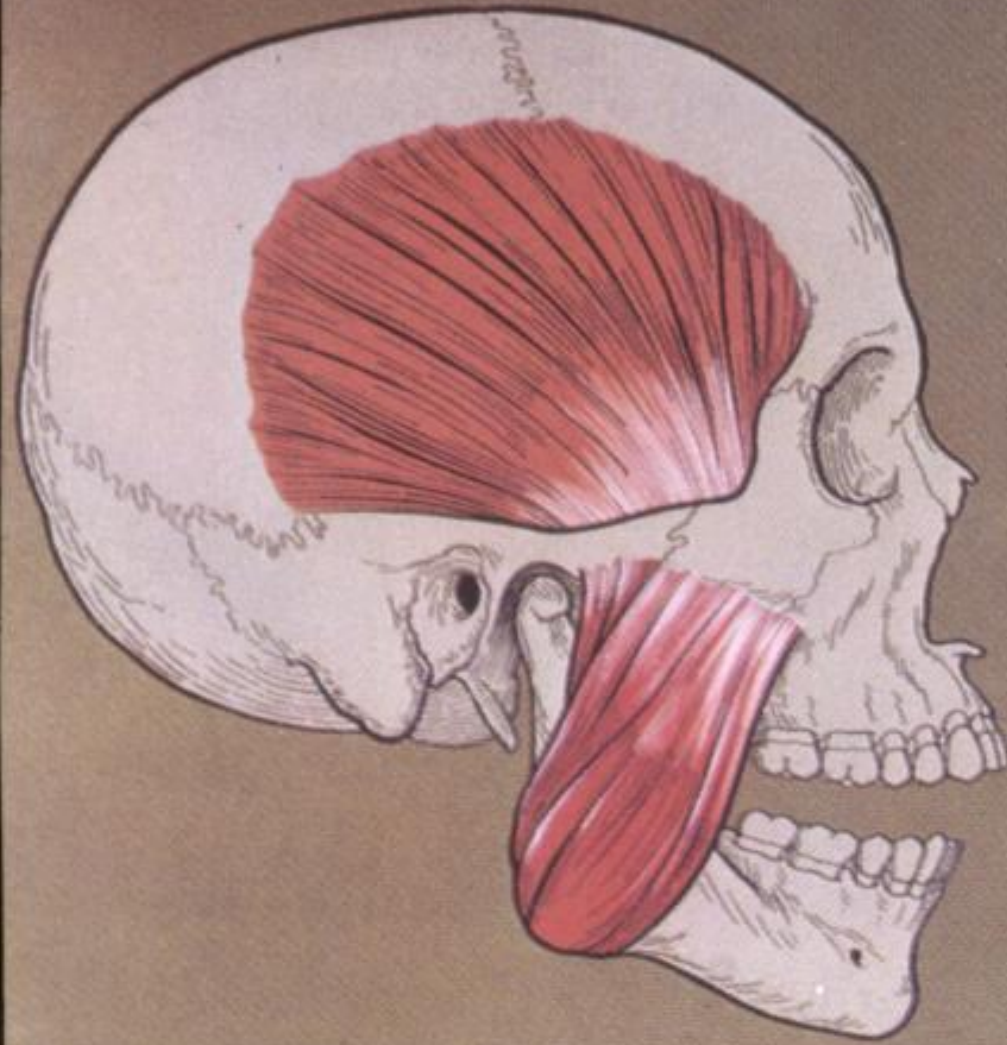
A.



## temporalis

- o:** temporal fossa  
temporal fascia
- i:** coronoid process  
anterior border of ramus

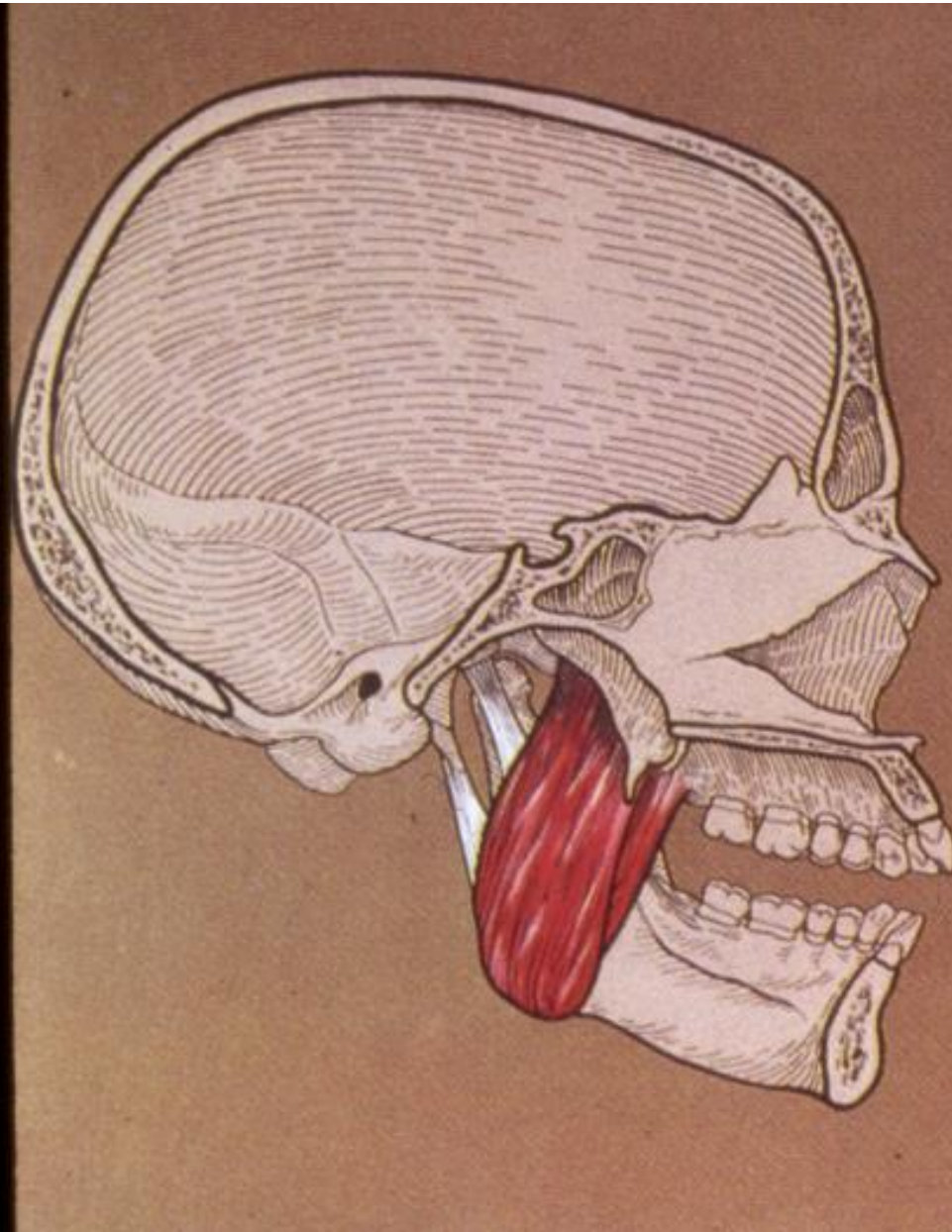
B. M



## masseter

- o:** superficial portion - anterior 2/3 of lower border of zygomatic arch
- deep portion - medial surface of zygomatic arch
- i:** lateral surface of ramus coronoid process and angle of mandible

C. M



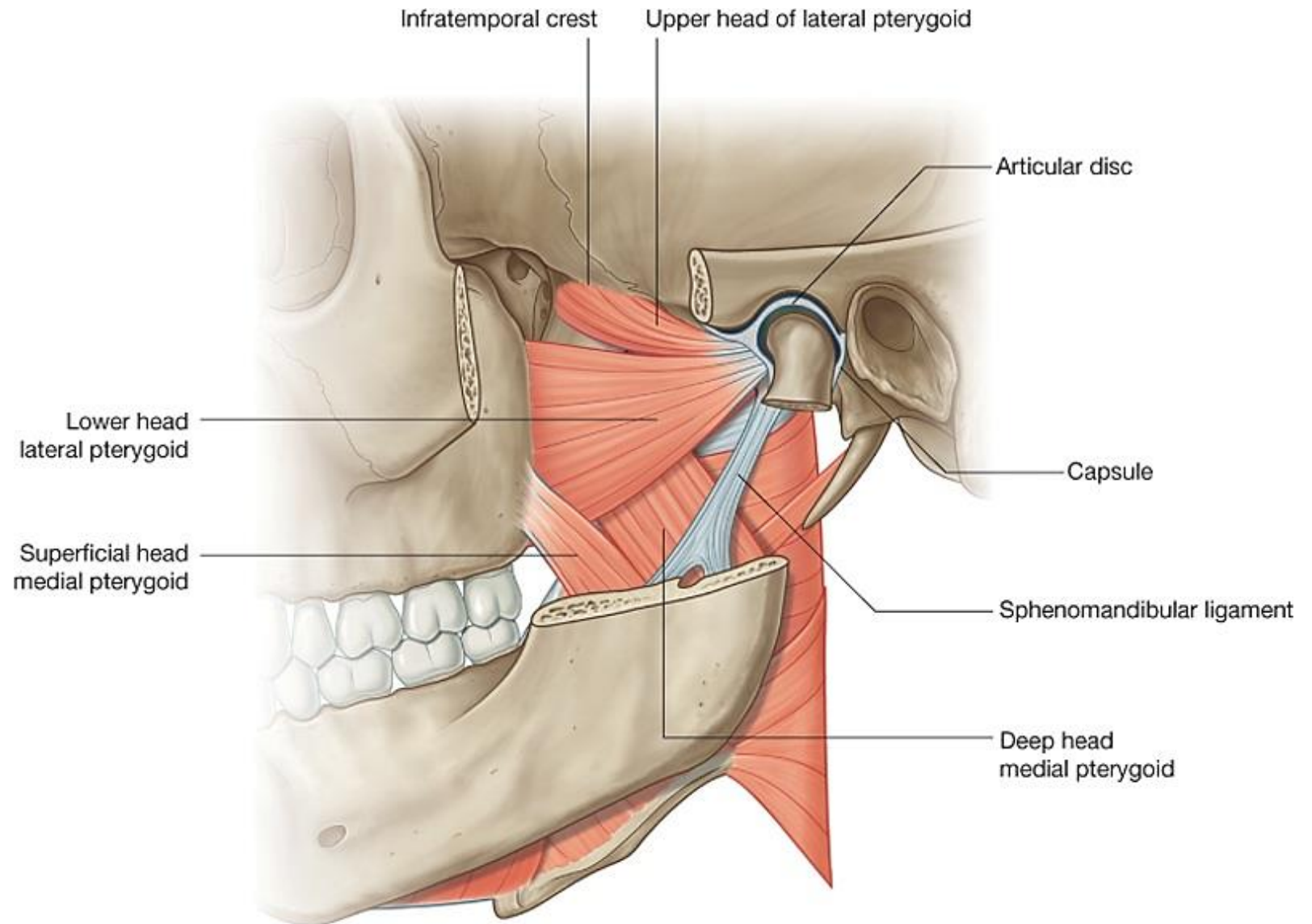
## medial pterygoid

**o:** medial surface of lateral pterygoid plate; pyramidal process of palatine bone; maxillary tuberosity

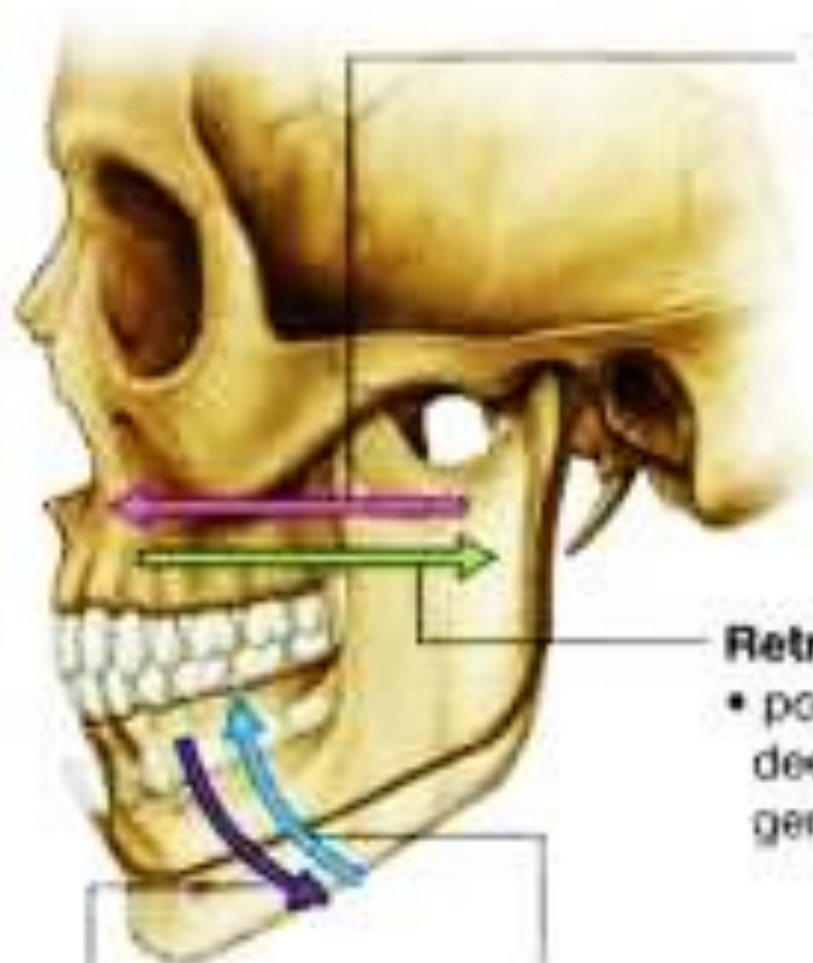
**i:** posterior and lower part of medial surface of ramus of angle of mandible

# Muscles of Mastication

- All supplied by Mandibular division of Trigeminal (V3)
- All derived from pharyngeal arch



Drake: Gray's Anatomy for Students, 2nd Edition.  
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**Protrusion**

- lateral pterygoid assisted by medial pterygoid

**Retraction**

- posterior fibers of temporalis, deep part of masseter, and geniohyoid and digastric

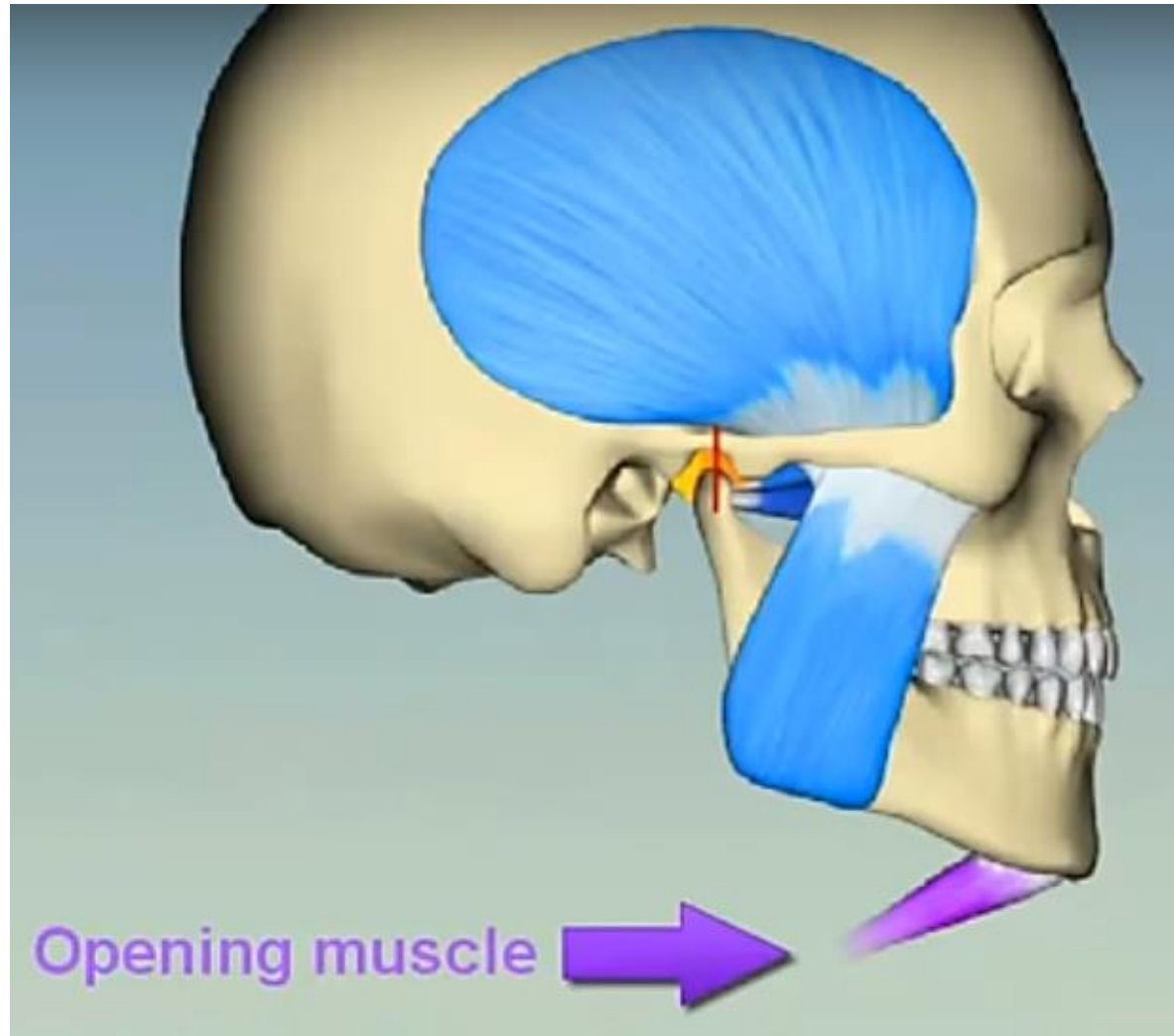
**Elevation**

- temporalis, masseter, medial pterygoid

**Depression**

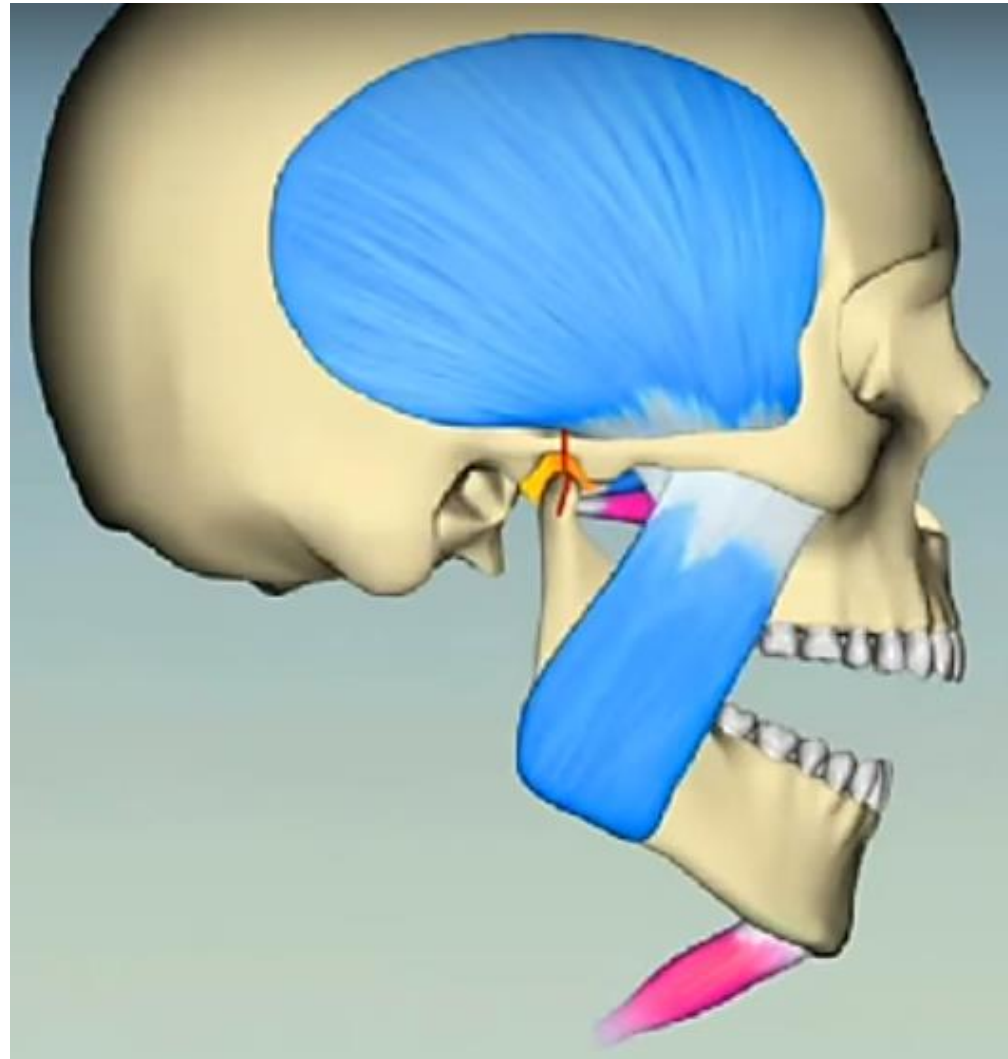
- gravity
- digastric, geniohyoid, and mylohyoid muscles

# Opening - Depression

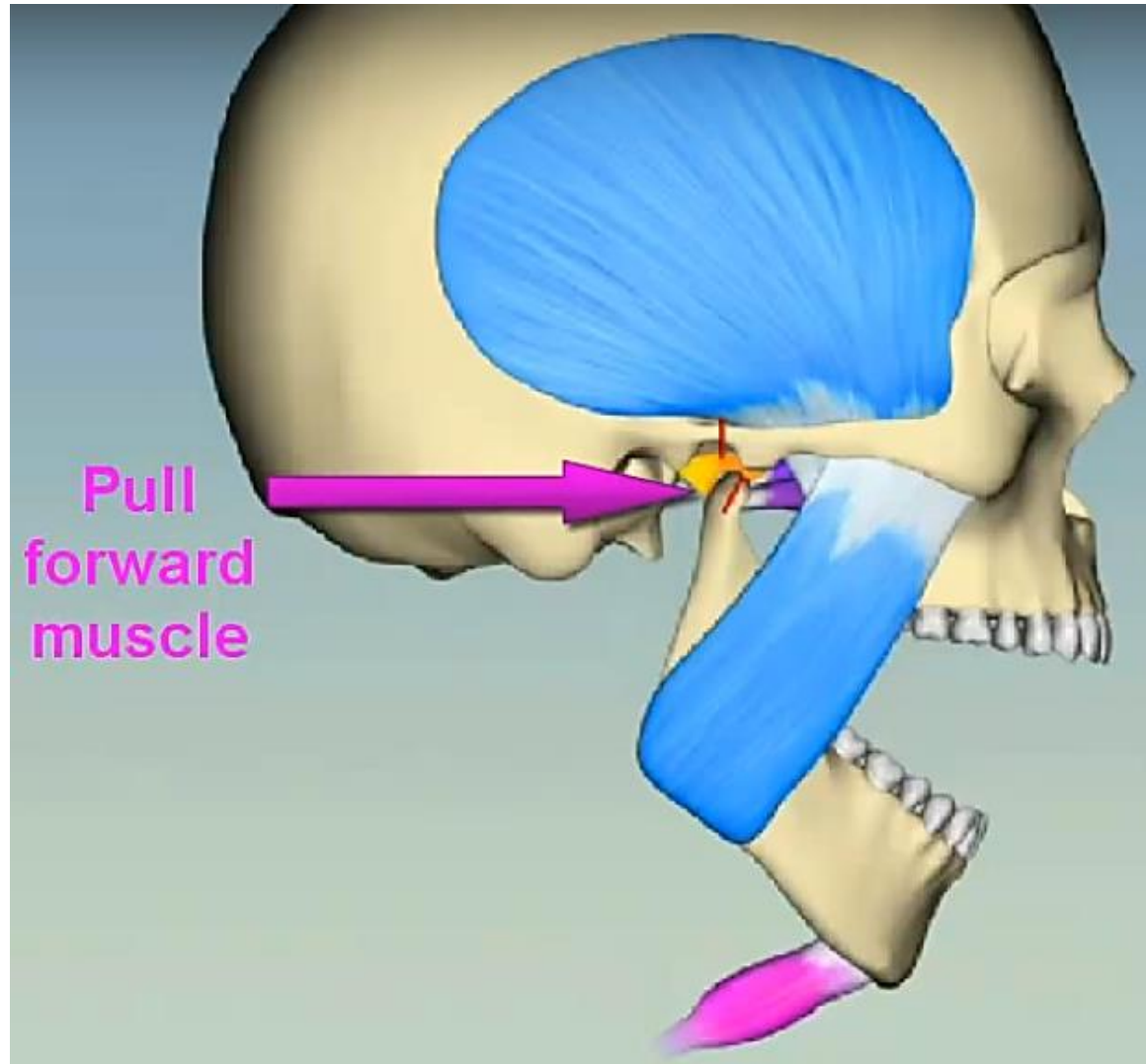




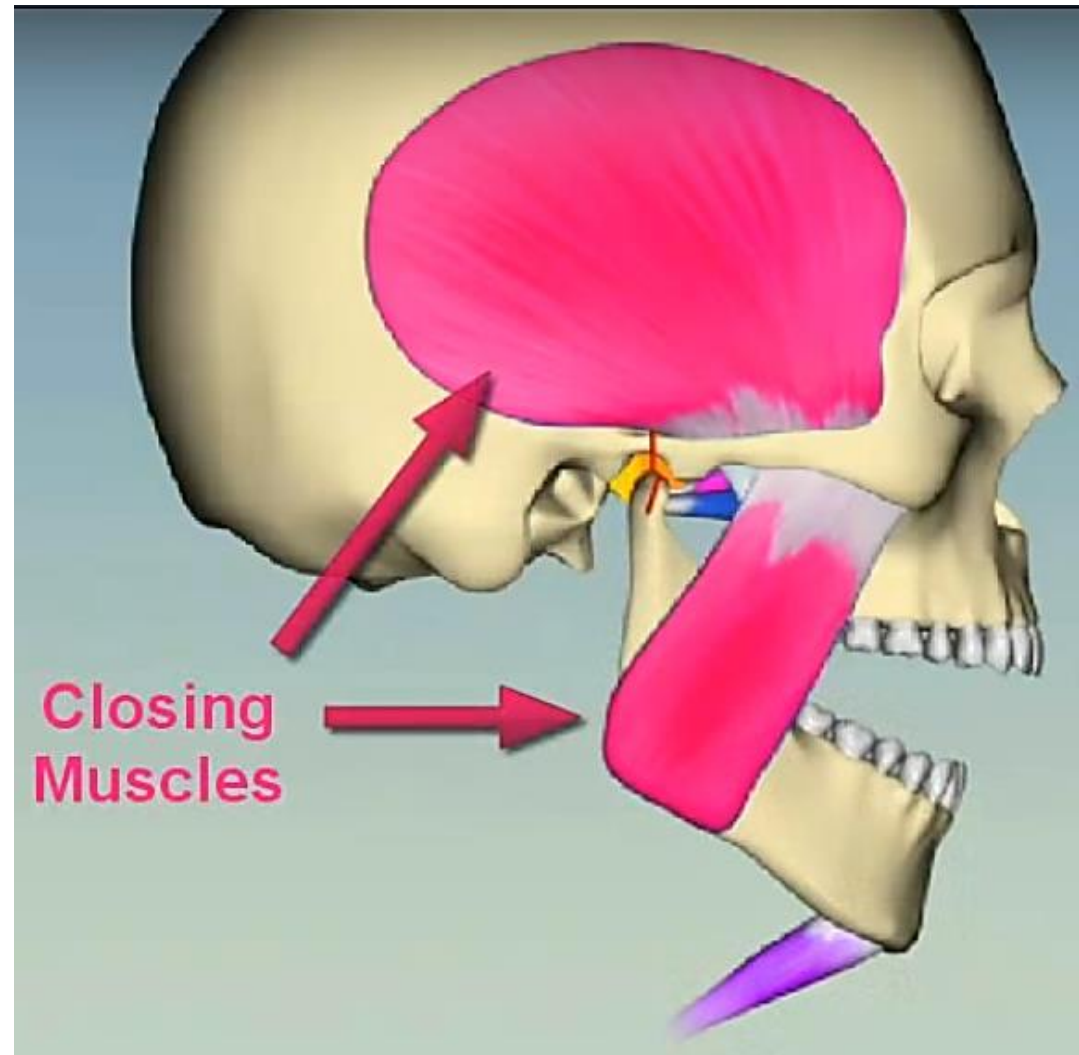
# Opening - Depression



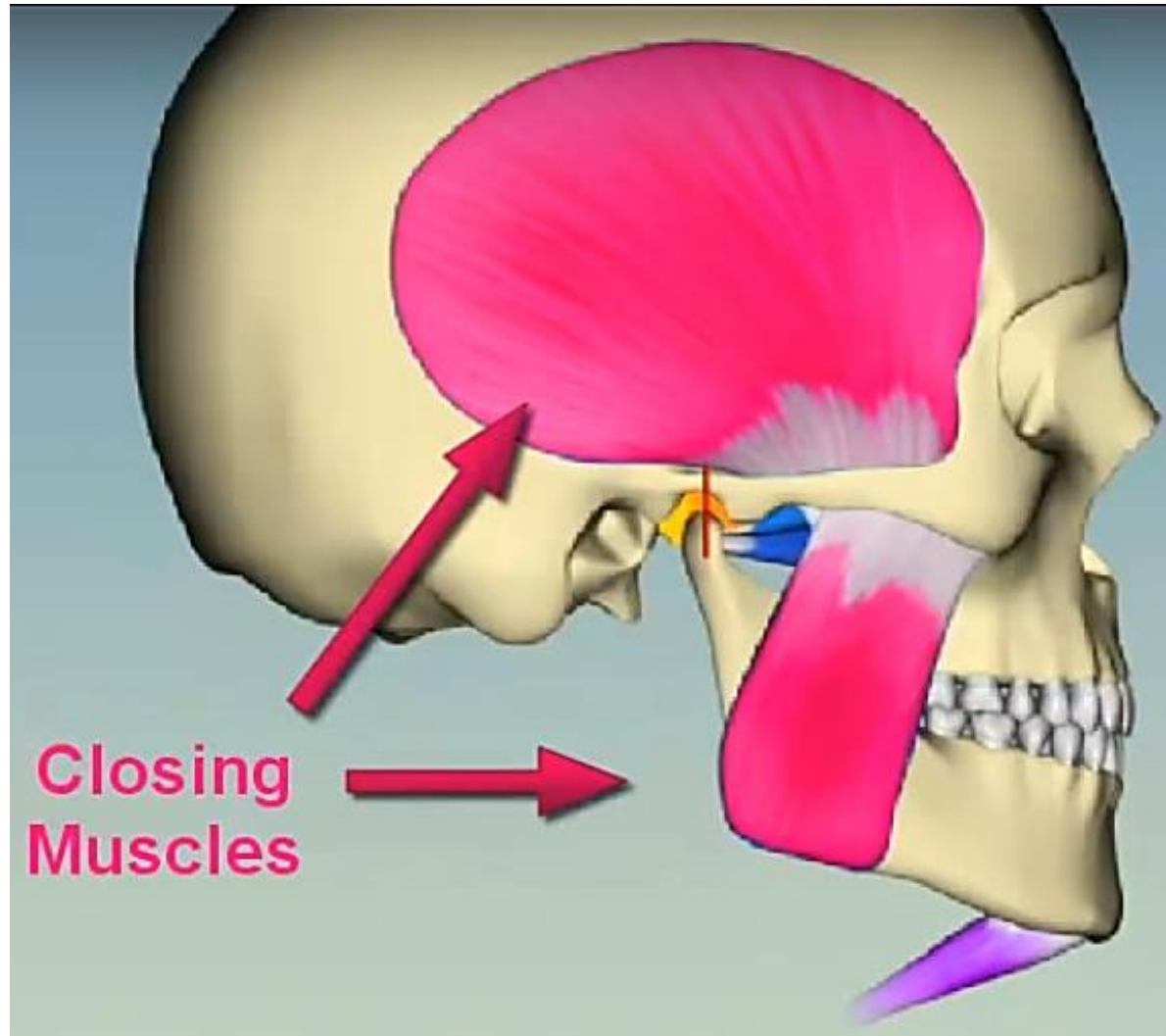
# Opening - Depression



# Closing - Elevation



# Closing - Elevation



# Functions of muscles of mastication

## Lateral Pterygoids

- Upper head - involved mainly with chewing, and functions to anteriorly rotate the disc on the condyle during the closing movement
- Lower head - exerts an anterior, lateral, and inferior pull on the mandible, thereby opening the jaw, protruding the mandible, and deviating the mandible to the opposite side

## Medial Pterygoids

- Working bilaterally - assists in mouth closing.
- Working unilaterally – deviation of the mandible toward the opposite side

# Functions of muscles of mastication

## Masseter

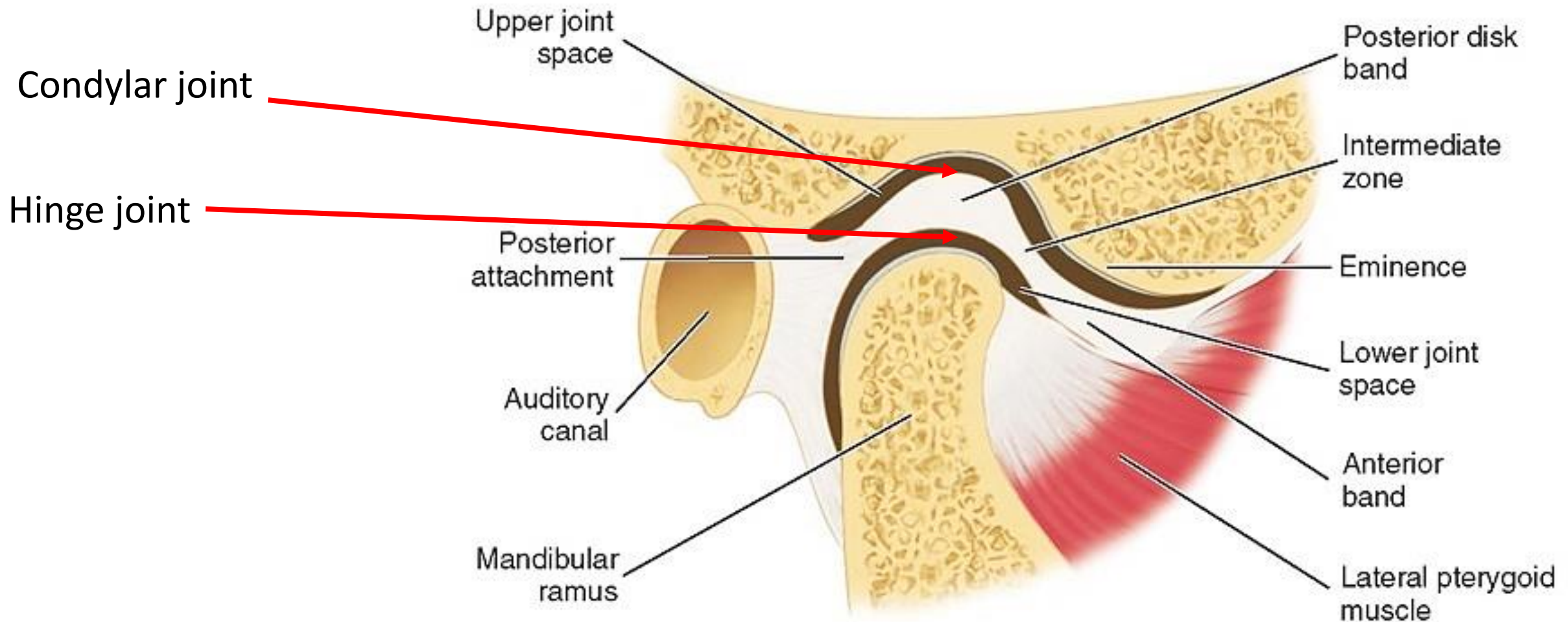
- Elevate the mandible, thereby occluding the teeth during mastication.

## Temporalis

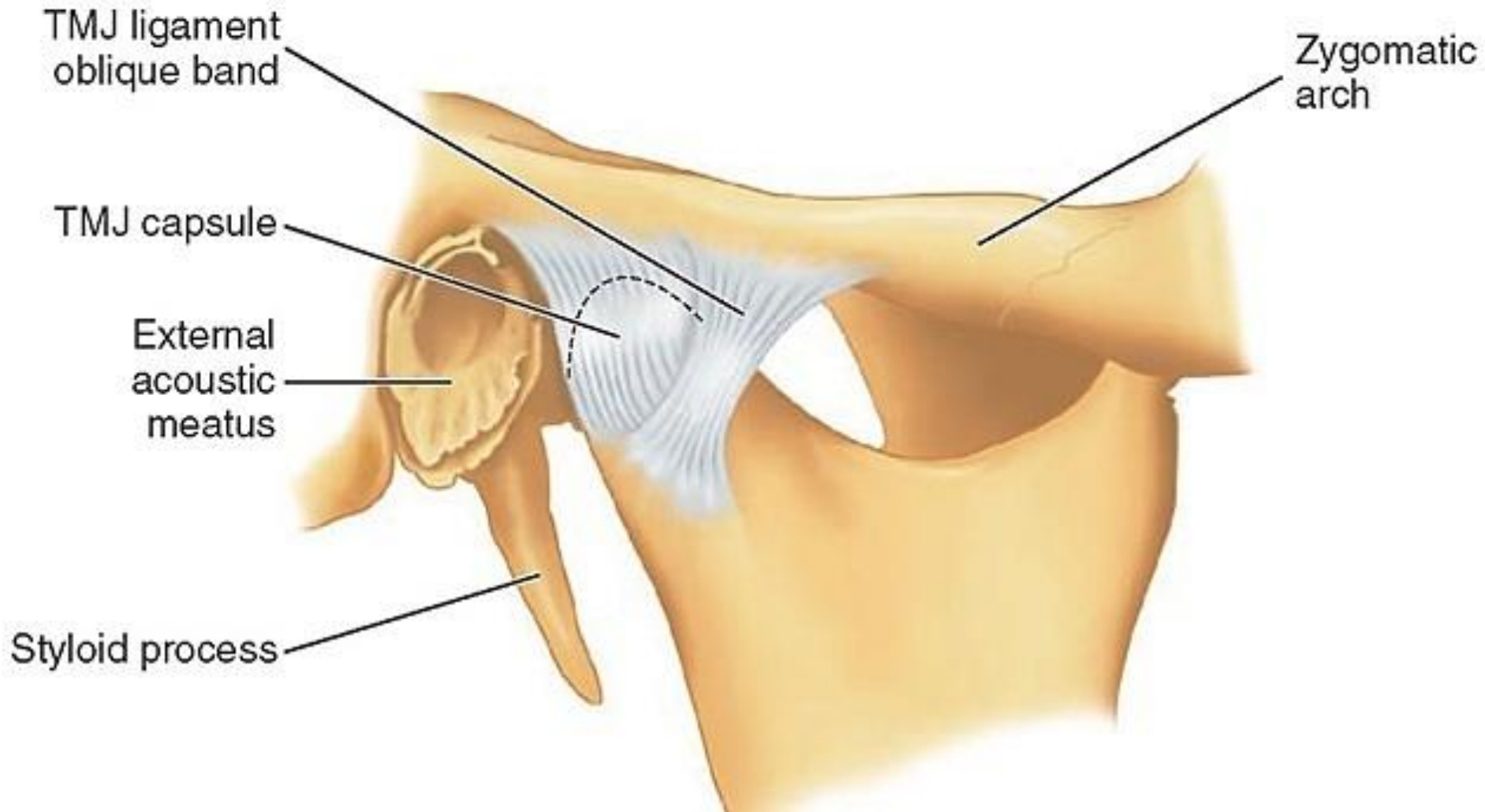
- Assists with mouth closing/side-to-side grinding of the teeth.
- Also provides a good deal of stability to the joint

# Temporomandibular Joint

- The articular surfaces of the TMJ are lined by fibrous tissue (i.e. develops in membrane)

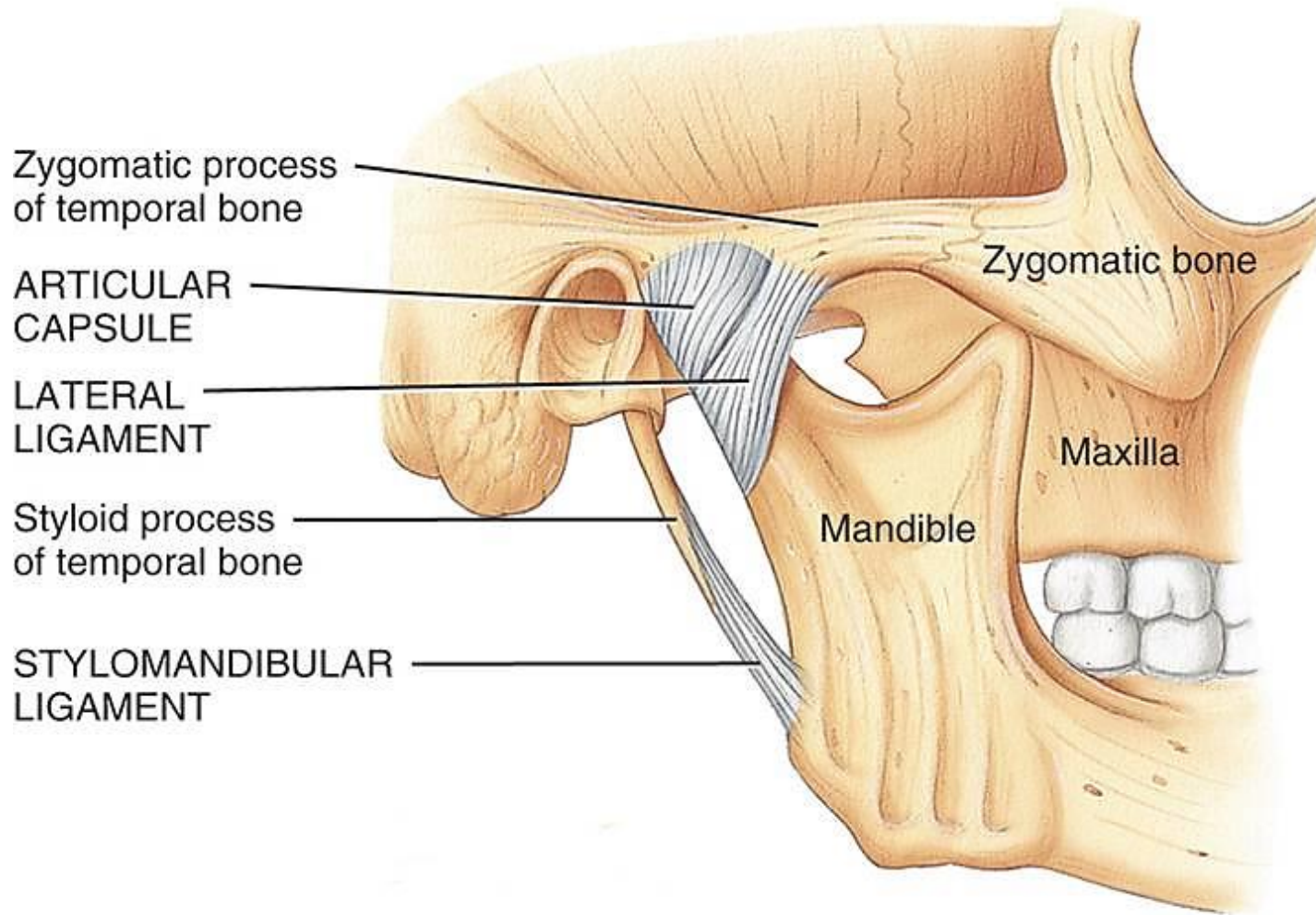


# Temporomandibular Joint

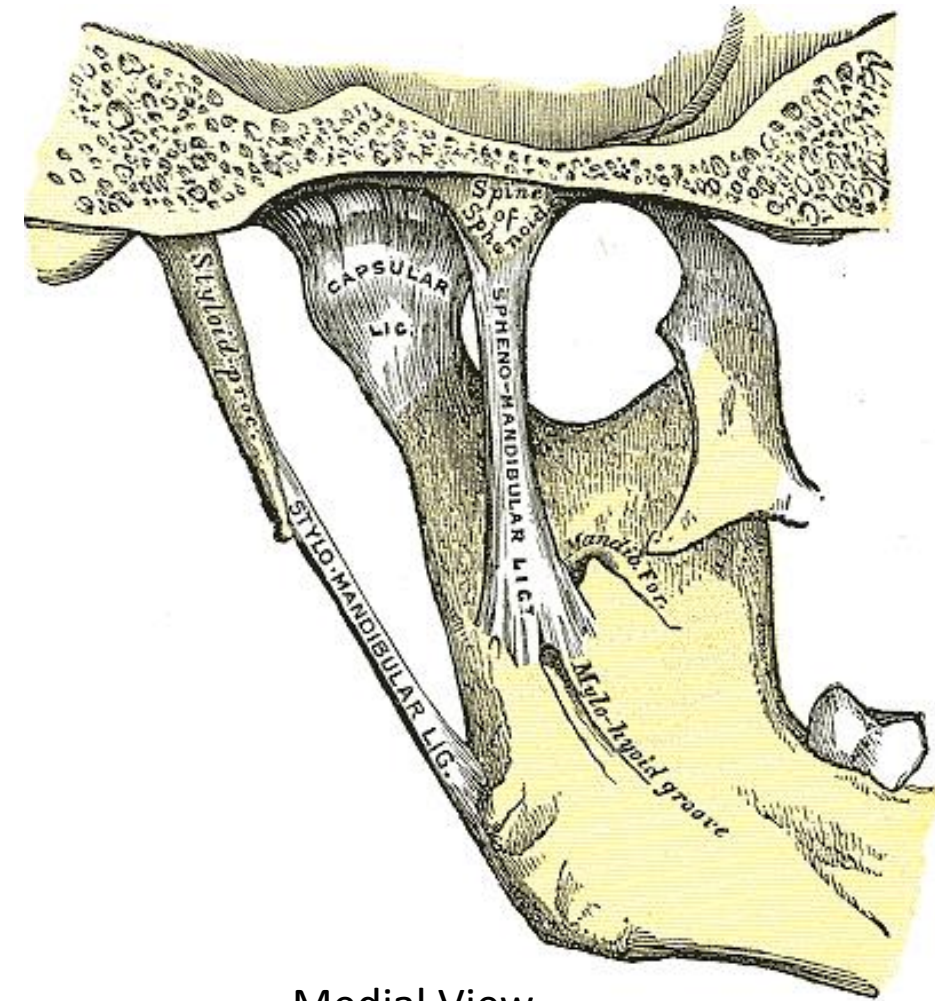




# Temporomandibular Joint

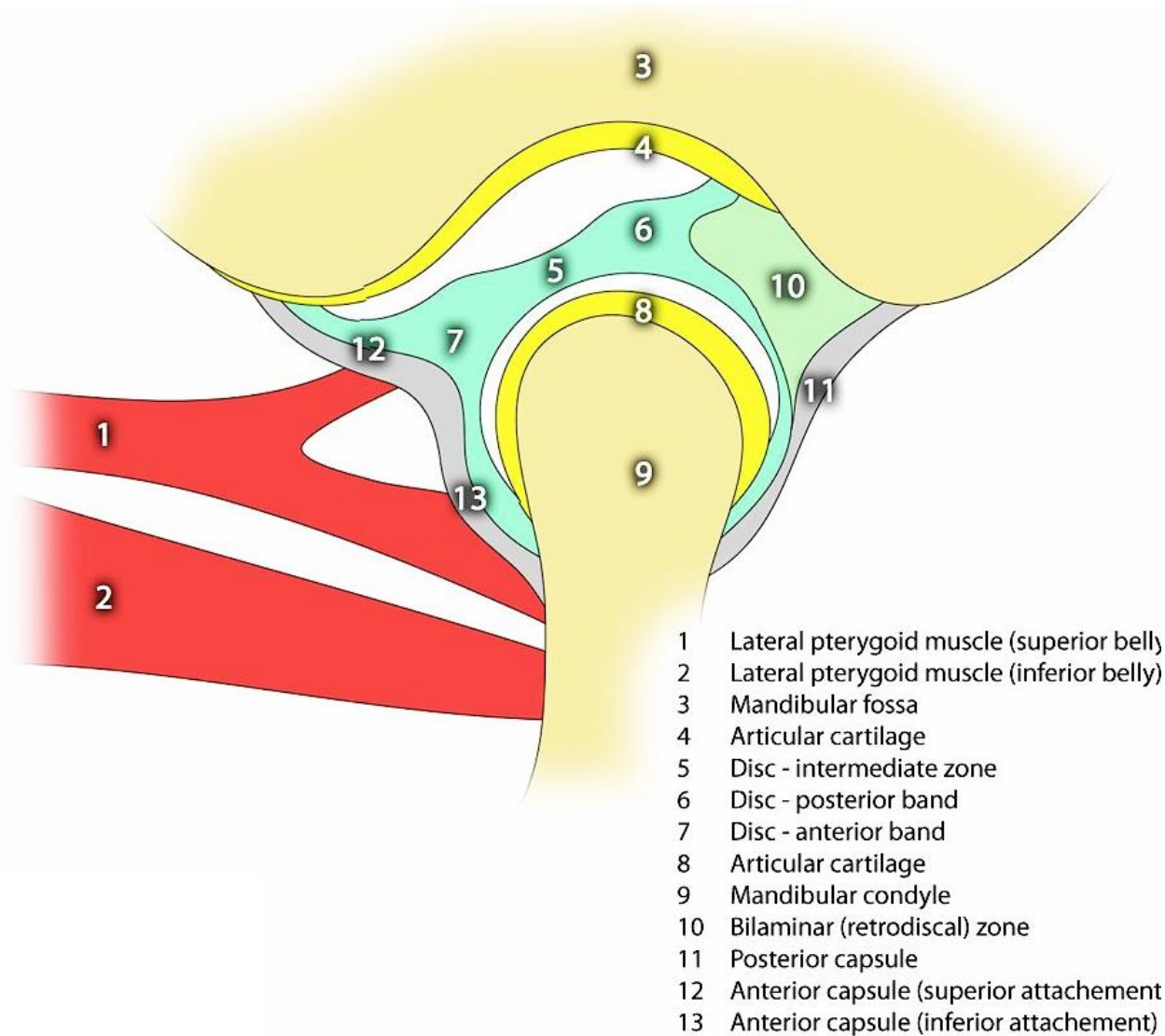


(a) Right lateral view



Medial View

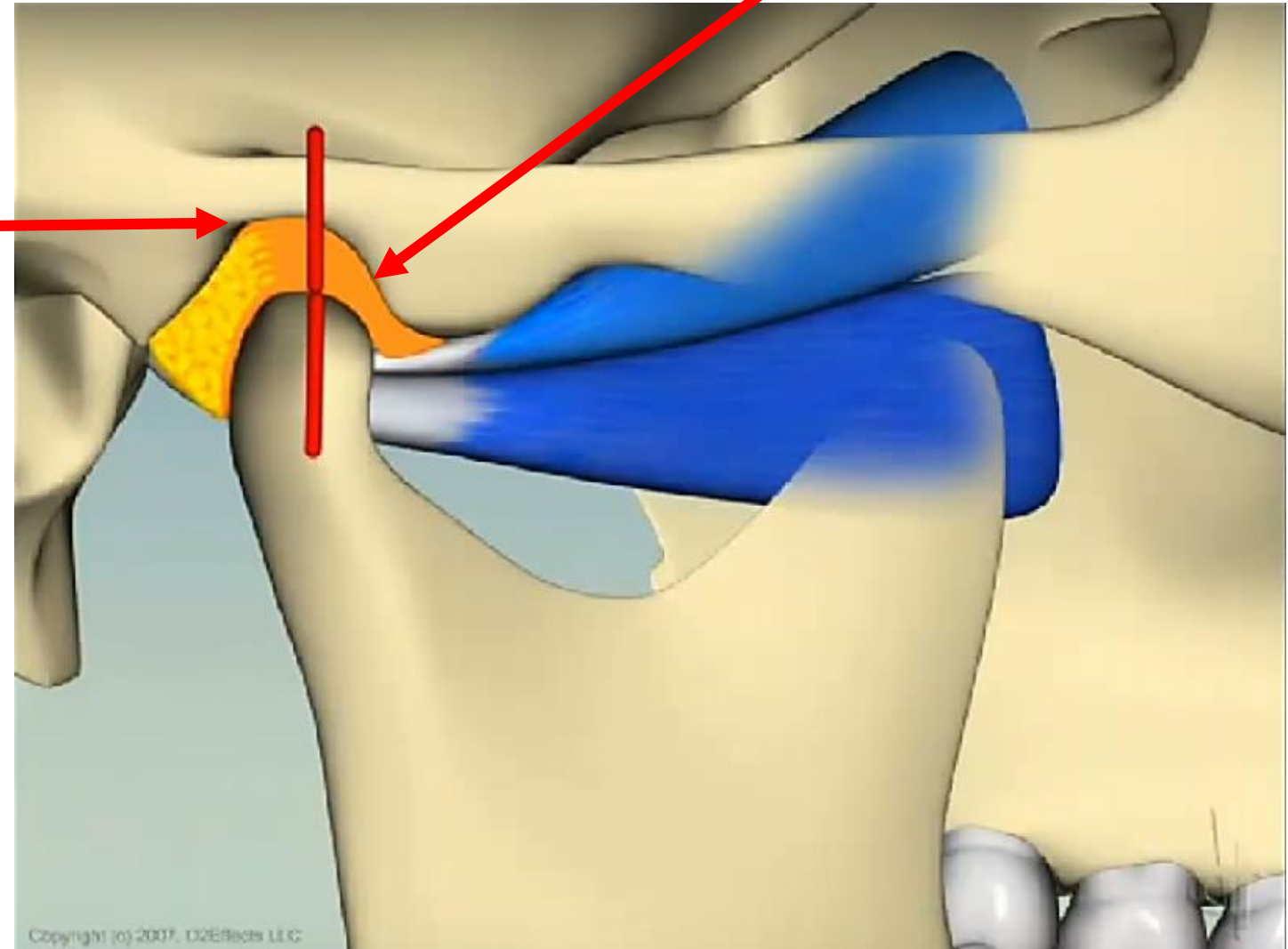
# Temporomandibular Joint



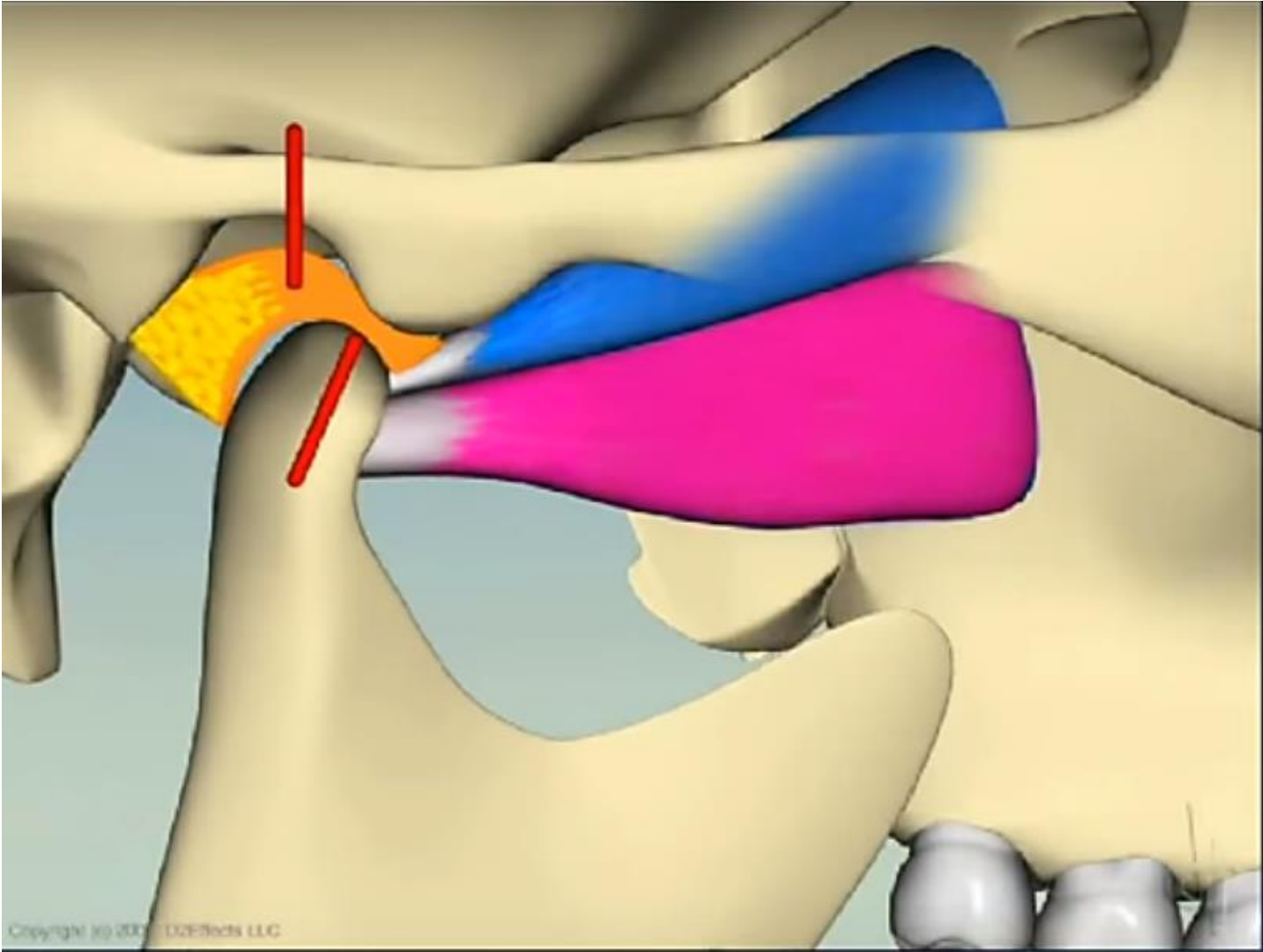
TMJ

Disc

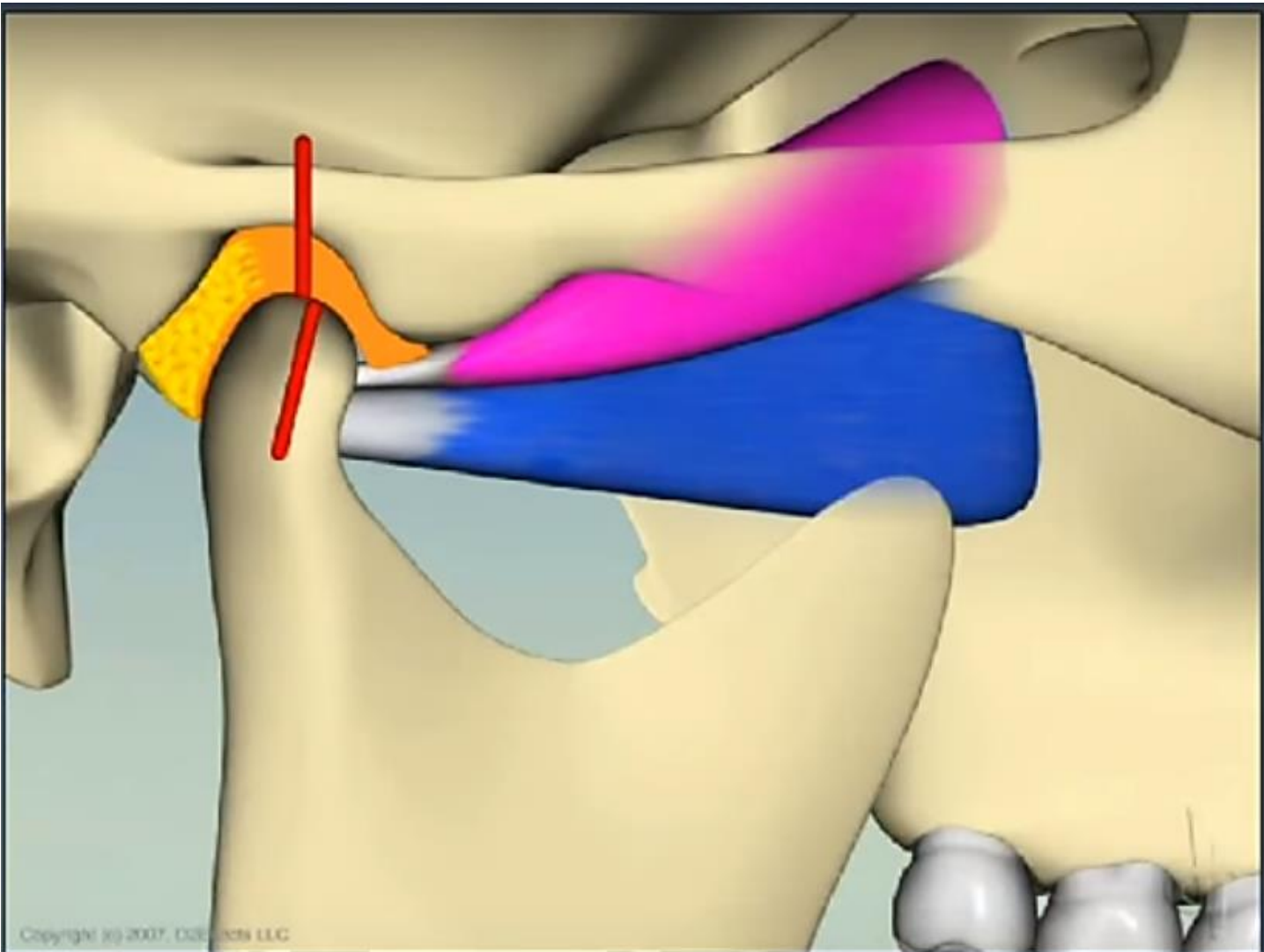
Fossa

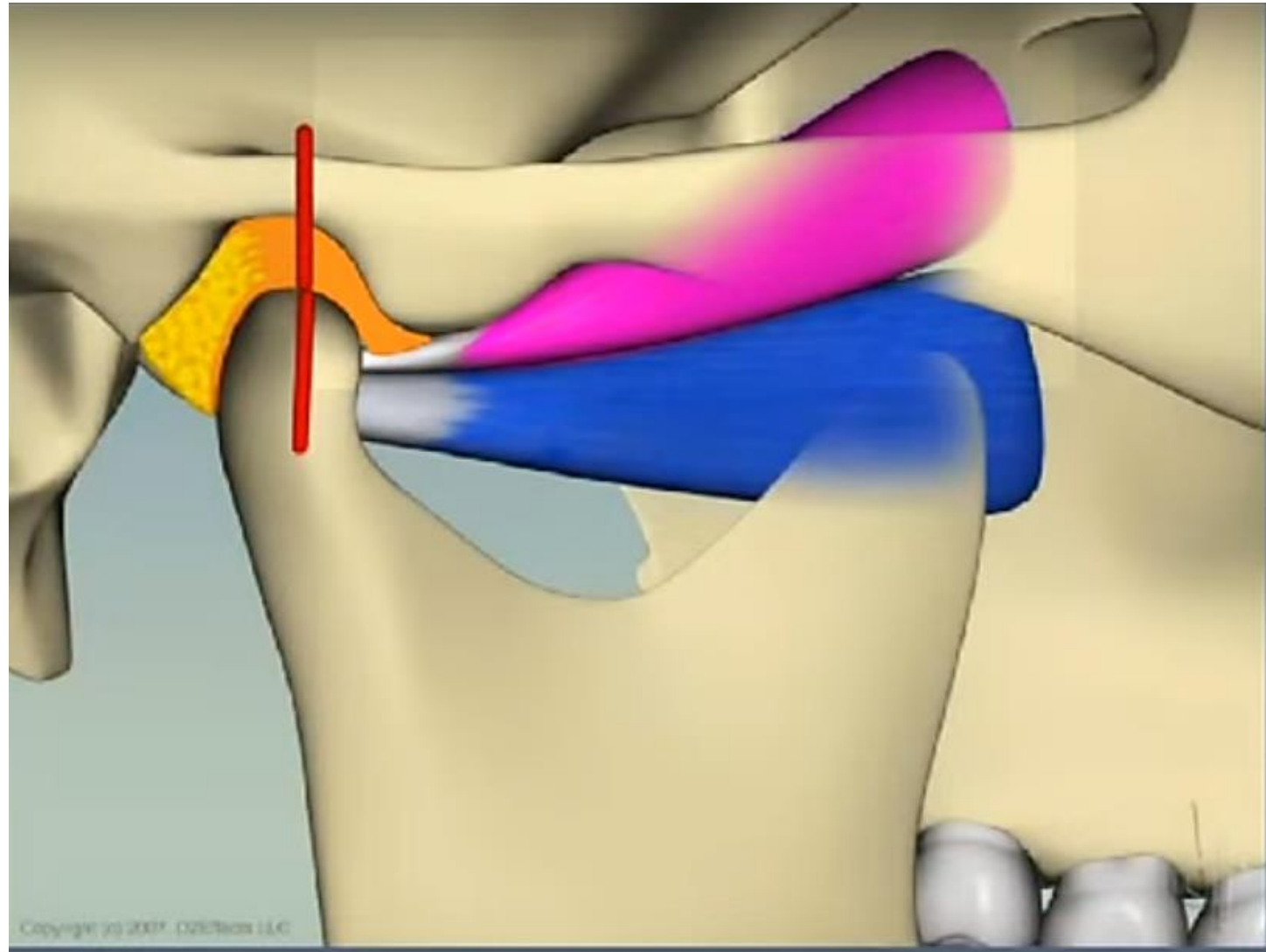


# TMJ



# TMJ



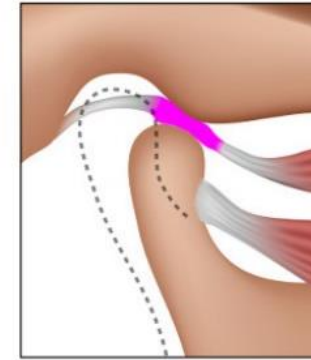
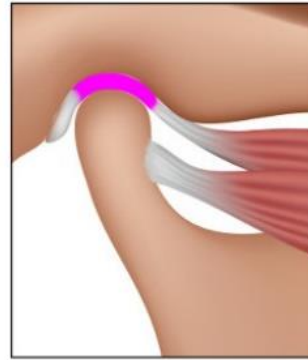


# TMJ Abnormalities

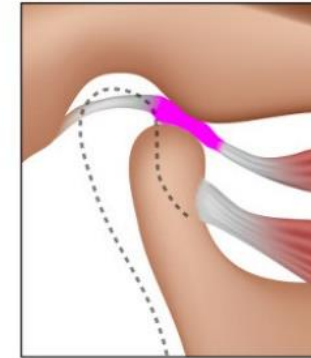
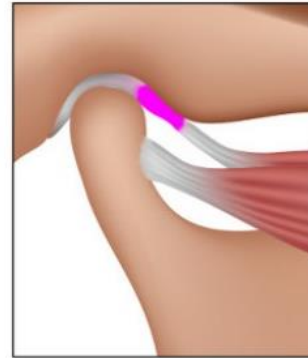
Jaw closed

Jaw open

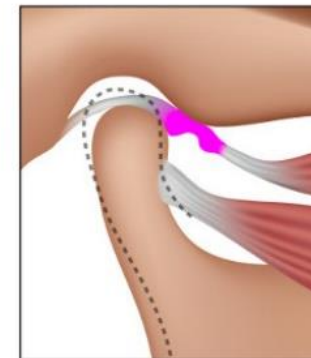
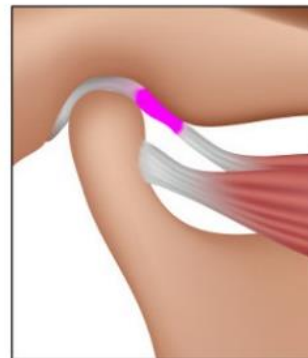
Normal



Clicking



Locking



# Jaw Dislocation Correction

