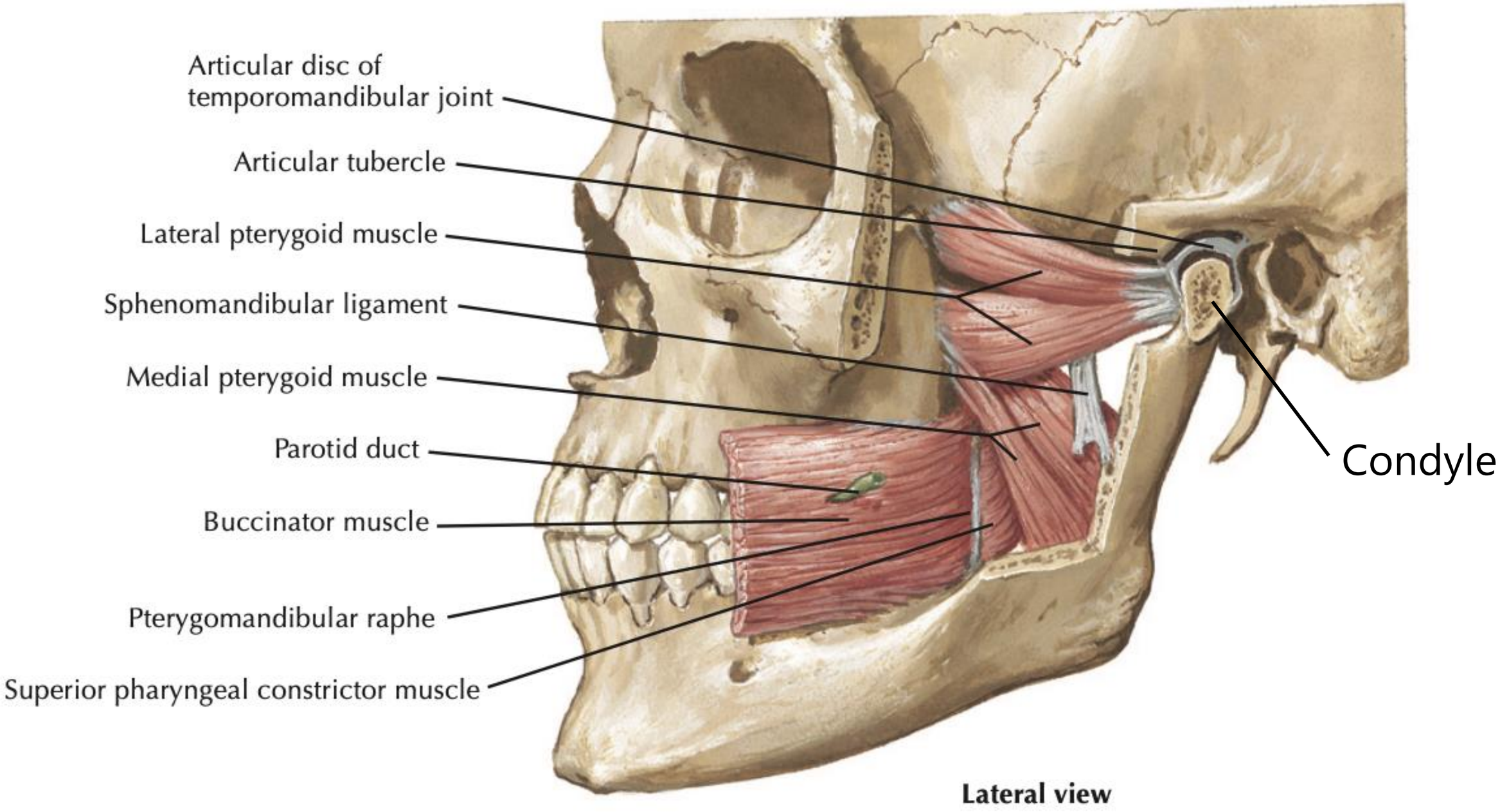
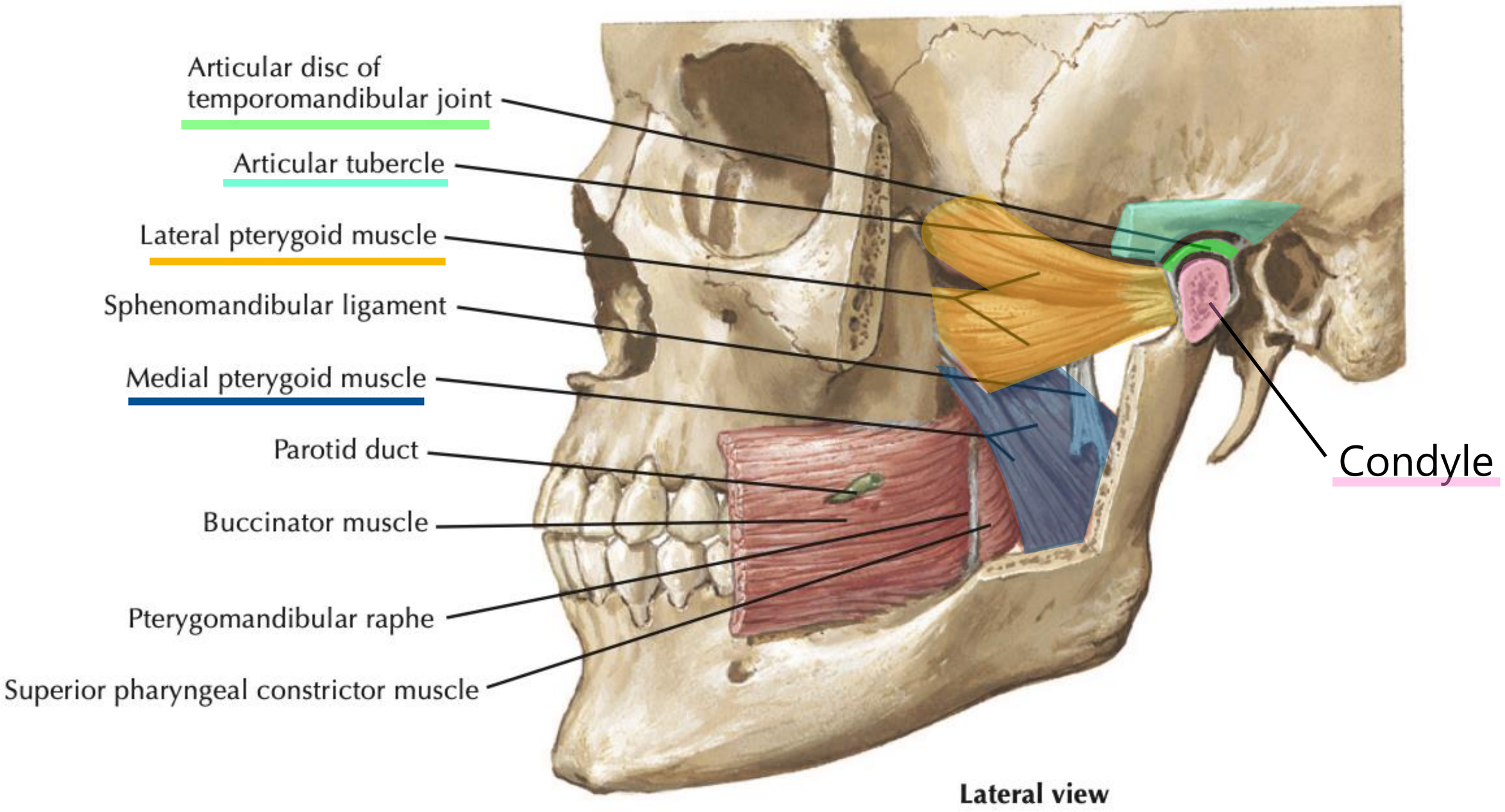
TMJ Anatomy


Articular disc of temporomandibular joint
Articular tubercle
Lateral pterygoid muscle
Sphenomandibular ligament
Medial pterygoid muscle
Parotid duct
Buccinator muscle
Pterygomandibular raphe
Superior pharyngeal constrictor muscle
Condyle
Lateral view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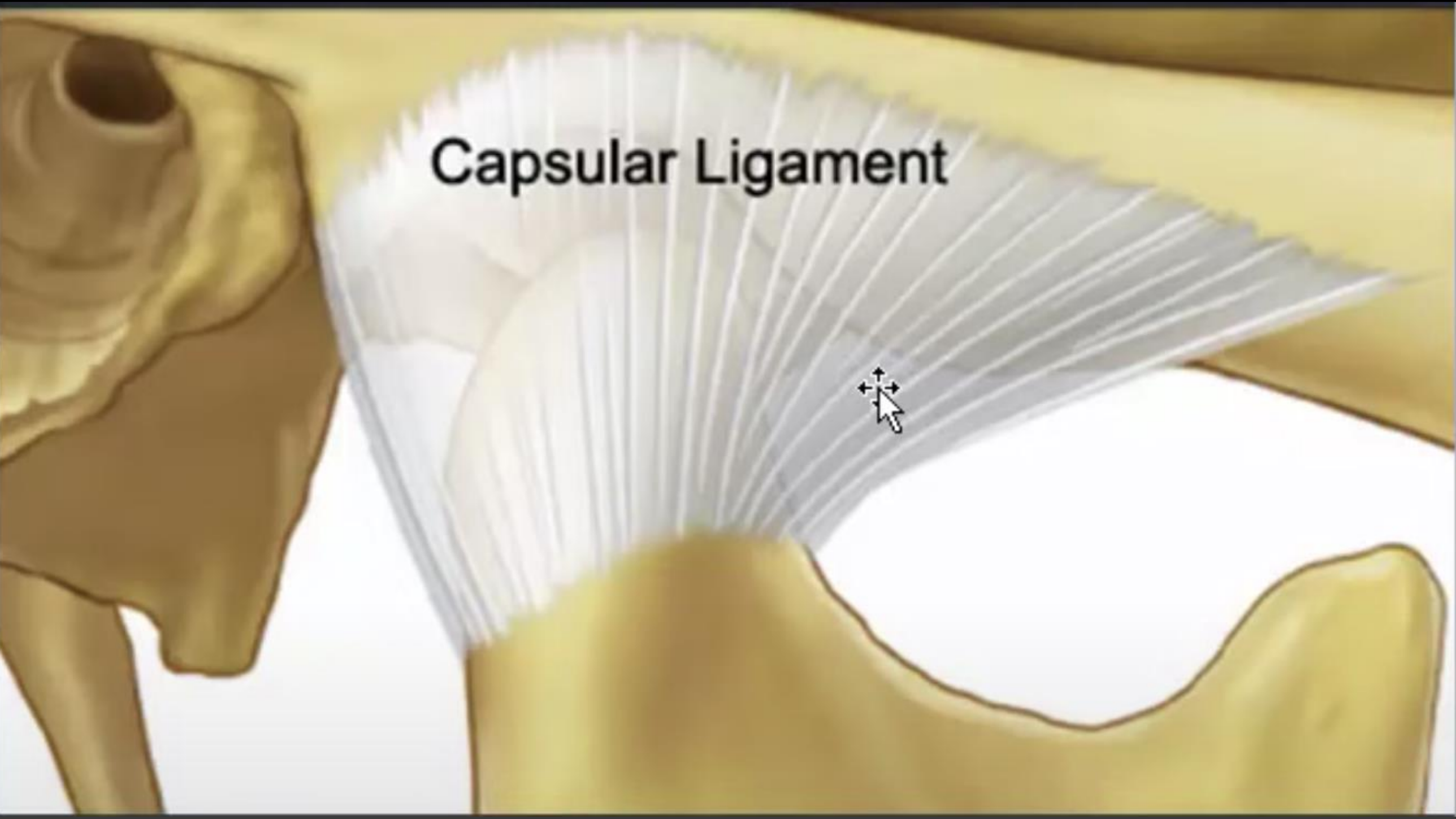
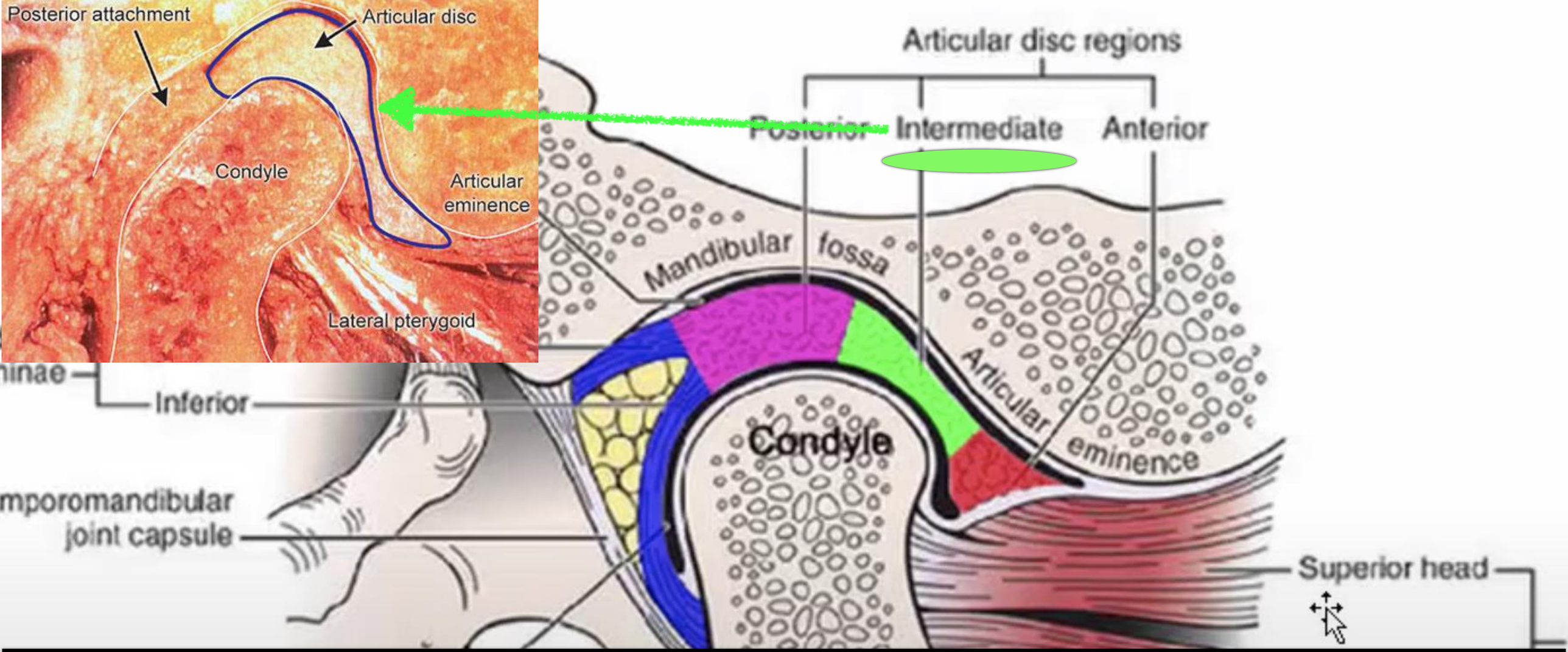

Capsular Ligament

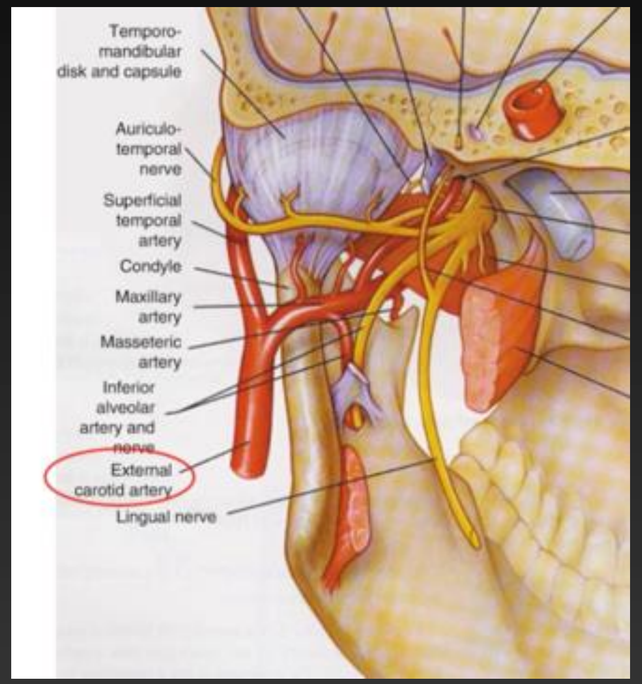


The absence of blood vessels & nerves in Intermediate Zone
Enables this part of the disc to act as a "Pressure baring area"

Posterior Attachment

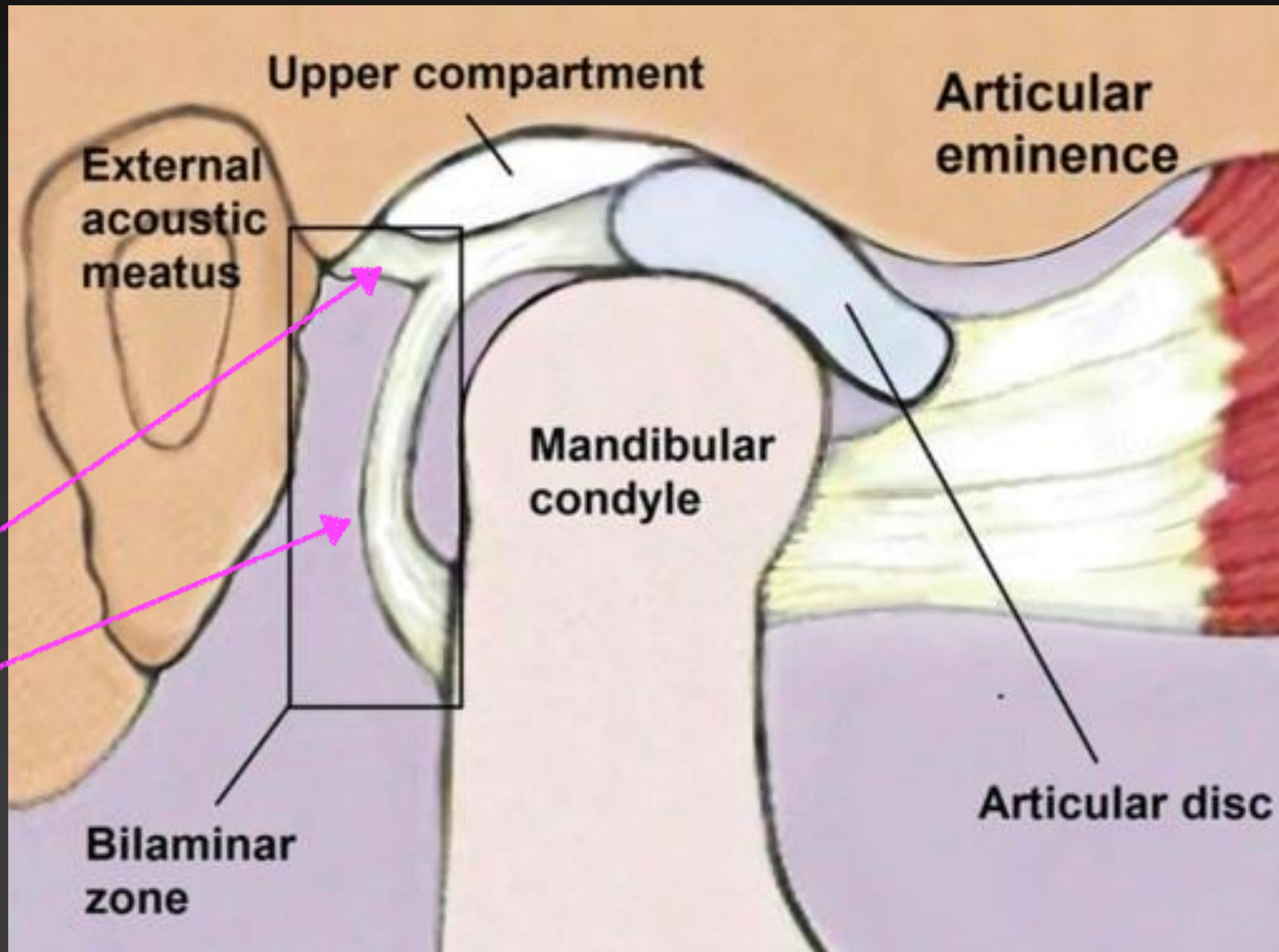
(Retrodiscal tissue or Bilaminar zone)

A highly vascularized and well-innervated tissue



- Upper temporal lamina : Elastic
- The lower condylar lamina :

Non-elastic



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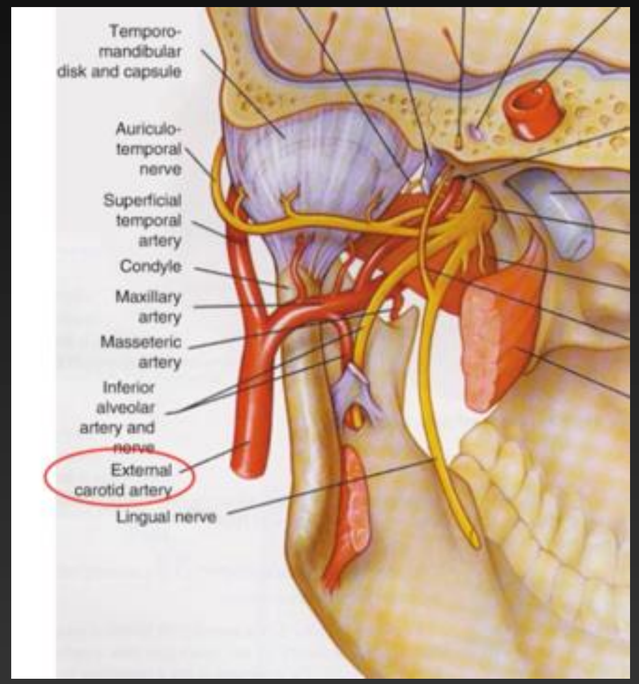

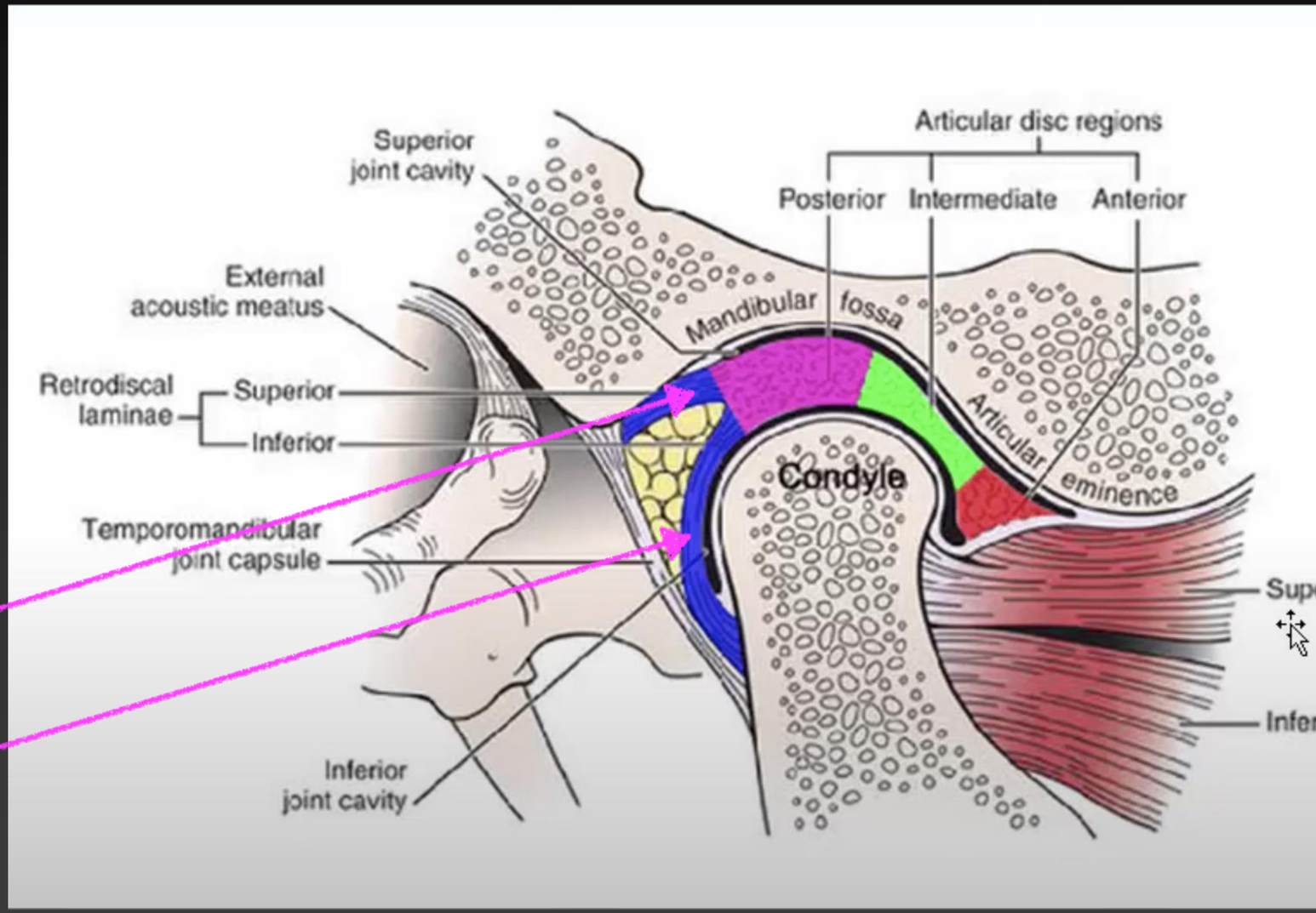

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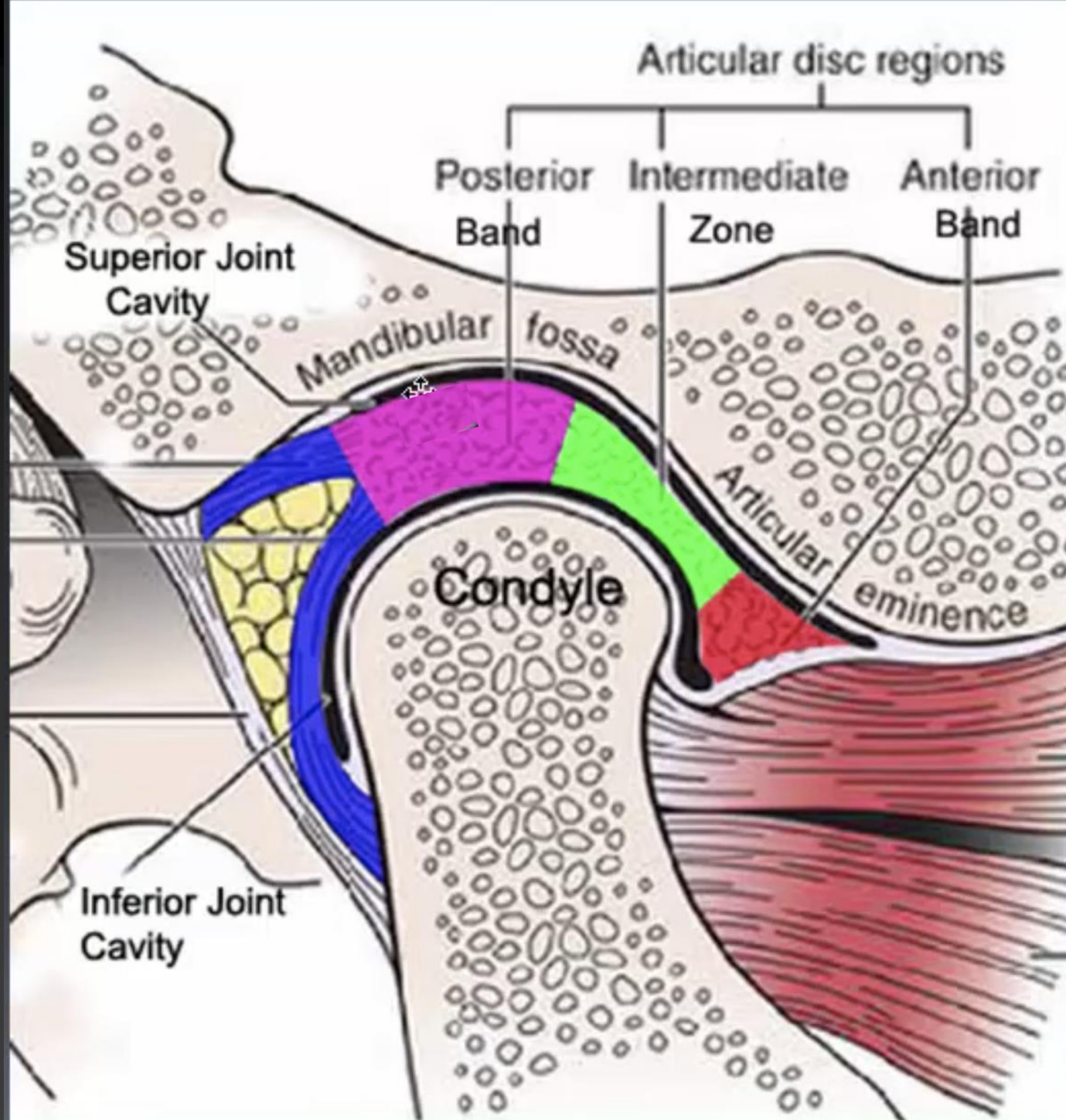
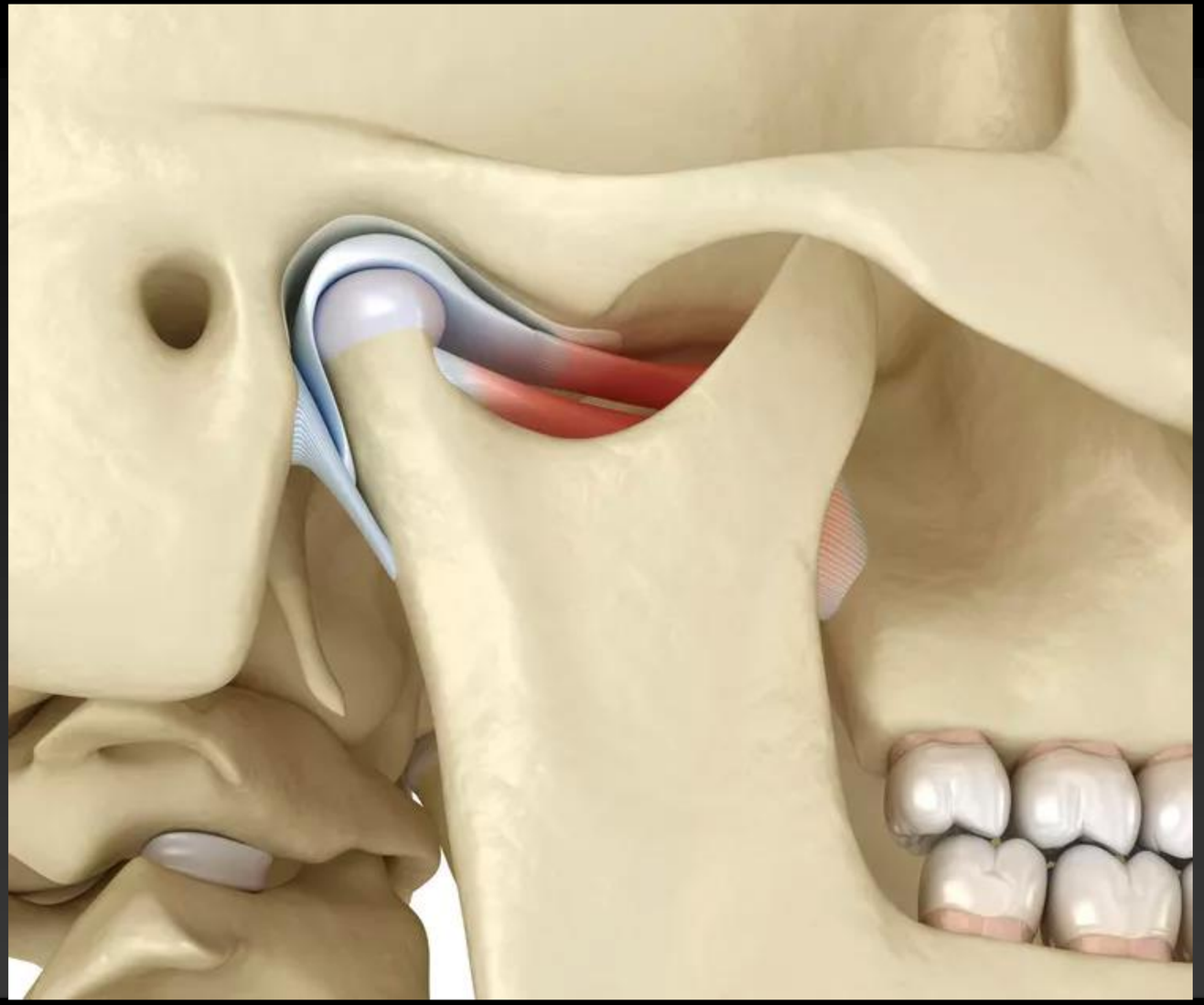
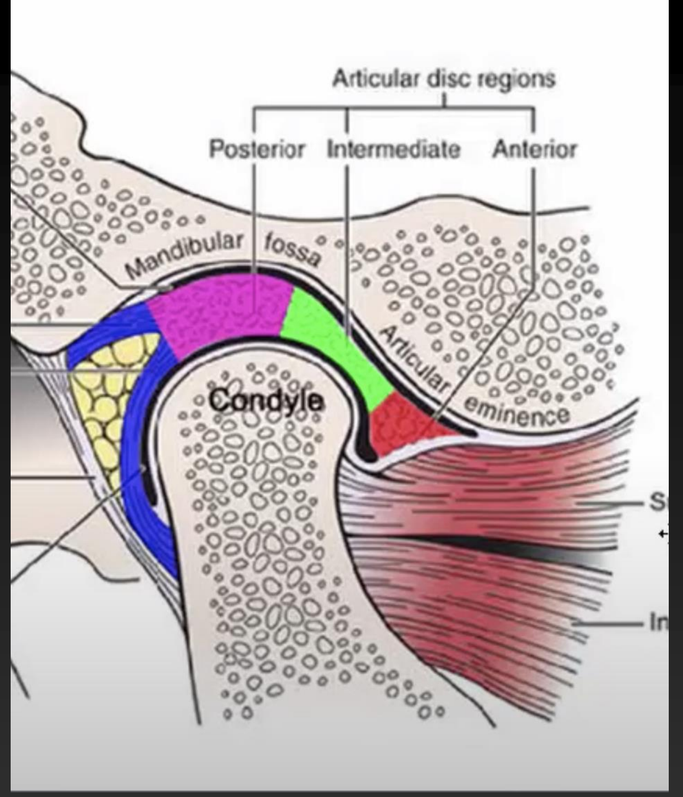
Four Part of Articular disc

- Anterior band
- Intermediate Zone
  - Stays in contact with condyle in depression/ elevation
- Posterior band
- Retrodiscal laminae
  - Superior Lamina
  - Inferior Lamina
- Retrodiscal tissue
  - Has nociceptive function
- Upper and lower joint cavity

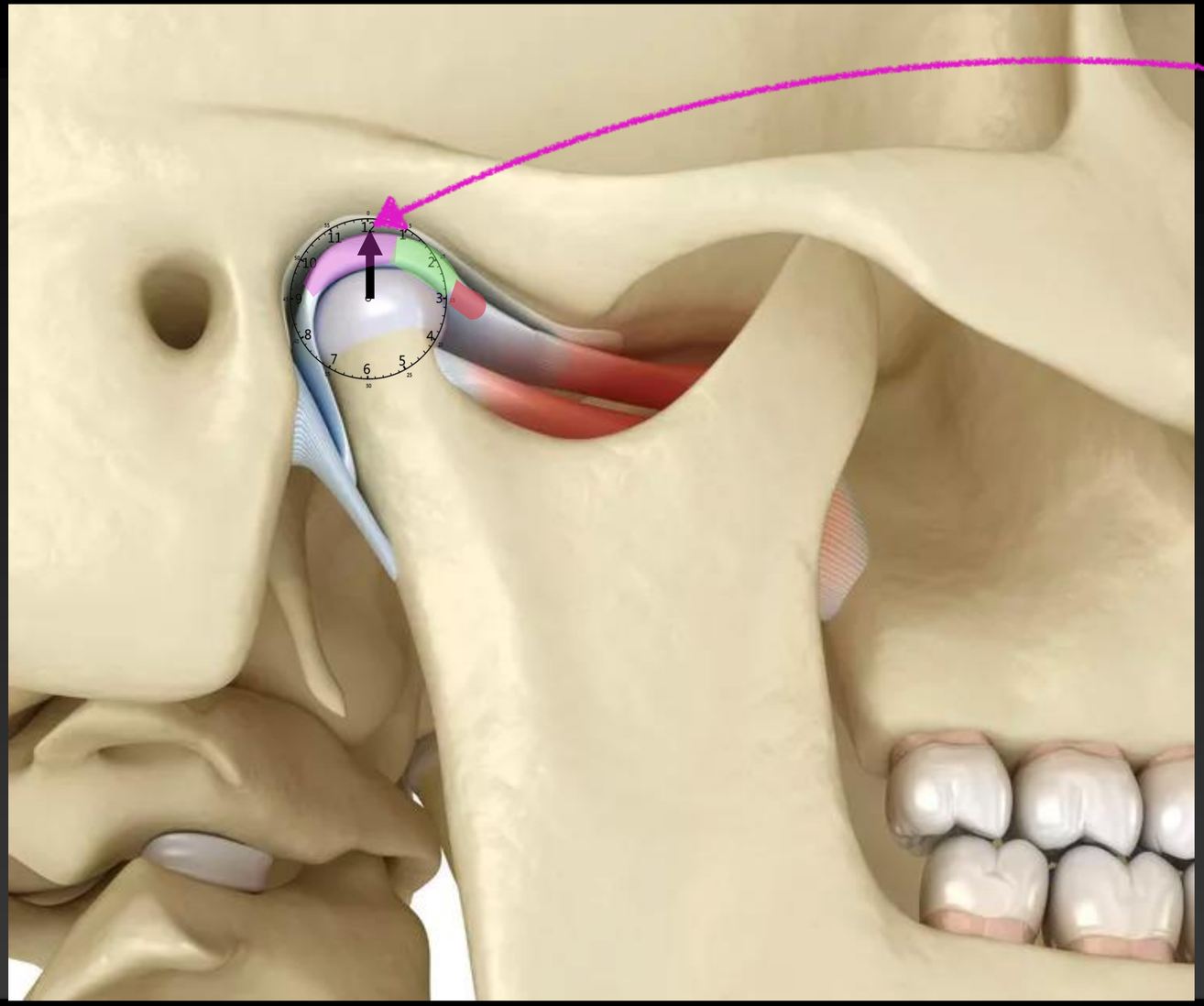


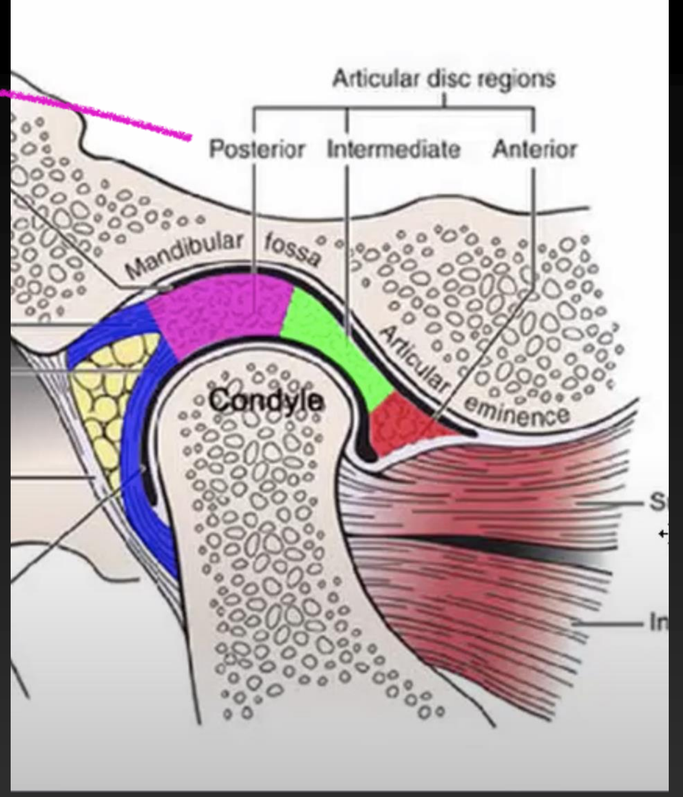




12 O'clock position

The posterior band ends, in healthy TMJ, at the apex of the condyle when teeth are in occlusion





12 O'clock position

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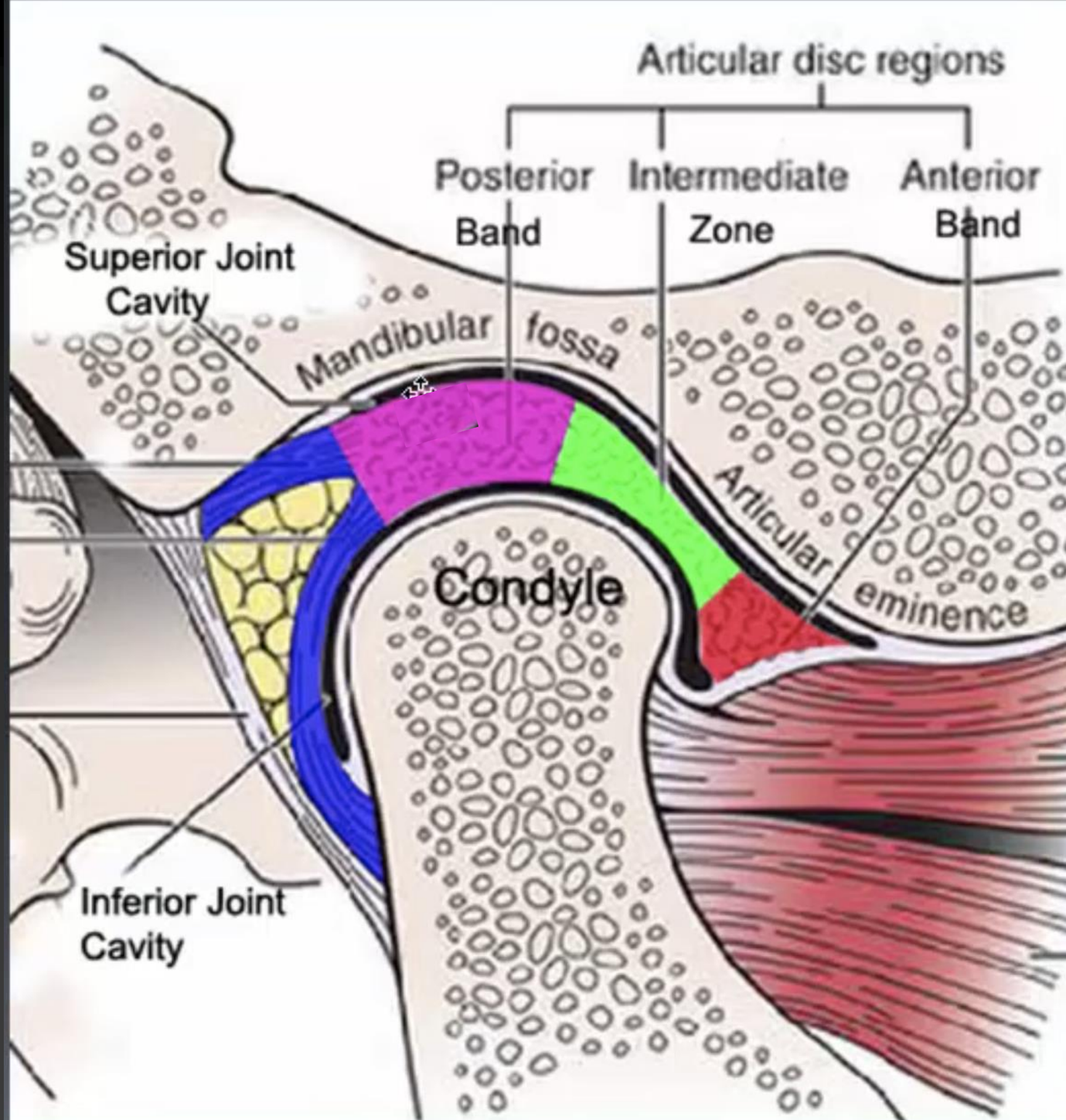
Articular disc & Joint space

- Inferior Joint Cavity
  - This is where the 1st part of mouth opening occurs (up to 25mm.) Via pure rotation of the condyle
- Superior Joint Cavity
  - This is where the 2nd part of mouth opening occurs (25mm. To ~ 50mm.) via translation of the condyle out of the fossa and over the articular eminence
- Superior Retrodiscal Lamina
  - Highly elastic
  - Stabilizes mouth opening



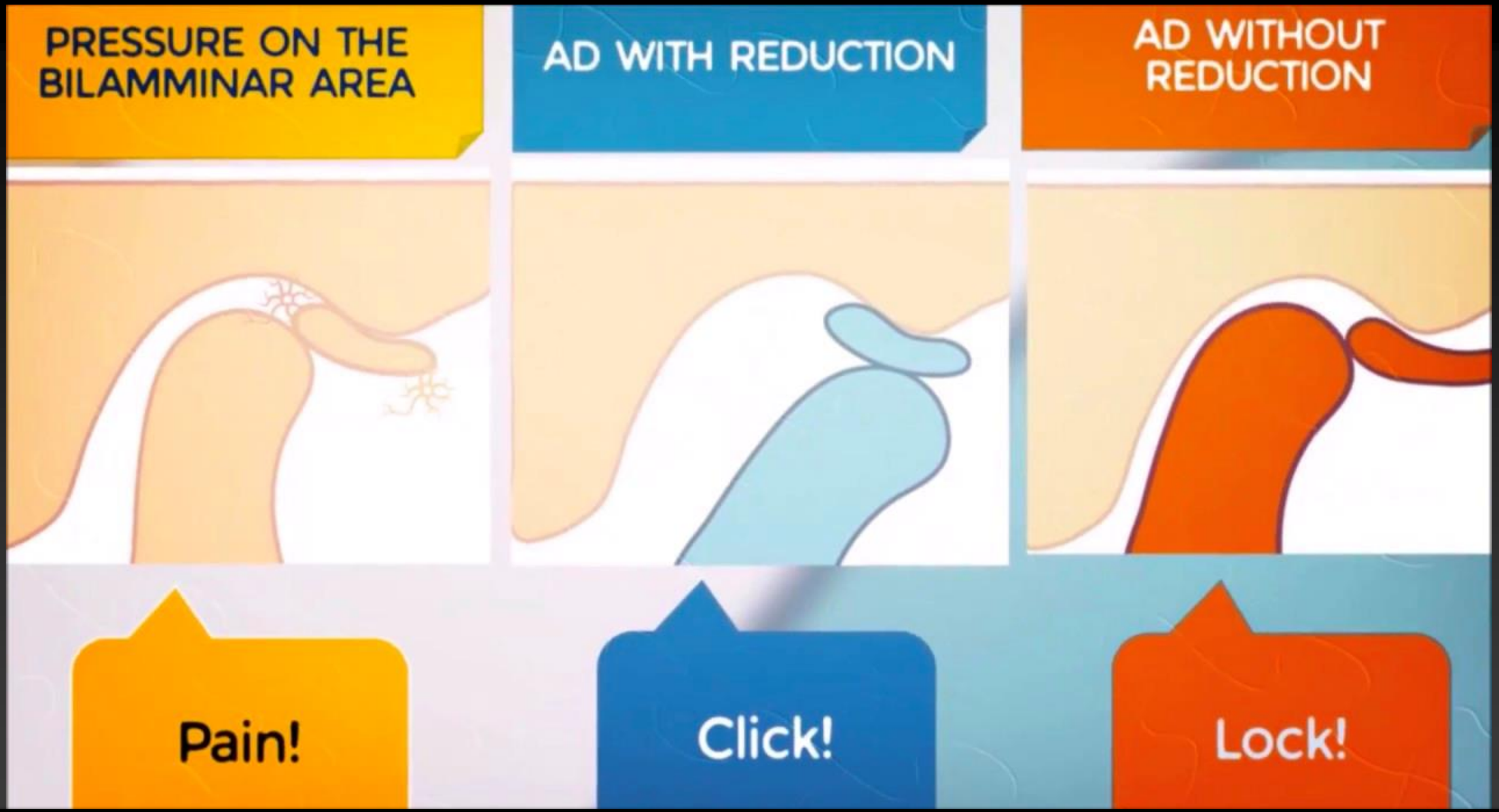
The articular disc (miniscus)

- 2 type of joint movements occur in separate compartments of this joint :
  - Sliding or translation in the upper compartment
  - Hinge or rotation in the lower compartment

Classification of TMJ Disc displacement

Classification of TMJ Disc displacement

- Anatomical classification
  - Anterior
  - Antero-medial
  - Antero-distal
  - Lateral
  - Medial
  - Posterior (very rare)



Anterior Disc Displacement

Classification of TMJ disc displacement

- Functional Classification
  - Disc displacement with reduction
  - Disc displacement without reduction - acute phase
  - Disc displacement without reduction - chronic phase

Evolution of TMD disc displacements

- Disc Displacement with reduction partial/complete
- Disc Displacement without reduction acute/chronic
- Disc perforation
- Degenerative joint disease

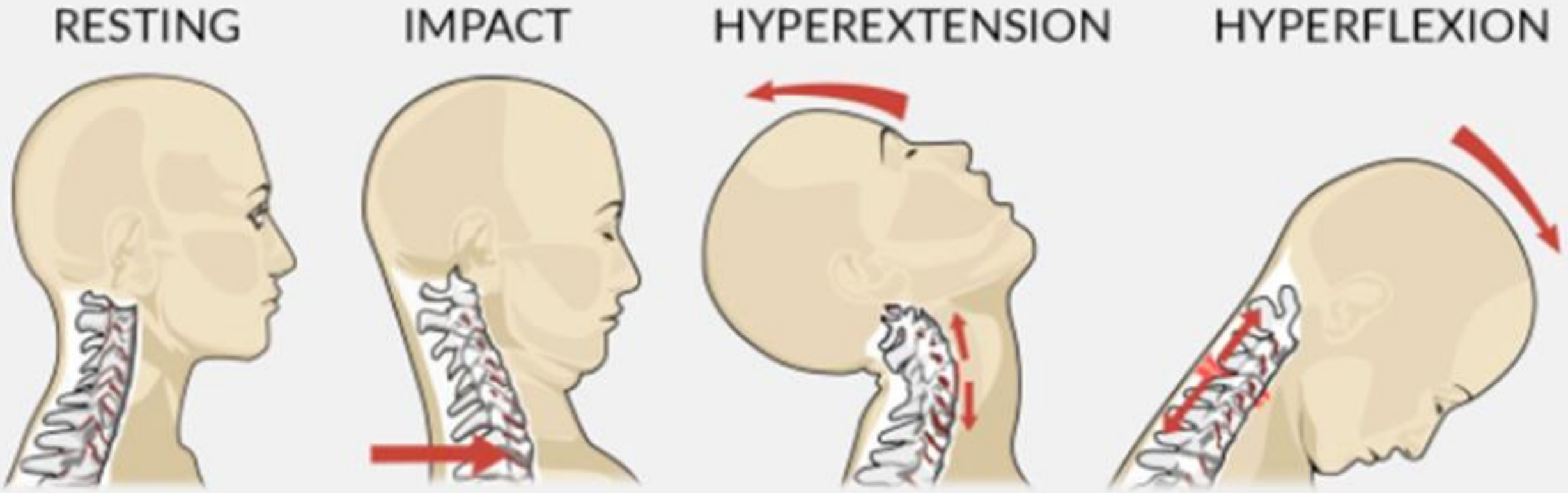
What causes TMJ Disorder?

What causes TMJ Disorder?

- Trauma (extrinsic / intrinsic factor)
- Malocclusion
- Stress
- Etc.

Trauma (extrinsic factor)

Whiplash



Trauma (extrinsic factor)

Trauma (intrinsic factor)

Parafunctional activity

Trauma (intrinsic factor)

Excessive mouth opening

Malocclusion

Stress

Grinding and Clenching

Discdisplacement with Reduction

- **Reciprocal clicking**
- Deviation
- Pain
- Limit mouth opening

(only case with secondary muscle splinting)

Reciprocal clicking

- 1st click occur during mouth opening, indicating recapture of the displace disc
- 2nd click occur during mouth closure, indicating displacement of the disc anteriorly


Discdisplacement with reduction

Discdisplacement with out Reduction

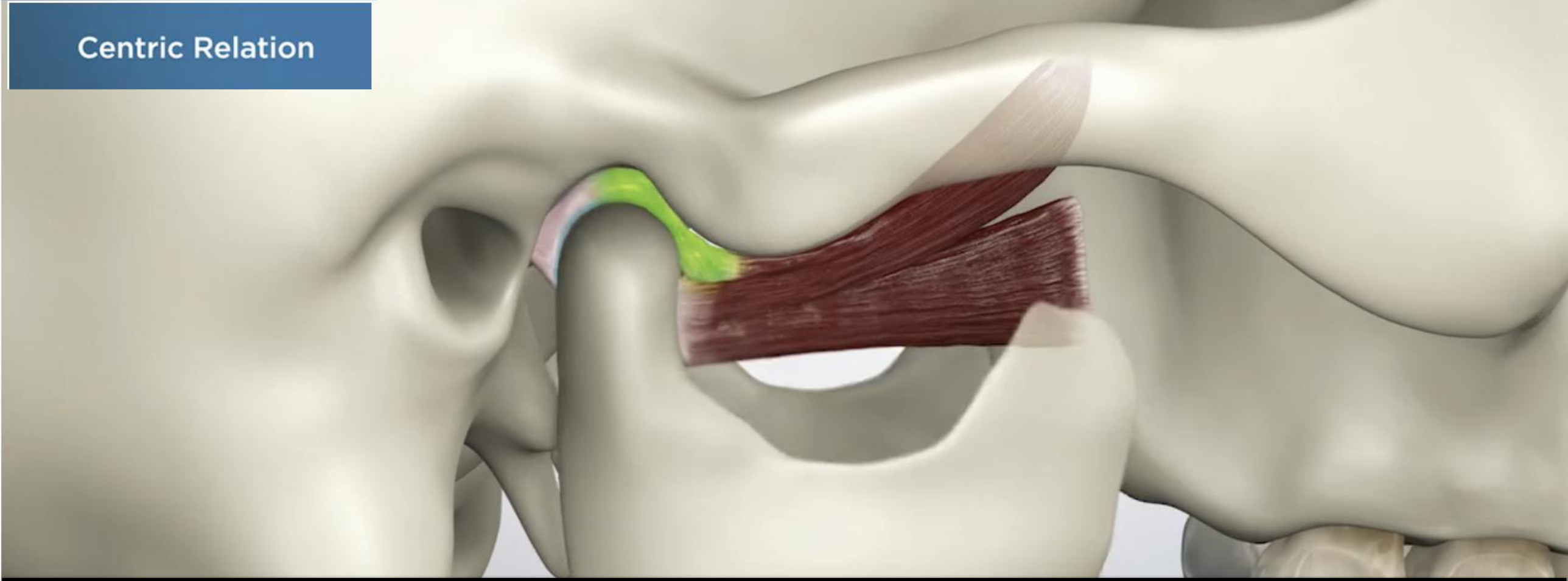
- Severely restricted opening < 25-30 mm.
- Mandibular midline deflection
- Limitation of protrusive excursion

(accompanied by deflection to ipsilateral)

- Restriction of the lateral movement to contralateral side
- Severe articular pain

Jaw position Theories

Where the condylar position should be during diagnosis and treatment?



CR Position = Most superior retruded position

(Ligament dedicated postion)

Factor related to TMD

1. OCCLUSION
2. TMJ & GLENOID FLOSSA
3. DISC
4. MUSCLE
5. SKELETAL : MANDIBLE
   : MAXILLA
6. STRESS
7. HABIT
8. SYSTEMIC
9. CONGENITAL
10. Injury (trauma)
11. Bruxism
12. Poor posture
13. Dental Procedure