أهلا وسهلا

الأستاذ الدكتور يوسف حسين

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Muscles of mastication

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Muscles of mastication

- **General rules :** https://www.youtube.com/@ProfDrYoussefHusseinAnatomy/playlists

They include **4 muscles:**

1) Temporalis
2) Masseter.
3) Lateral pterygoid.
4) Medial pterygoid.

- **Origin**: they arise from the temporal and infratemporal fossa.
- **Insertion**: they are inserted into the ramus of the mandible.
- **Nerve supply**: they are supplied by the mandibular nerve.
- **Development,** they developed from the 1st pharyngeal arch.

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Muscles of Mastication

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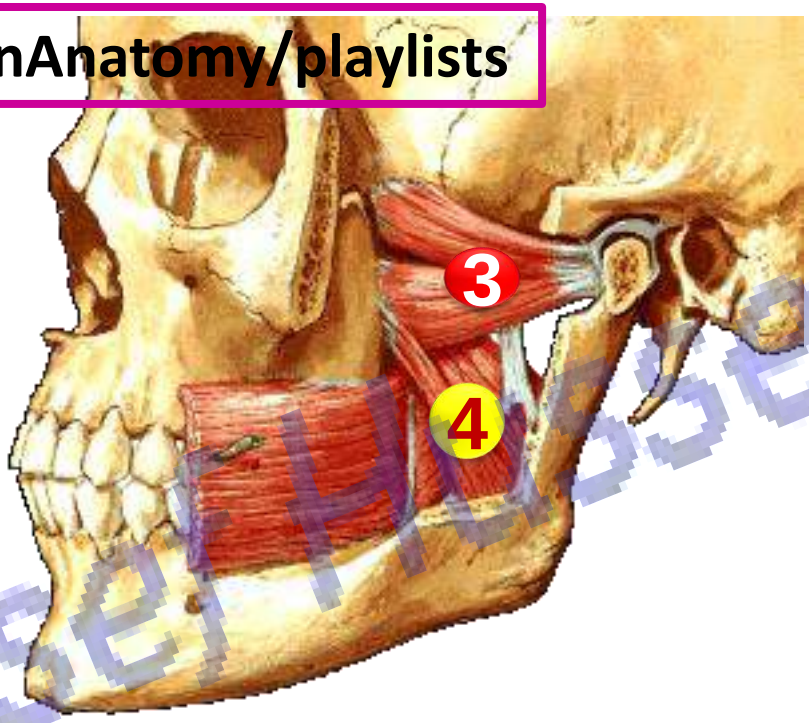
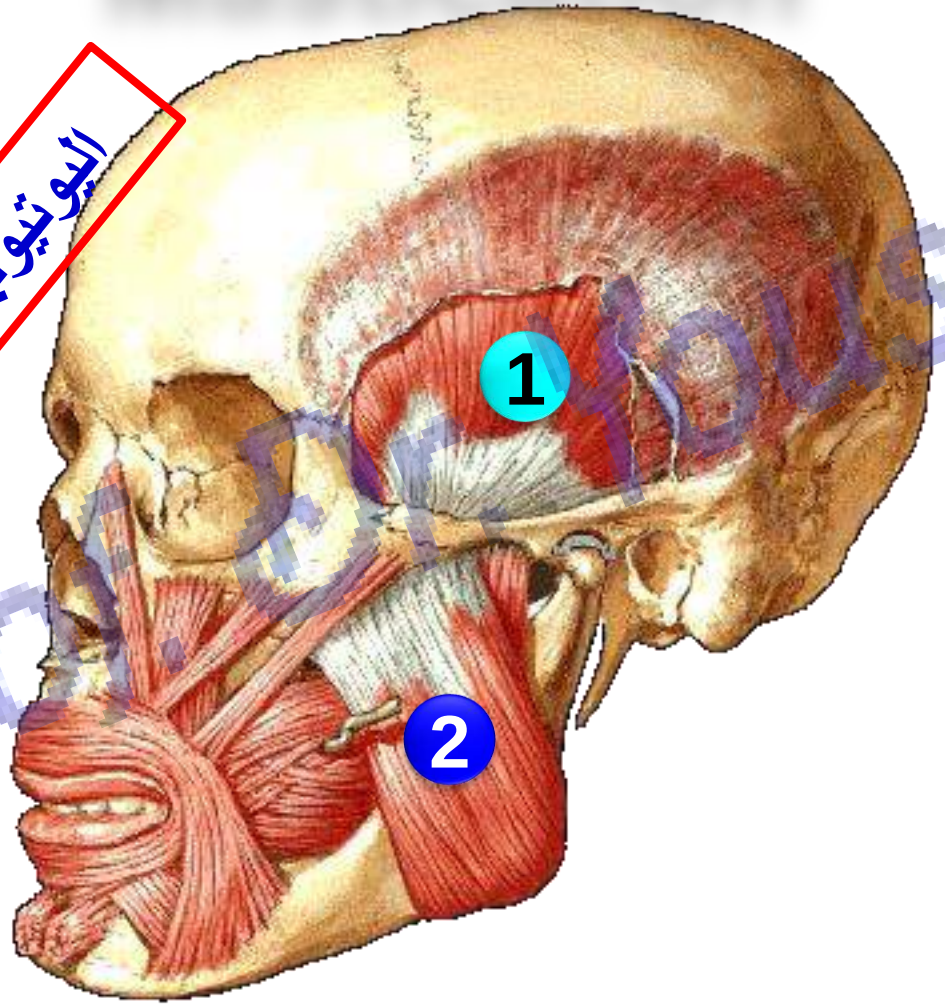




1. Temporalis
2. Masseter
3. Lateral Pterygoid
4. Medial pterygoid

Temporalis

Origin From Temporal fossa and temporal fascia

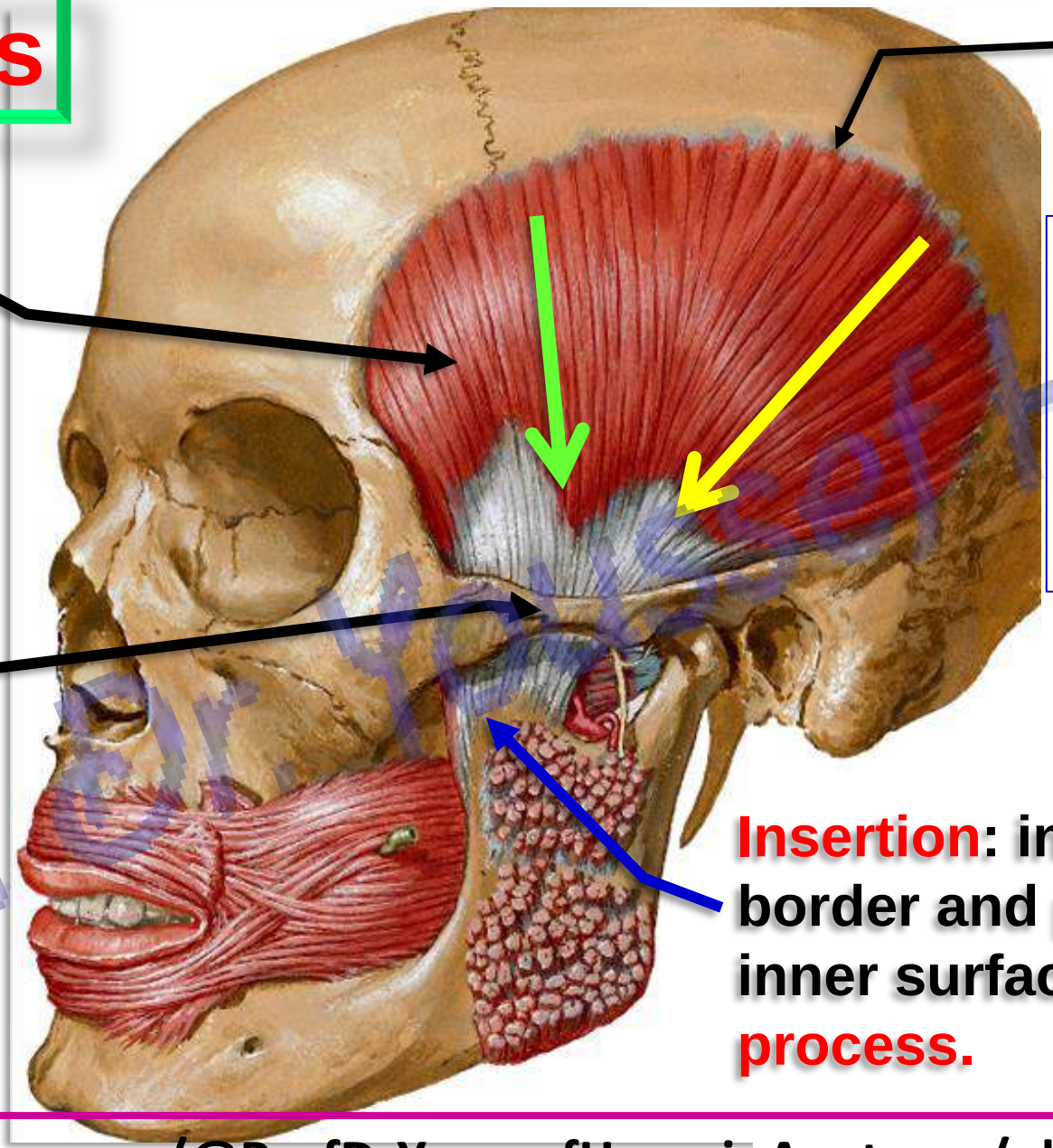
Origin From Inferior temporal line

- **Direction of fibres;**

- **Anterior** fibers are vertical downward.

- **Posterior** fibers are downward and forward.

Zygomatic arch.

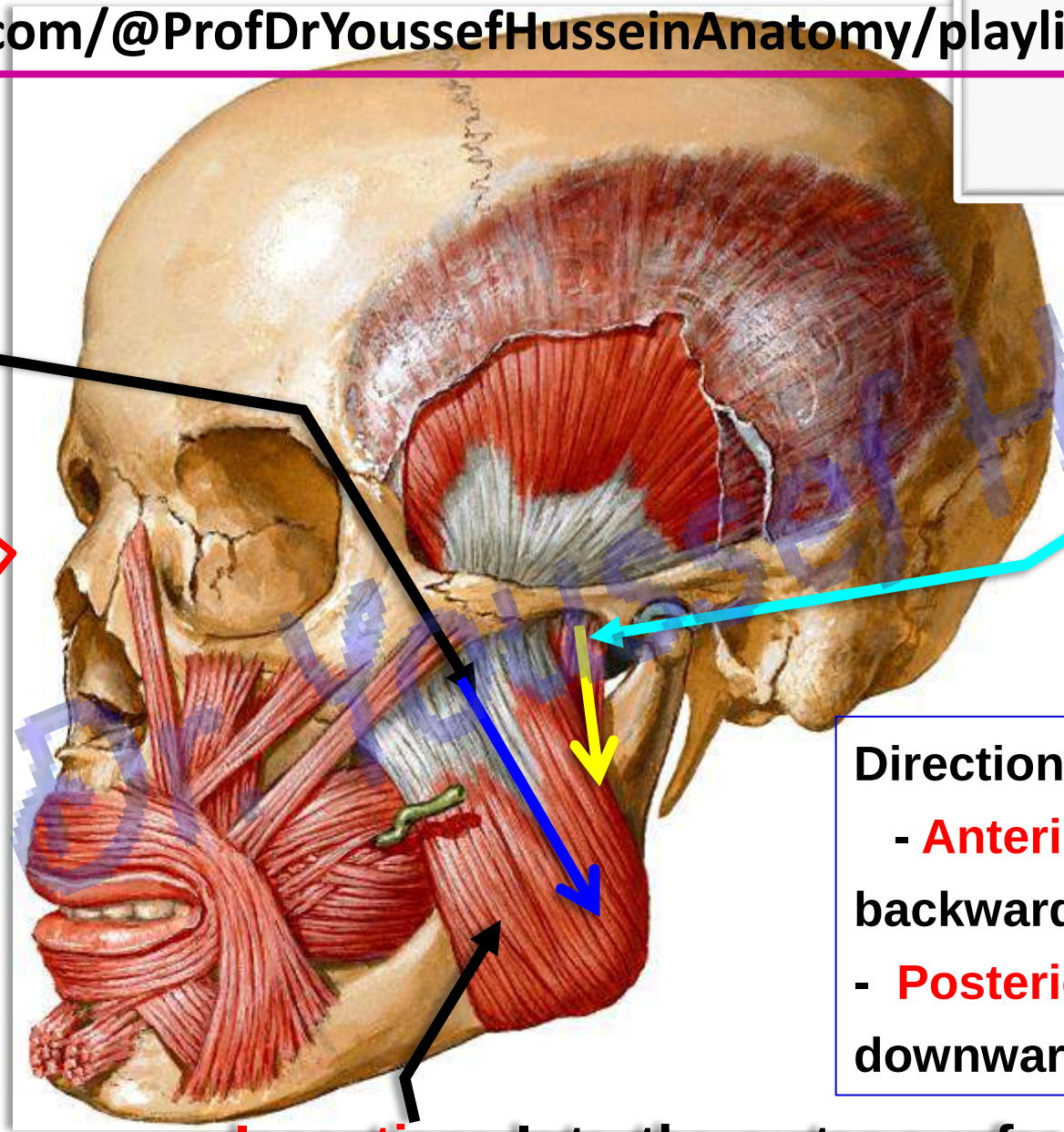


Fan shaped muscle

Insertion: into the tip, anterior border and posterior border and inner surface of the **coronoid process.**

Masseter muscle

Origin: Superficial fibers from lower border zygomatic arch



Origin: Deep fibers from deep surface of zygomatic arch

Direction of the fibres:

- **Anterior** directed downwards and backwards.
- **Posterior** directed vertically downwards.

Insertion: Into the outer surface of the ramus of the mandible

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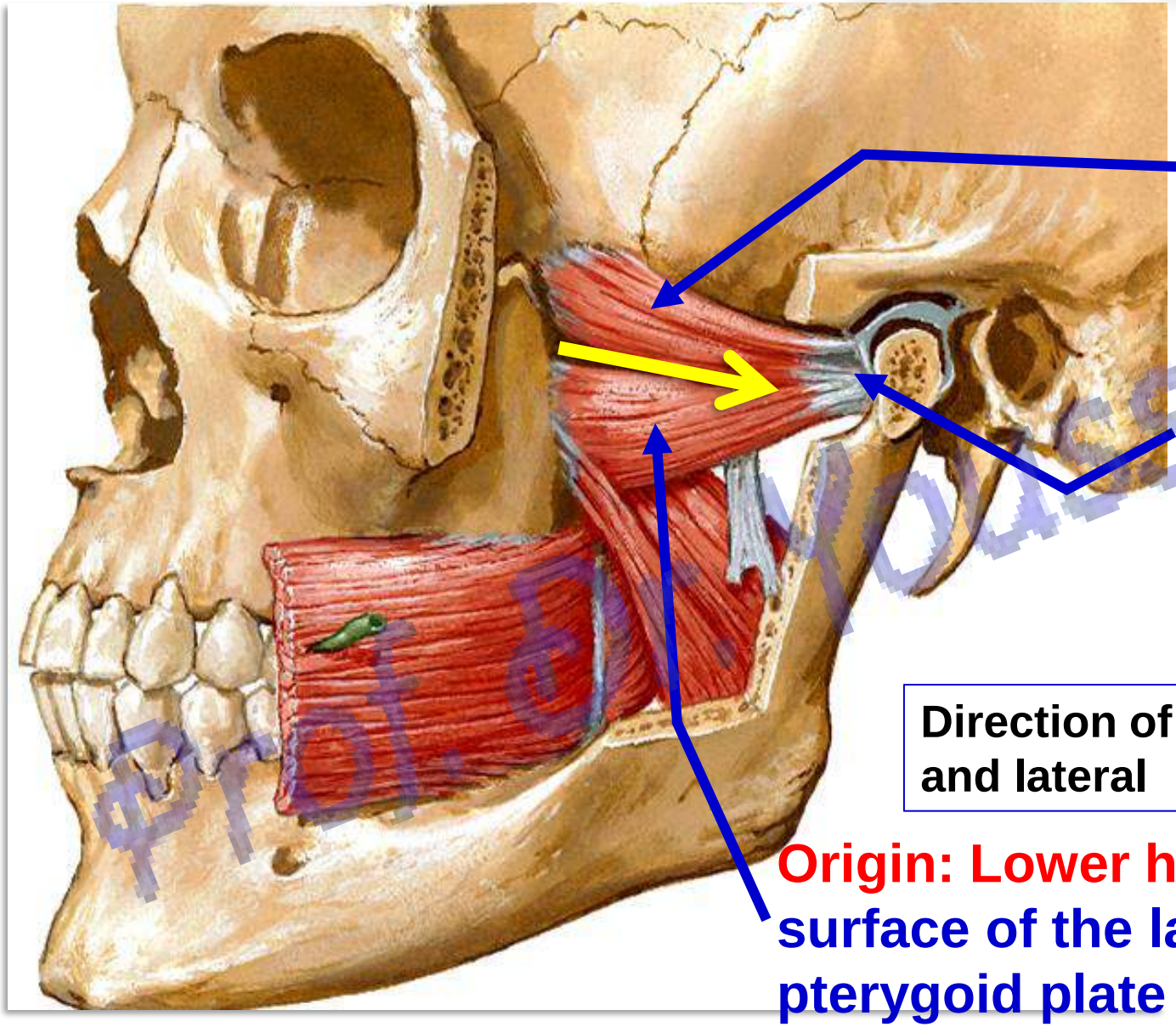
Lateral Pterygoid muscle



Origin: Upper head from infratemporal surface of greater wing of sphenoid

- **Insertion**: Pterygoid fovea on anterior aspect of neck of mandible.
- Capsule and articular disc of temporomandibular joint.

Direction of the fibres: horizontally backward and lateral

Origin: Lower head lateral surface of the lateral pterygoid plate

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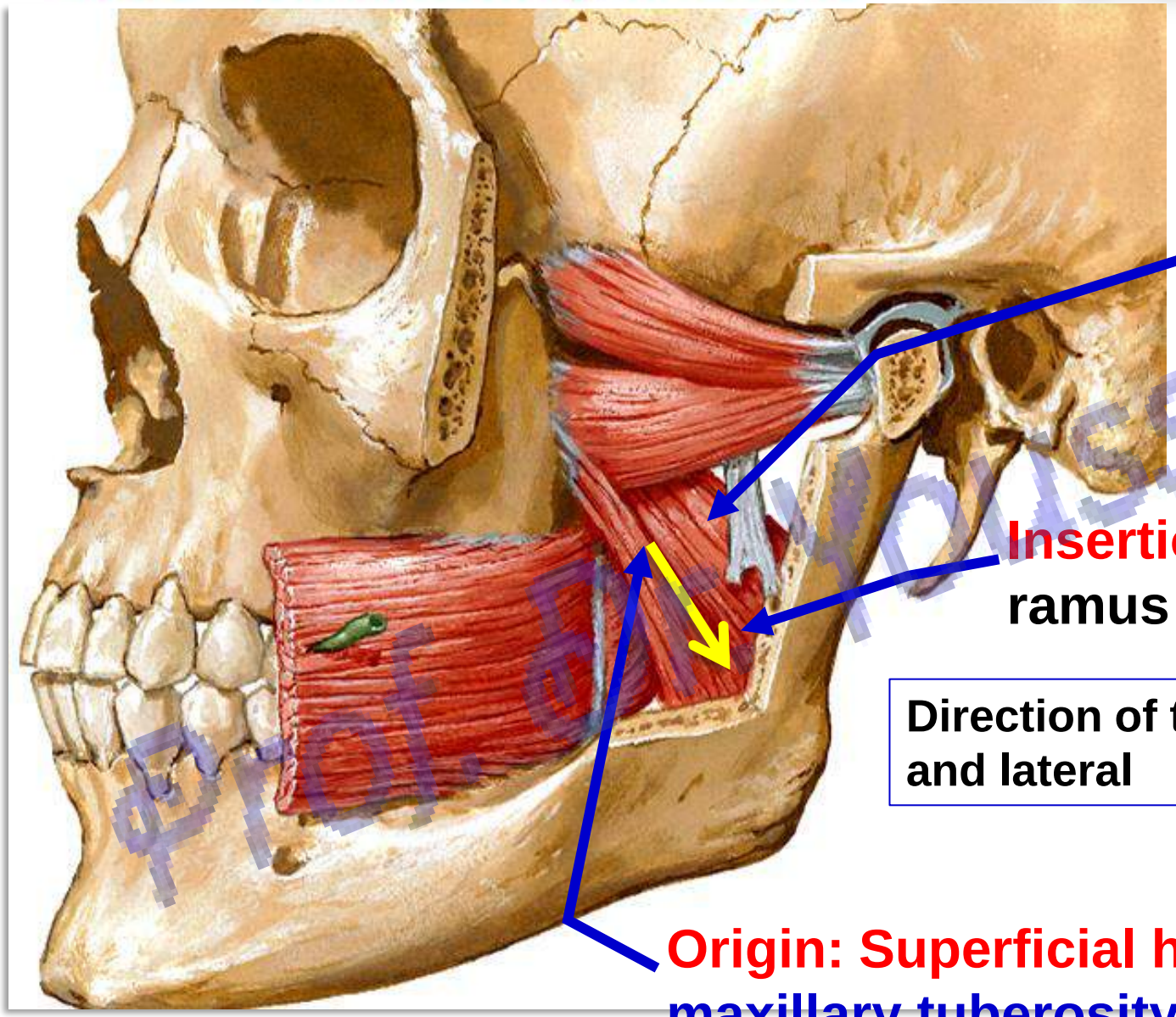
Medial Pterygoid muscle



Origin: Deep head from medial surface of lateral pterygoid plate

Insertion: Into the inner surface of the ramus and angle of the mandible

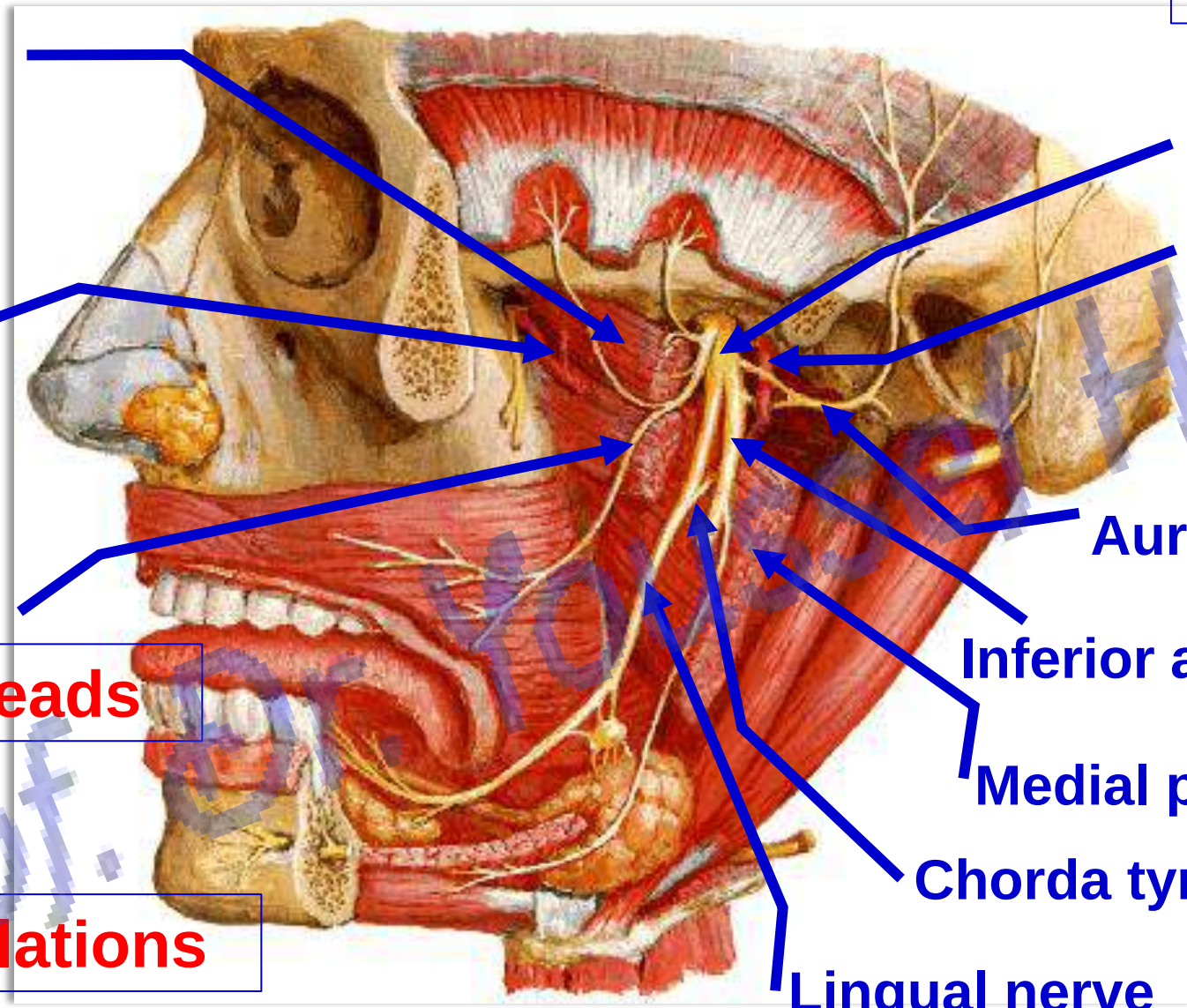
Direction of the fibres: downward, backward and lateral

Origin: Superficial head from maxillary tuberosity

• Actions of the muscles of mastication

	Elevation (closing) Chewing	Depression (opening)	Protrusion	Retraction	Side to side movement
1- Masseter	+ve main		+ve		
2- Temporalis	+ve		+ve	+ve (posterior fibres)	
3- M. pterygoid	+ve		+ve		+ve
4- L. pterygoid		+ve	+ve		+ve

Deep Relations



Lateral pterygoid

3rd part of Maxillary artery

Buccal nerve

Between 2 heads

Mandibular nerve

Middle meningeal artery

Otic ganglion

Auriculotemporal nerve

Inferior alveolar nerve ★

Medial pterygoid muscle

Chorda tympani

Lingual nerve ★

Inferior Relations

★ 1st part of maxillary artery

2nd part of maxillary artery

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Temporomandibular joint

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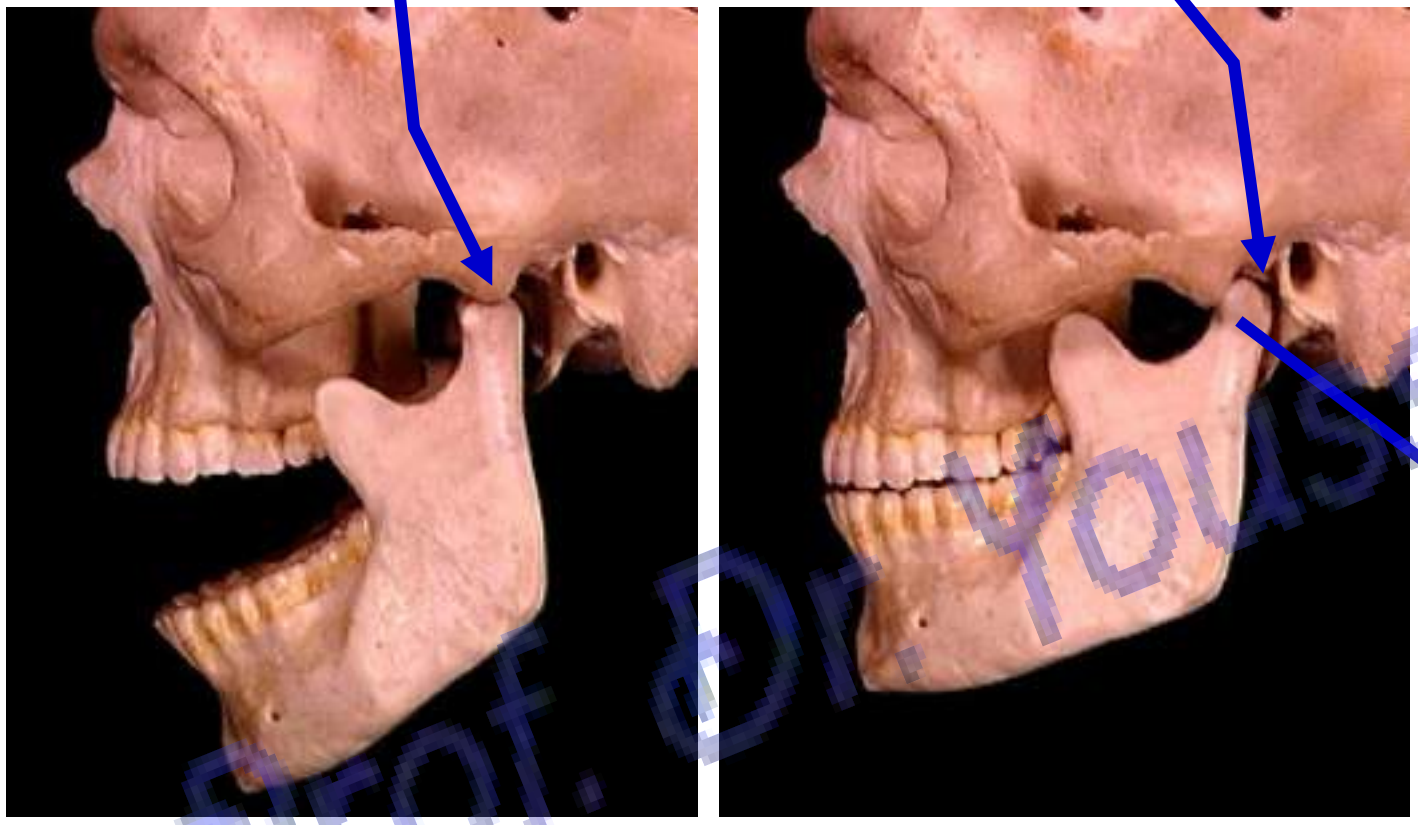
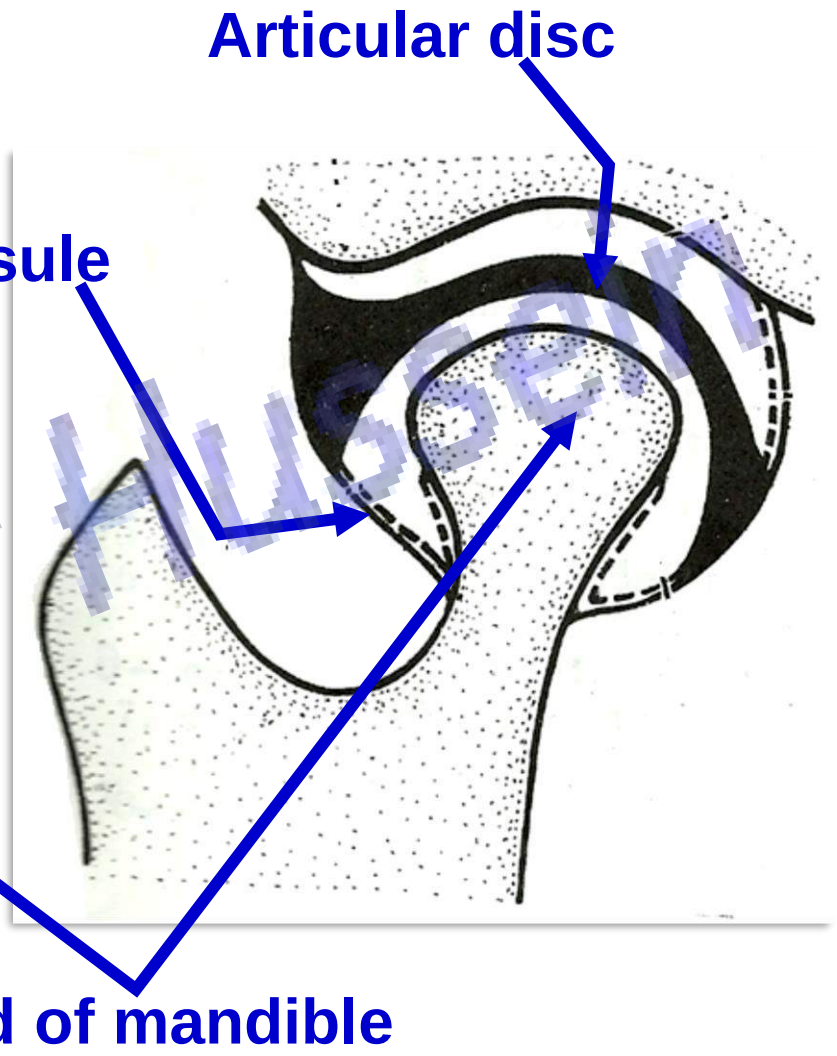
Type: synovial joint of Condyloid variety





- **Articular surfaces:** a) Head (condyle) of the mandible.

b) Articular (glenoid) fossa and articular tubercle of temporal bone.

c) Articular disc divided the cavity into upper and lower parts.

- **Capsule**: attached around the articular surfaces. It is lined by synovial membrane.

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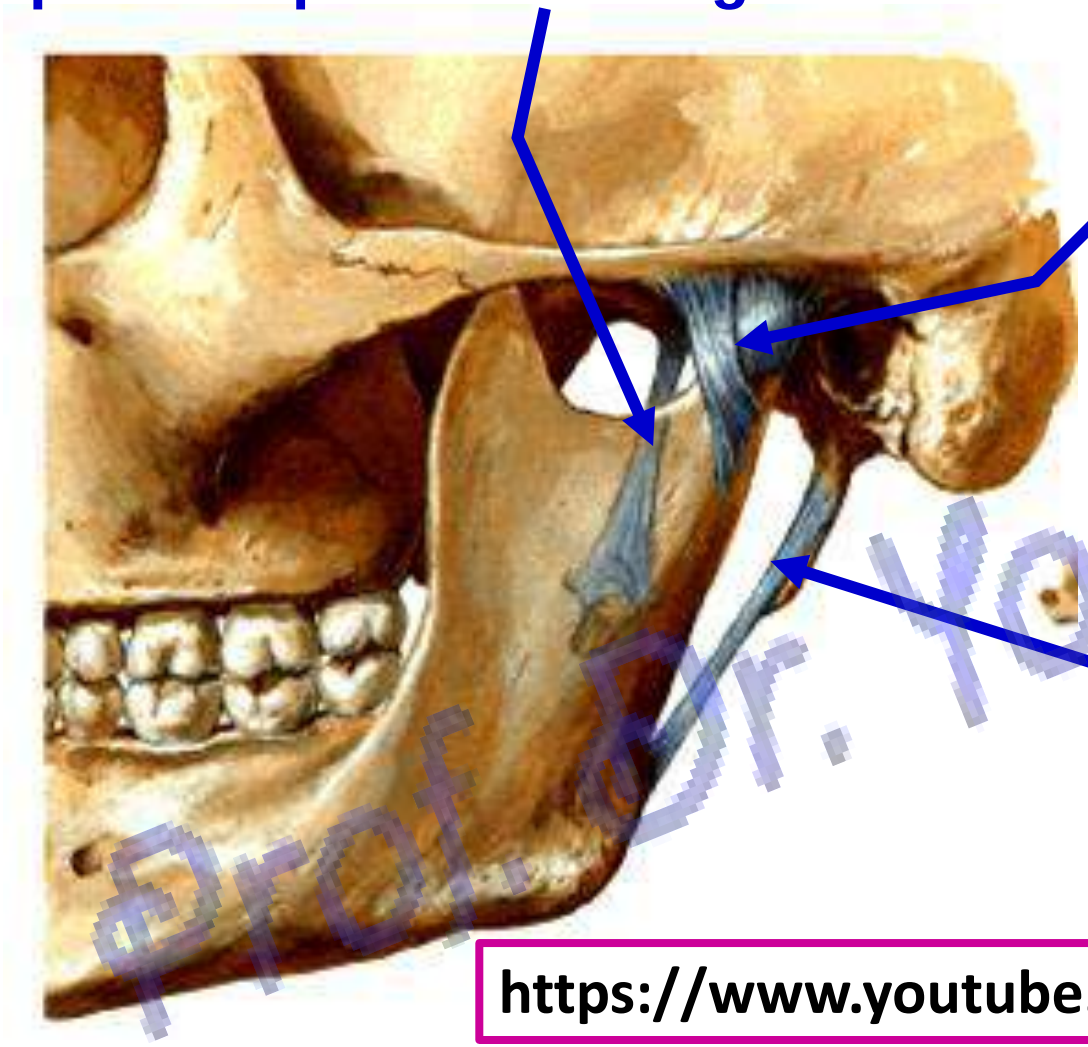
2- Sphenomandibular ligament from spine of sphenoid to lingula



3- Tempromandibular ligament from articular eminence (root of zygomatic arch) to lateral side of neck of mandible

1- Stylomandibular ligament from styloid process to angle of mandible, separates parotid gland from submandibular gland

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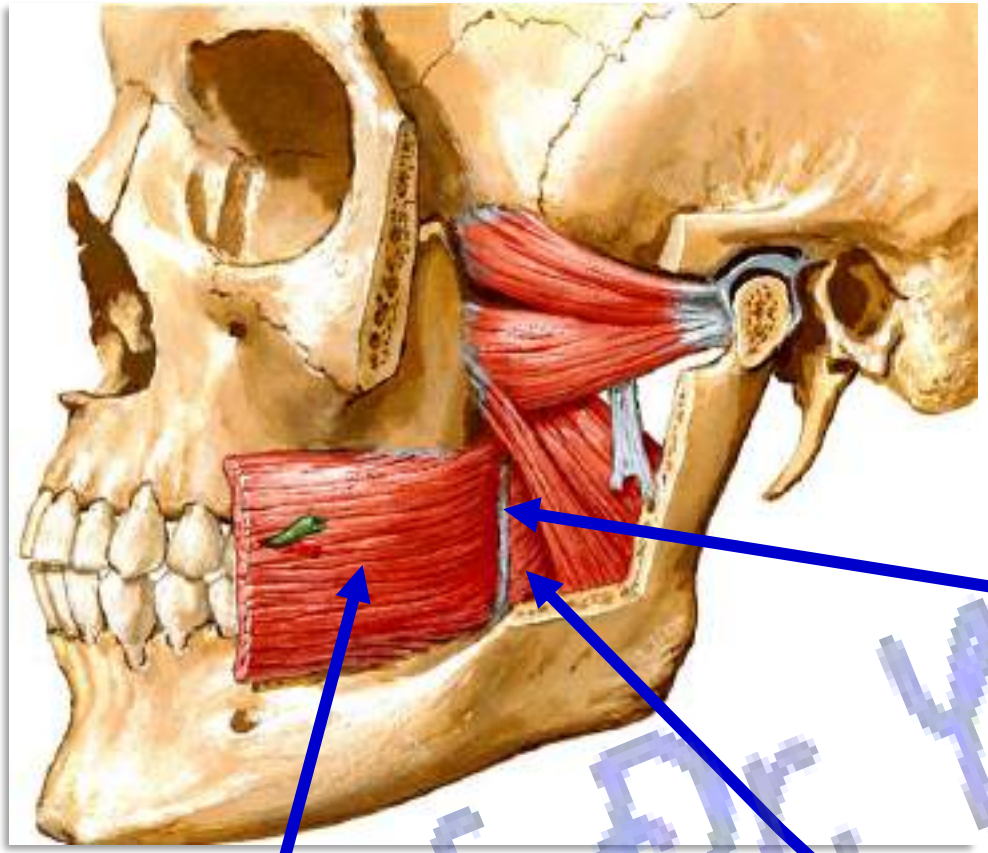
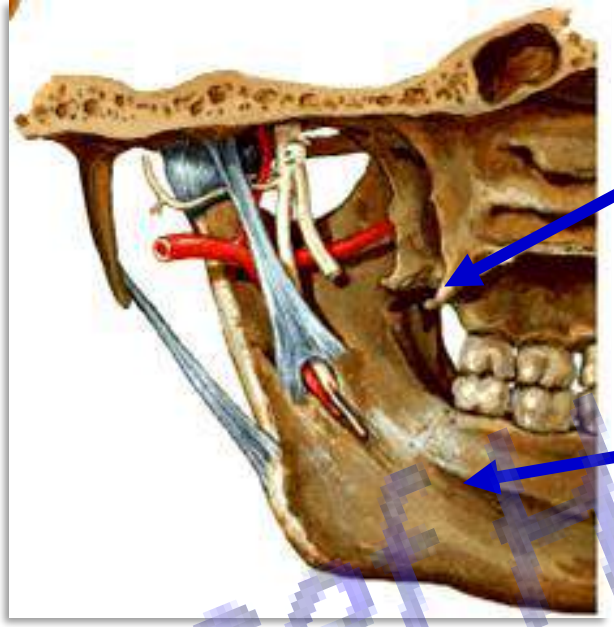
Ligaments of temporomandibular joint





Pterygoid hamulus

Mylohyoid line

Buccinator

Superior constrictor muscle of pharynx

4- Pterygomandibular ligament: extends from **pterygoid hamulus** to the **posterior end of mylohyoid line** of mandible.

- It gives origin to buccinator and superior constrictor muscle of the pharynx.

Ligaments of temporomandibular joint

❖ Movements of TMJ

	Elevation (closing) Chewing	Depression (opening)	Protrusion	Retraction	Side to side movement
1- Masseter	+ve main		+ve		
2- Temporalis	+ve		+ve	+ve (posterior fibres)	
3- M. pterygoid	+ve		+ve		+ve
4- L. pterygoid		+ve	+ve		+ve

- **Depression:** Lateral pterygoid, digastric, geniohyoid, mylohyoid and gravity.

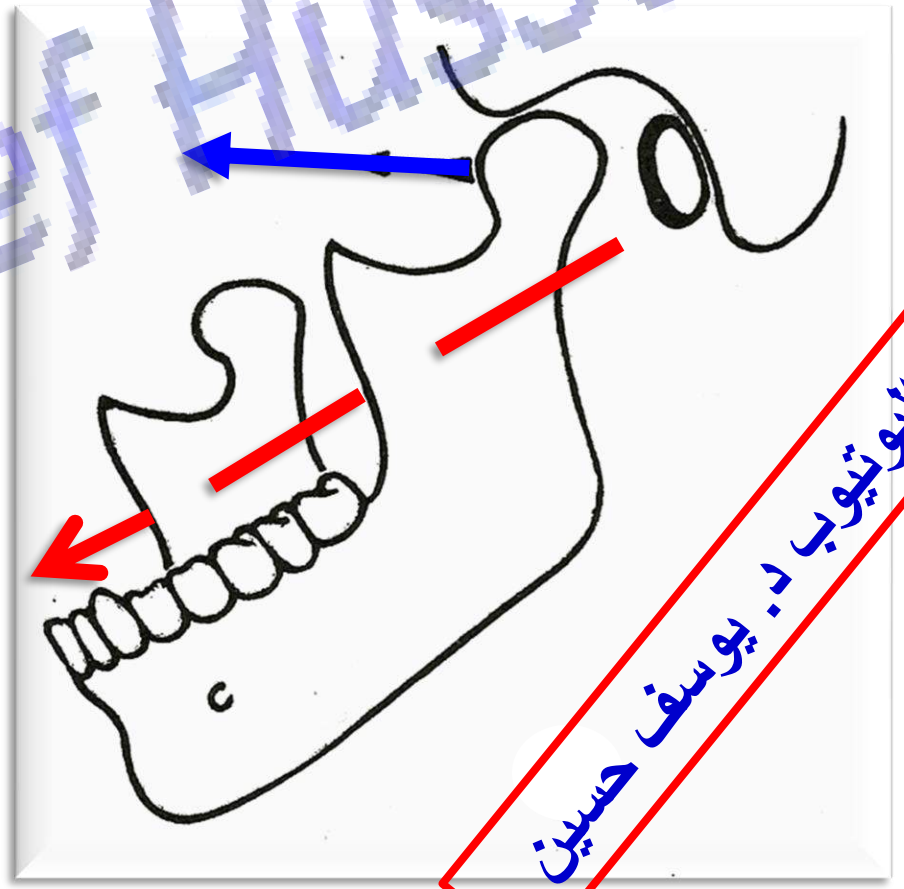
1- Resting position, the lower teeth are slightly behind the level of the upper teeth.

2- Closing position, jaws are closed, the upper and lower teeth come into apposition.

- Nerve supply: 1) auriculotemporal nerve. 2) Masseteric nerve.

- Arterial supply, from the superficial temporal and maxillary arteries.

- **During opening of the mouth Forward sliding movement of the head of mandible with articular disc Over of the articular tubercle**
- **The axis of movement passes through the Mandibular foramena**



- **TMJ dislocation**

- **Causes, spontaneous or traumatic.**
- **It occurs when one or both mandibular condyles are displaced in front and above articular eminence outside the articular surfaces.**
- **Dislocation may be reducible if the condyle (head of mandible) returns spontaneously to the mandibular (glenoid) cavity (subluxation) or irreducible when one or two condyles remain dislocated (luxation).**
- **In the latter condition, the mouth remains open**
- **There are stretch of the ligaments and muscles causing intense local orofacial pain**

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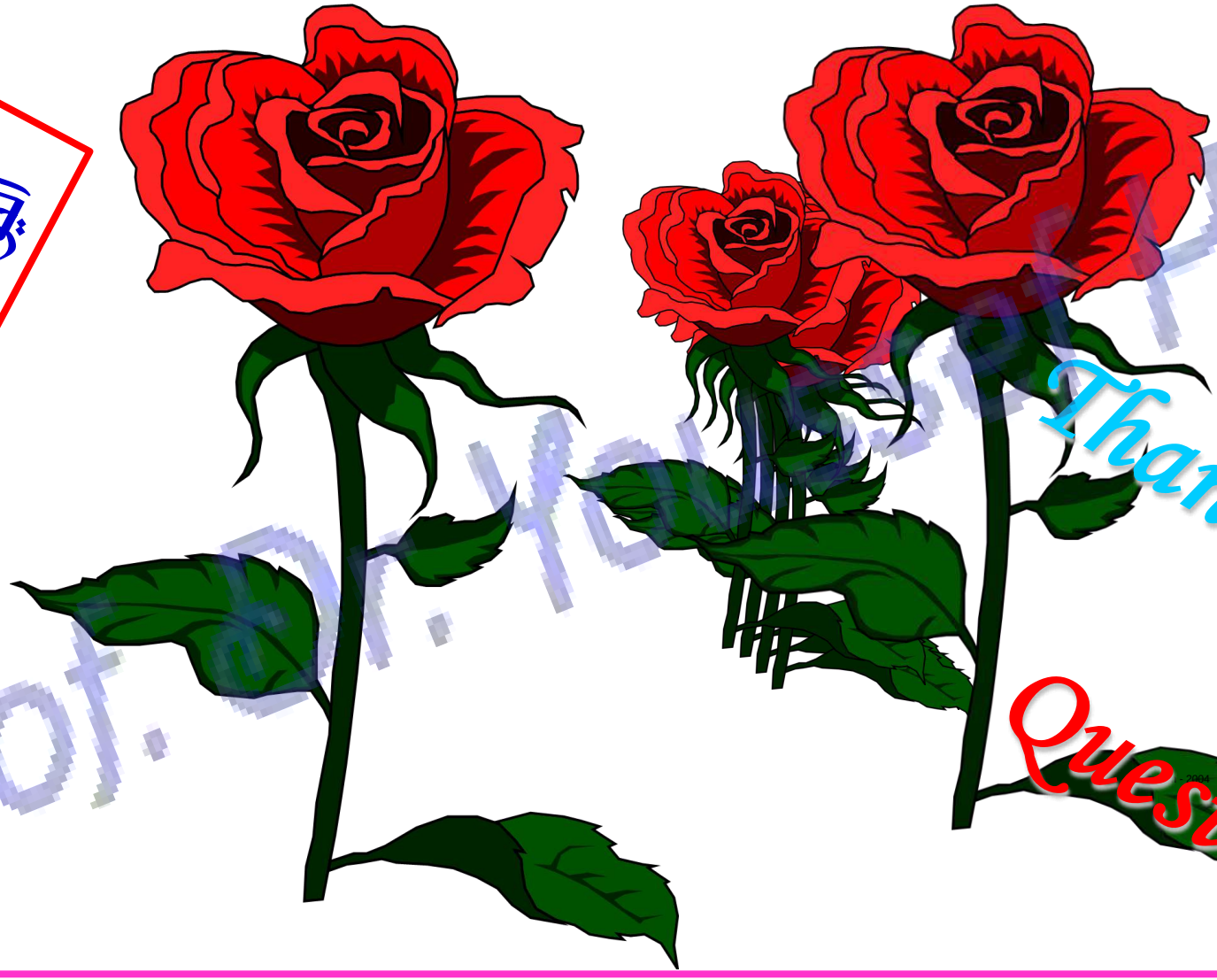

Thank you

Questions

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