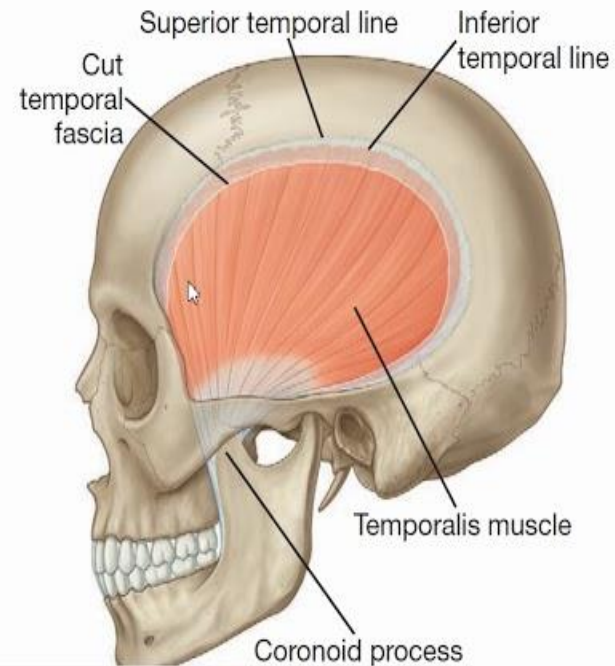


Temporal fossa

L8



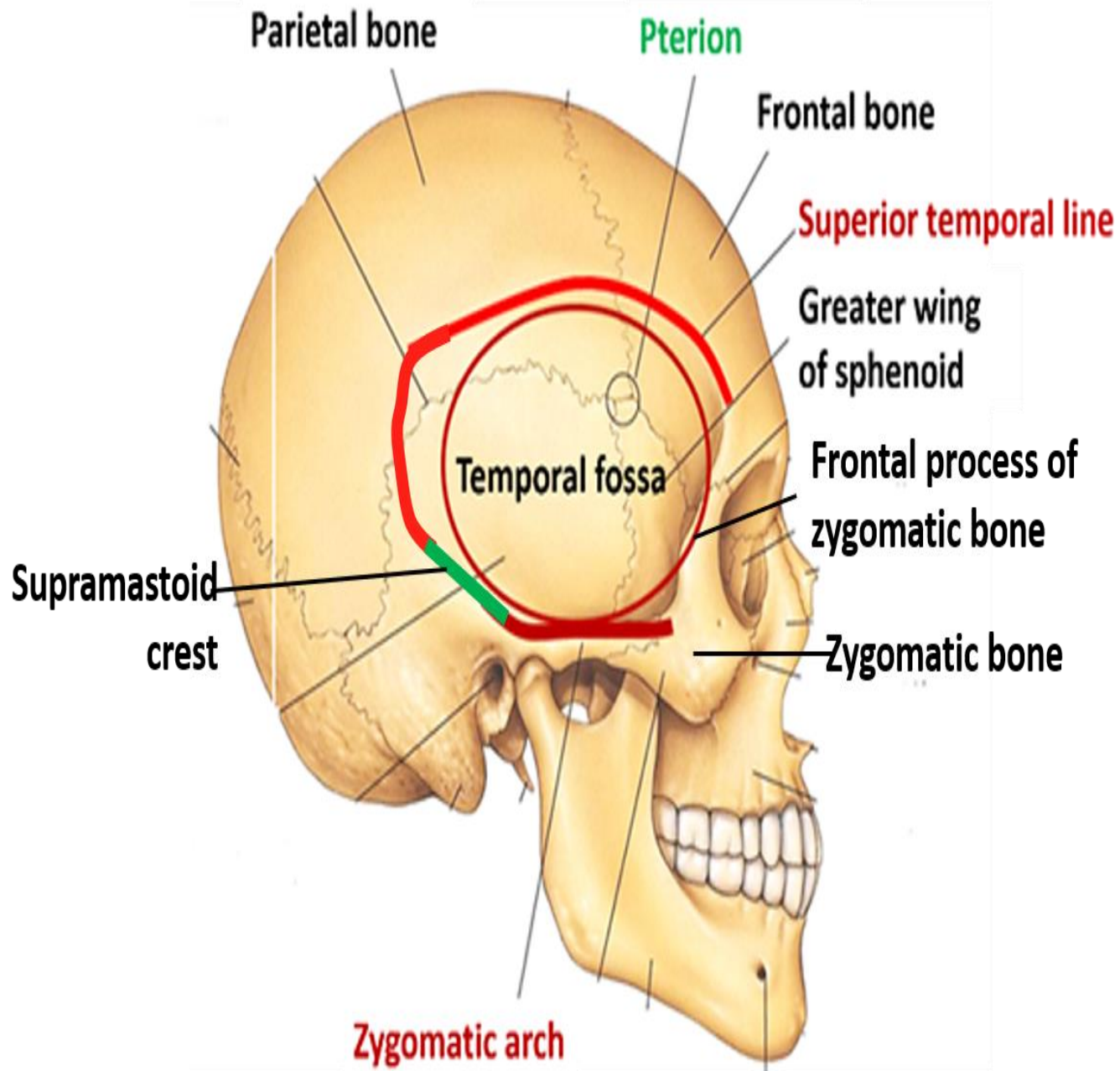
Zygomaticofac

Deep temporal

Dr. S. S. S. S.
APPS

Temporal fossa

- The temporal fossa is the region on the side of the head, above the external ear canal, which is covered by the **temporalis muscle**. The skin, fascia, and portions of the extrinsic muscles of the ear in this region overlie the deeper fan-shaped temporalis, muscle that attached to the bones of the temporal fossa.



Temporal fossa

- Superiorly, this fossa is bounded by the **superior temporal line**, whereas its inferior boundary is the **Zygomatic arch**, even though the temporalis muscle extends inferiorly below this arch into the infratemporal fossa.
- The floor of the temporal fossa is formed by the bones **portions of the frontal, sphenoid, temporal, and parietal bones**

Boundaries:

- a. Posterosuperiorly: superior temporal line
- b. Inferiorly: infratemporal crest
- c. Anteriorly: frontal process of zygomatic bone
- d. Laterally: zygomatic arch
- e. Floor: formed by 4 bones: frontal, parietal, temporal, and sphenoid

pterion

- forming pterion
- which is thinnest part of the lateral wall of the skull where the anteroinferior corner of
- the parietal bone articulates with the greater wing of the sphenoid.
- Clinically, the pterion is an important area because it overlies the anterior division of the middle meningeal artery and vein

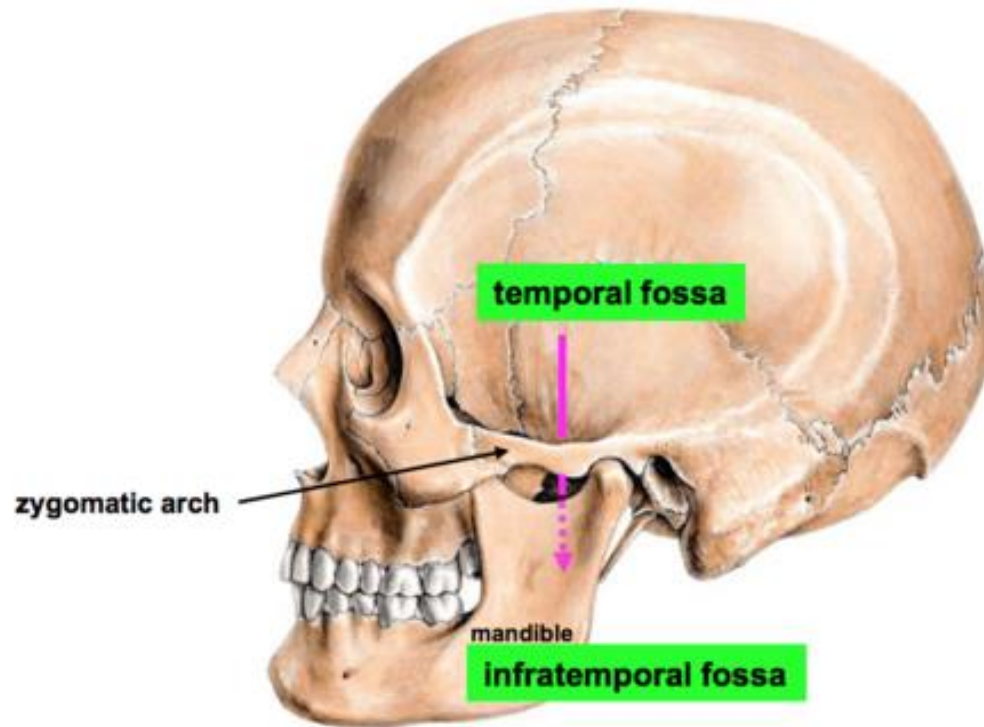
Contents:

- temporalis muscle, deep temporal nerves and vessels, auriculotemporal nerve, superficial temporal vessels

The infratemporal fossa

- The infratemporal fossa is an irregularly shaped space deep and inferior to the Zygomatic arch, deep to the ramus of the mandible and posterior to the maxilla
- (Deep lateral region of face).

infratemporal fossa

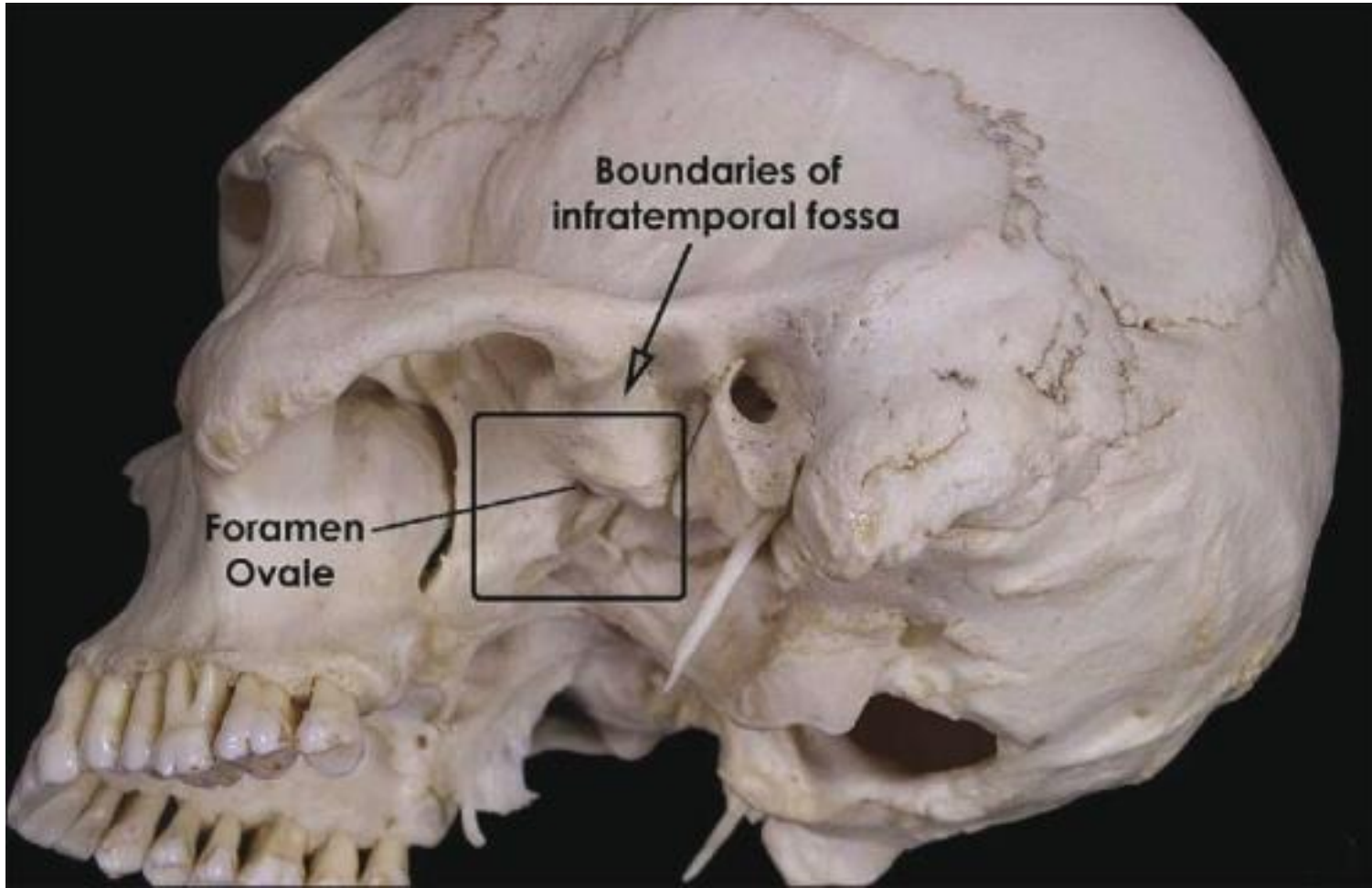


The boundaries:

- [?] Laterally: the ramus of the mandible.
- [?] Medially: the lateral pterygoid plate.
- [?] Anteriorly: the posterior aspect of the maxilla.
- [?] Posteriorly: the tympanic plate and the mastoid and styloid processes of the temporal bone.
- [?] Superiorly: the inferior (infratemporal) surface of the greater wing of the sphenoid.
- [?] Inferiorly: where the medial pterygoid muscle attaches to the mandible near its angle.

Communications:

- Nerves and vessels supplying the temporalis muscle pass from the infratemporal fossa to the temporal fossa to pierce the deep surface of this muscle.
- Two foramina open onto its roof on the medial aspect of the infratemporal region of the greater wing of the sphenoid.
- 1- The larger of the two, the **foramen ovale**, transmits the mandibular division of the trigeminal nerve exiting from the cranial vault and the accessory meningeal artery proceeding to the cranium.
- 2- The smaller foramen, the **foramen spinosum**, lies between the foramen ovale and the spine of the sphenoid. It transmits the middle meningeal artery and the recurrent meningeal nerve from the fossa into the cranium.



Foramina opened in the infratemporal fossa: (summary)

- i. Foramen spinosum: for middle meningeal artery into middle cranial fossa
- ii. Foramen ovale: for mandibular nerve (CN V3) and accessory meningeal artery
- iii. Pterygomaxillary fissure: medial cleft leading into pterygopalatine fossa; for terminal part of maxillary artery
- iv. Inferior orbital fissure: leads anteriorly into orbit; for zygomatic and infraorbital branches of maxillary nerve (CN V2), infraorbital artery, and communication between pterygoid plexus and inferior ophthalmic vein

Deep temporal arteries:
branches of maxillary
artery.

Deep Temporal Nerves: branch of
mandibular nerve -supply
temporalis muscle.

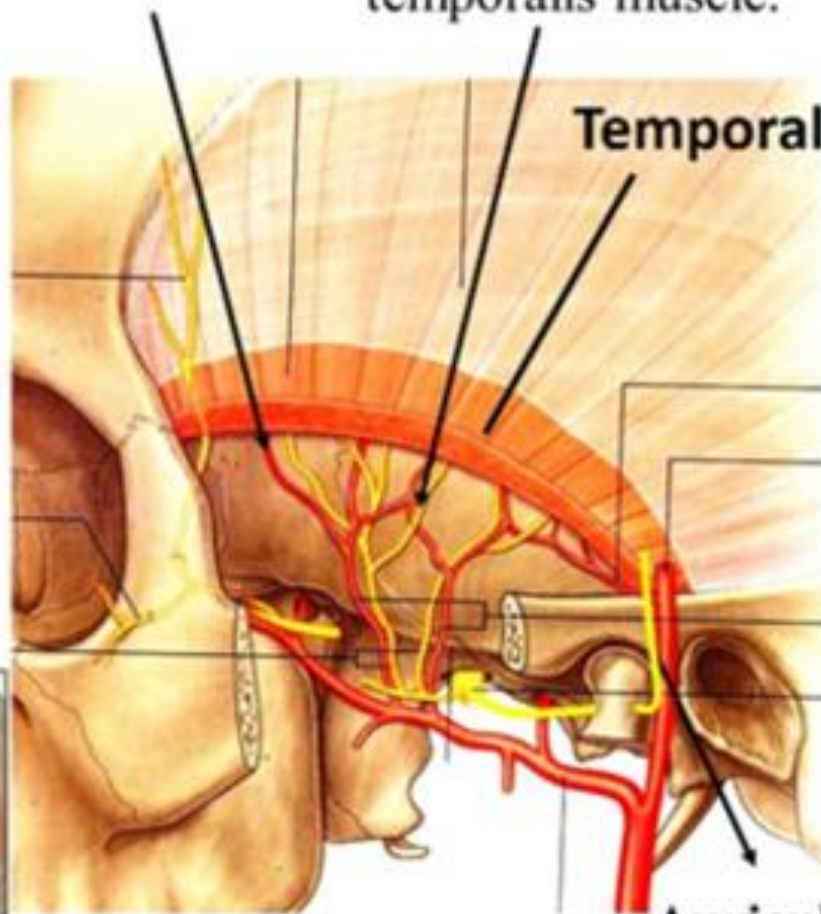
**Zygomaticotemporal
branch zygomatic
nerve-supplies skin of
the temple.**

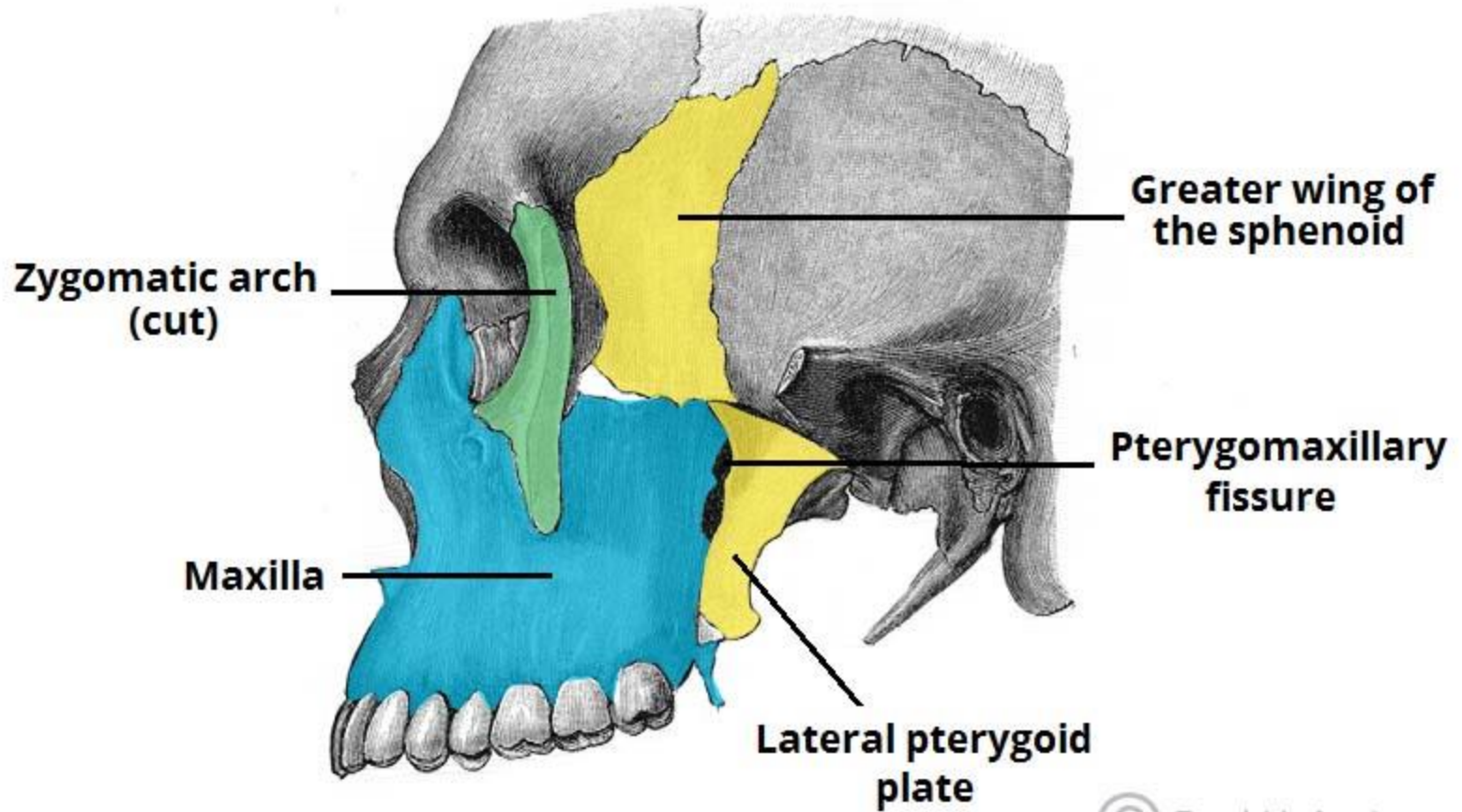
Temporalis muscle

**Middle
temporal
artery:**
branch of
**Superficial
temporal
artery.**

**Temporal br. of
Facial N**

**Auriculotemporal
nerve**





Muscles of Mastication

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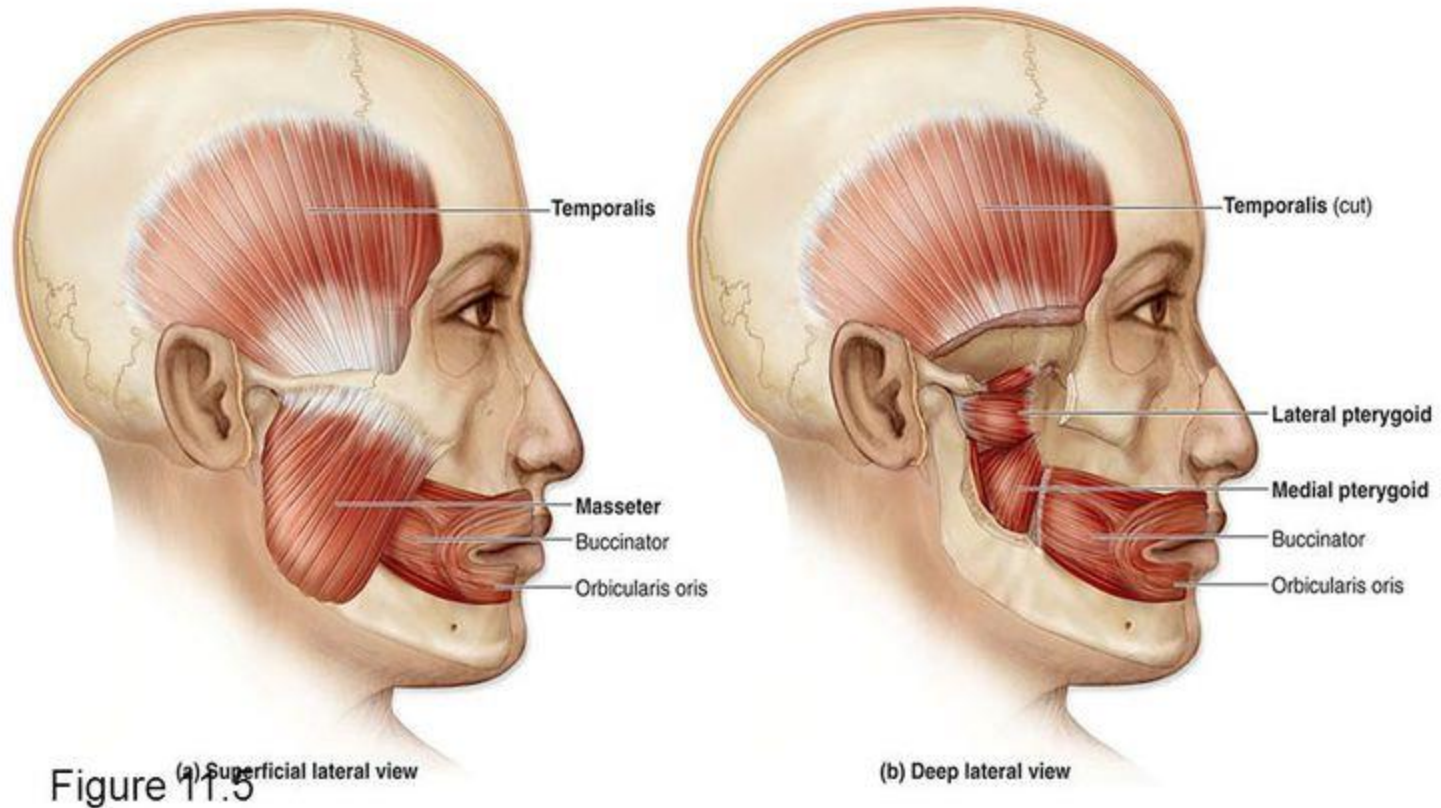
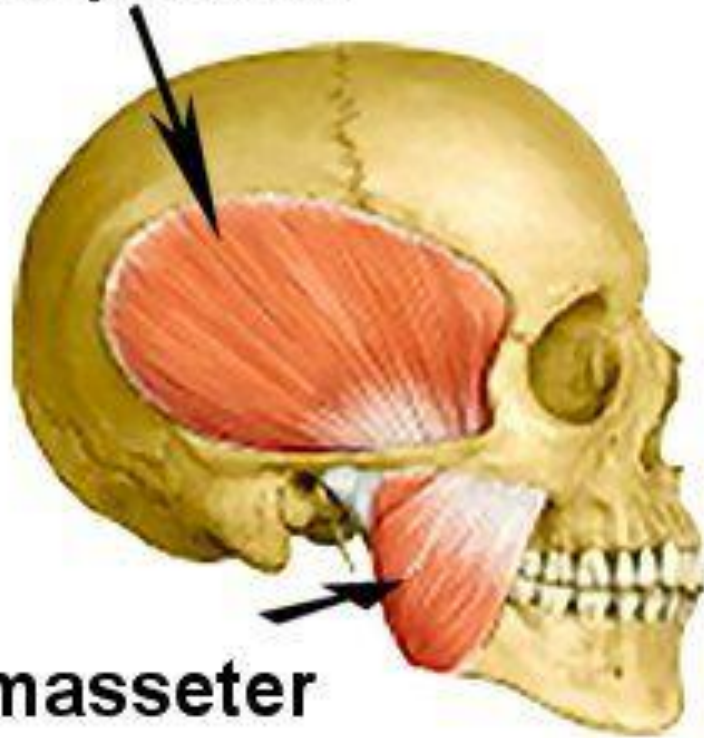


Figure 11.5

Muscles of mastication

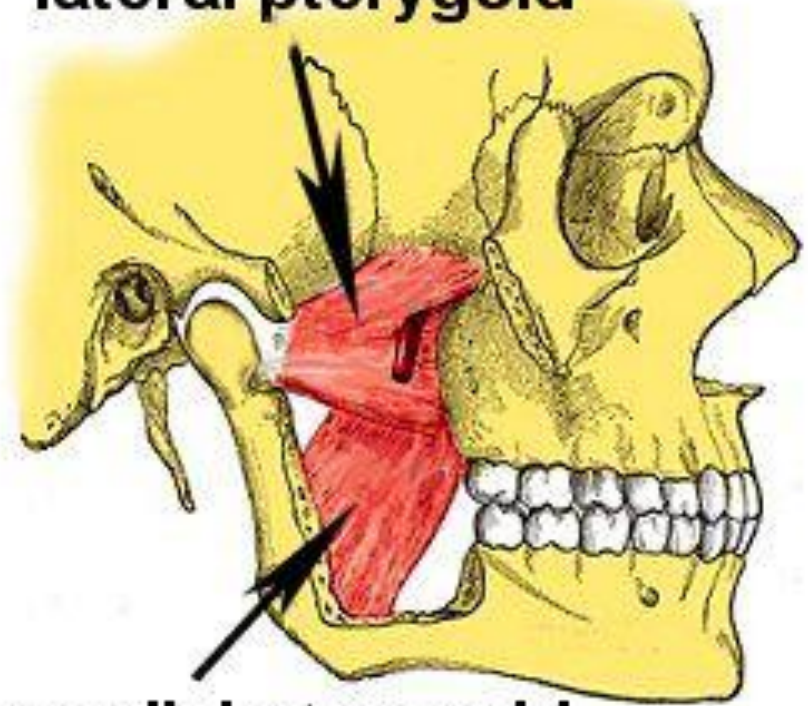
- Temporalis
- 1. Origin: from temporal fascia and temporal fossa
- 2. Insertion: coronoid process and anterior border of ramus of mandible
- 3. Action: closes jaw, posteroinferior part retracts jaw
- 4. Innervation: anterior and posterior deep temporal branches of mandibular nerve (CN V3),

temporalis



masseter

lateral pterygoid



medial pterygoid

Masseter

- 1. Origin
 - a. Superficial part: anterior 2/3 of lower border of zygomatic arch
 - b. Deep part: posterior and medial side of zygomatic arch
- 2. Insertion
 - a. Superficial part: angle and lower lateral surface of ramus of mandible
 - b. Deep part: upper lateral surface of ramus
- 3. Action: closes the jaw
- 4. Innervation: masseteric nerve from mandibular nerve (CN V3),

Medial pterygoid (internal pterygoid)

- 1. Origin: medial surface of lateral pterygoid plate of sphenoid, pyramidal process of palatine and tuberosity of maxilla
- 2. Insertion: lower and posterior part of angle and medial surface of ramus of mandible
- 3. Action: closes jaw with bilateral contraction; helps grinding movements with 1-sided contraction (moving jaw side to side)
- 4. Innervation: nerve to medial pterygoid from mandibular nerve (CN V3),

Lateral pterygoid (external pterygoid)

- 1. Origin
 - a. Superior head: from inferior surface of greater wing of sphenoid
 - b. Inferior head: from lateral surface of lateral pterygoid plate
- 2. Insertion
 - a. Superior head: articular disc of TMJ
 - b. Inferior head: pterygoid fovea on neck of mandibular condyle
- 3. Action: protrudes mandible, opening mouth by drawing mandible and articular disc forward onto articular tubercle; unilateral contraction moves mandible from side to side, assisting in grinding motion
- 4. Innervation: nerve to lateral pterygoid from mandibular nerve (CN V3)