

TMJ

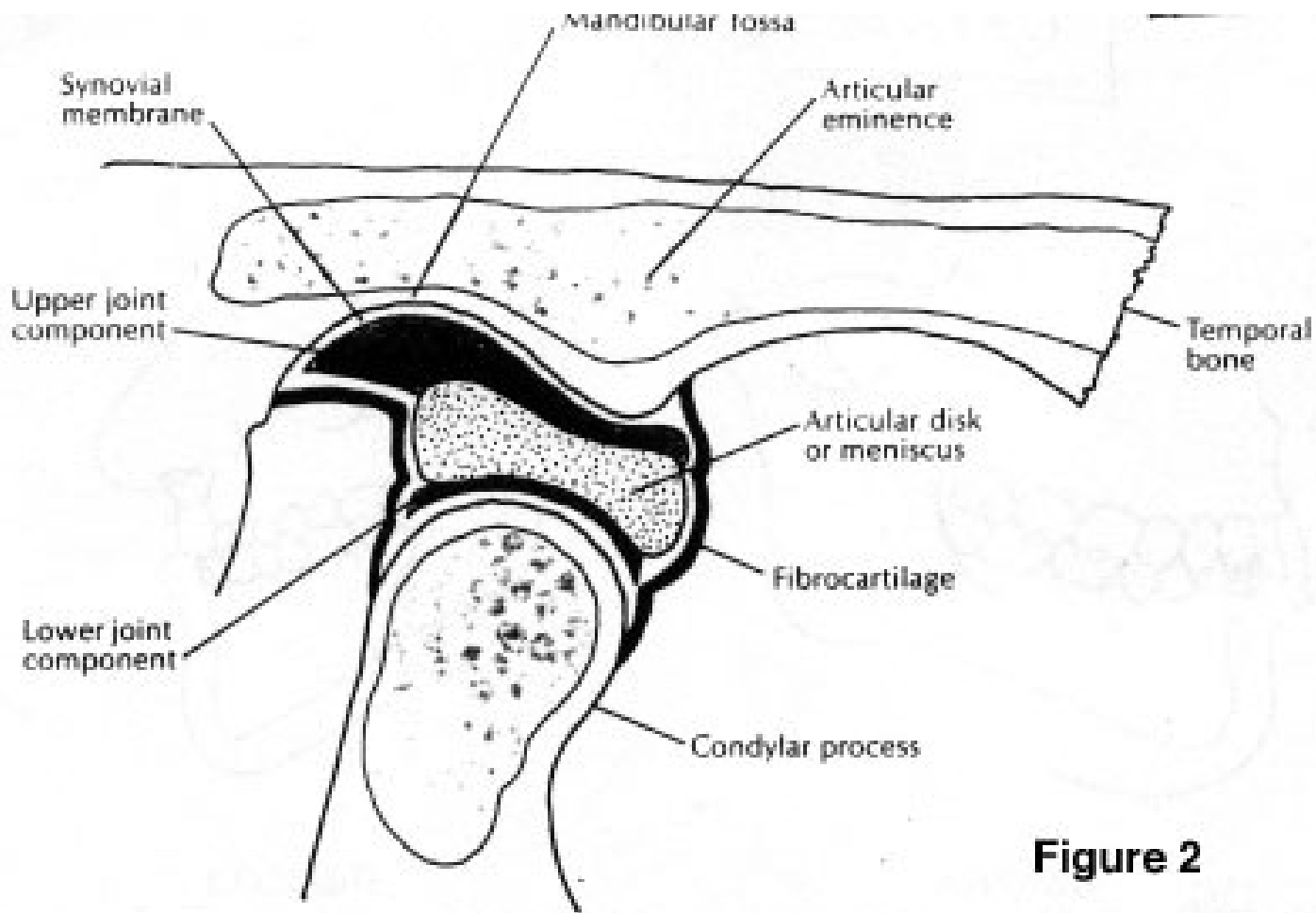
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Definition

- = joint of the jaw and is referred to as **TMJ**.
- two TMJs, one on each side, working in unison.
- name is derived from the two bones which form the joint:
 - articulation between **condylar head of mandible** and the anterior part of the **glenoid fossa of the temporal bones**

Features

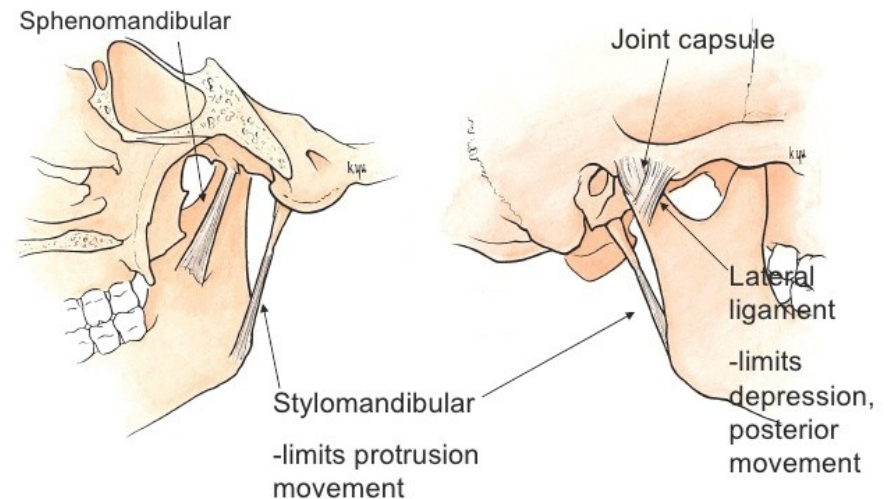
- articulating surface of TMJ is NOT formed of hyaline cartilage but of a sturdy avascular fibrous layer
- it is the only synovial joint in the human body with an articulating disc which is present between the joint surfaces of cranium and mandible.(this makes the TMJ a double joint)
- Movements can be **rotational** or **translational**



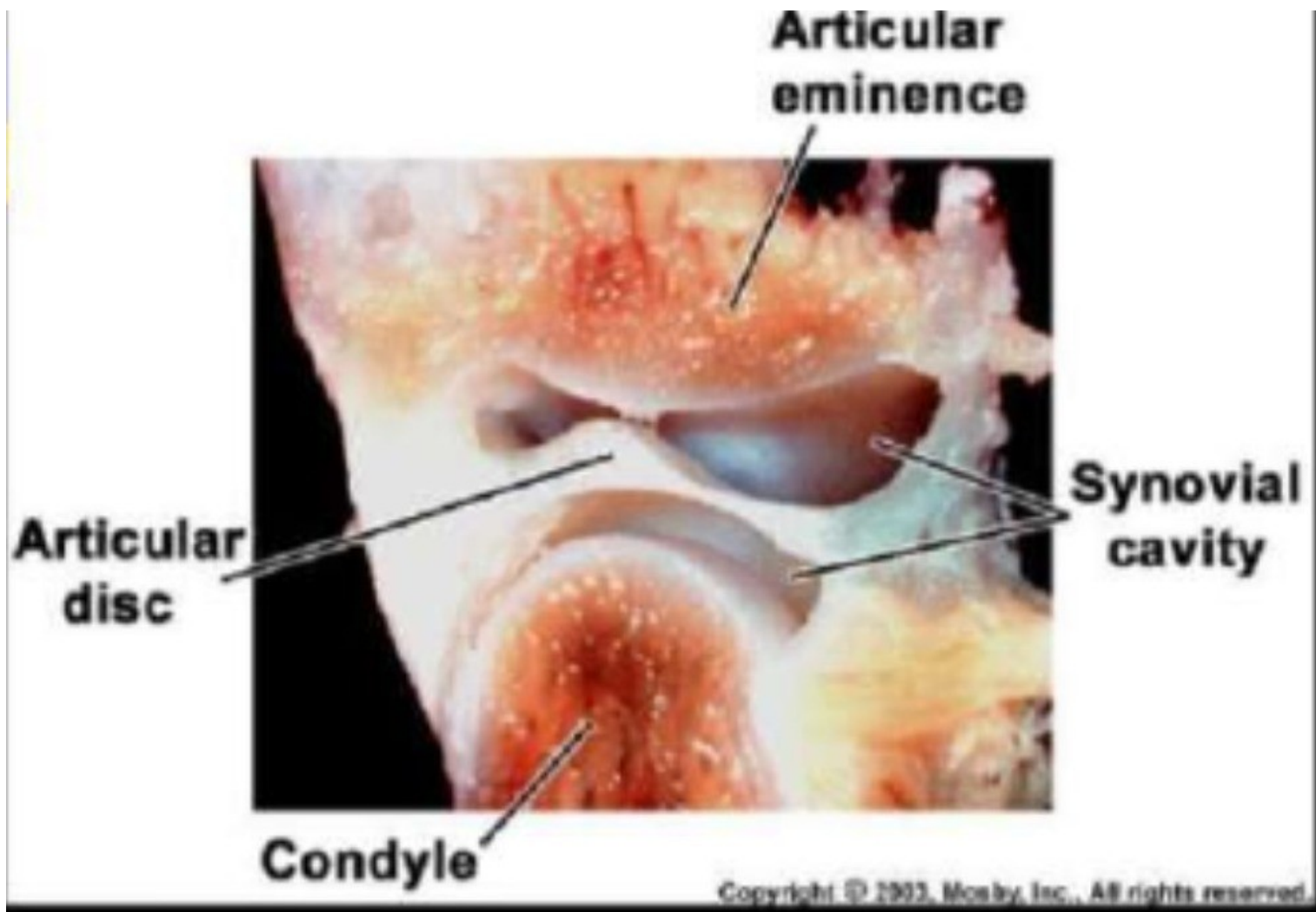
Ligaments

- Lateral temporomandibular ligament
- Sphenoparietal ligament
- Stylomandibular ligament
- Stylohyoid ligament

Anatomy- Ligaments



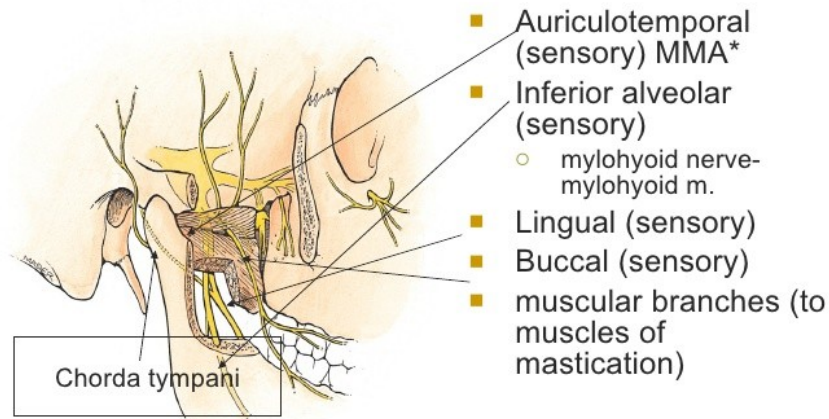
Synovial tissue



Innervation

- Sensory innervation:
 - Originates from **trigeminal nerve** (CNV)
 - auriculotemporal and masseteric branches of mandibular branch of V

[Anatomy- Nerves]

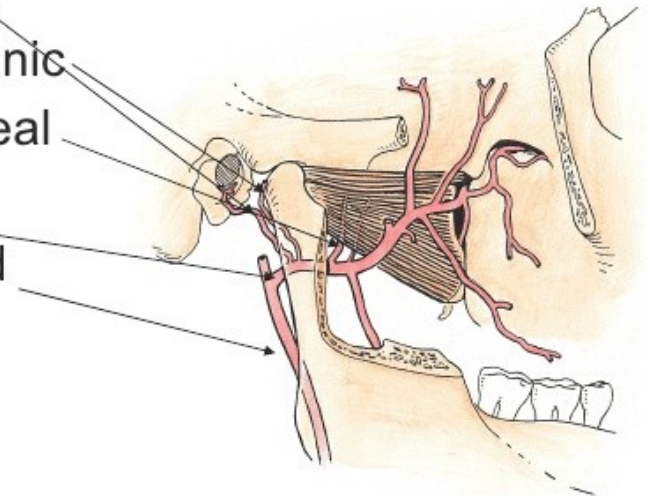


Vascularization

- Branches of **ECA**:
 - superficial temporal branch
 - Deep auricular artery
 - Anterior tympanic artery
 - Ascending pharyngeal
 - Maxillary artery

[Anatomy- Arterial Supply]

- Deep Auricular
- Anterior Tympanic
- Middle Meningeal
- Maxillary
- External carotid



Muscles of Mastication

- **masseter:**

O: superficial head : zygomatic process of maxilla and Inf.

Border of Anterior 2/3 of zygomatic arch

deep head: inner aspect of zygomatic arch and posterior 1/3

I: superficial head: angle of mandible and lower portion of lateral aspect of ramus

deep head: upper portion of lateral aspect of ramus

F: elevation and protrusion

Innerv: masseteric nerve (mandibular nerve)

Temporalis

O: lower temporal line of skull, temporal fossa, overlying temporal fascia

I: coronoid process of mandible, anterior border of ramus of mandible

F: to maintain resting tonus- elevation, retrusion

Innerv: deep temporal nerve (mandibular nerve)

- **Medial Pterygoid**

O: pterygoid fossa, medial surface of lateral lamina of pterygoid process, pyramidal process of palatine bone

I: inferior margin of mandible, pterygoid tuberosity

F: closes jaw- elevation

Innerv: Nerve to Medial Pterygoid (Mandibular N.)

- **Lateral pterygoid**

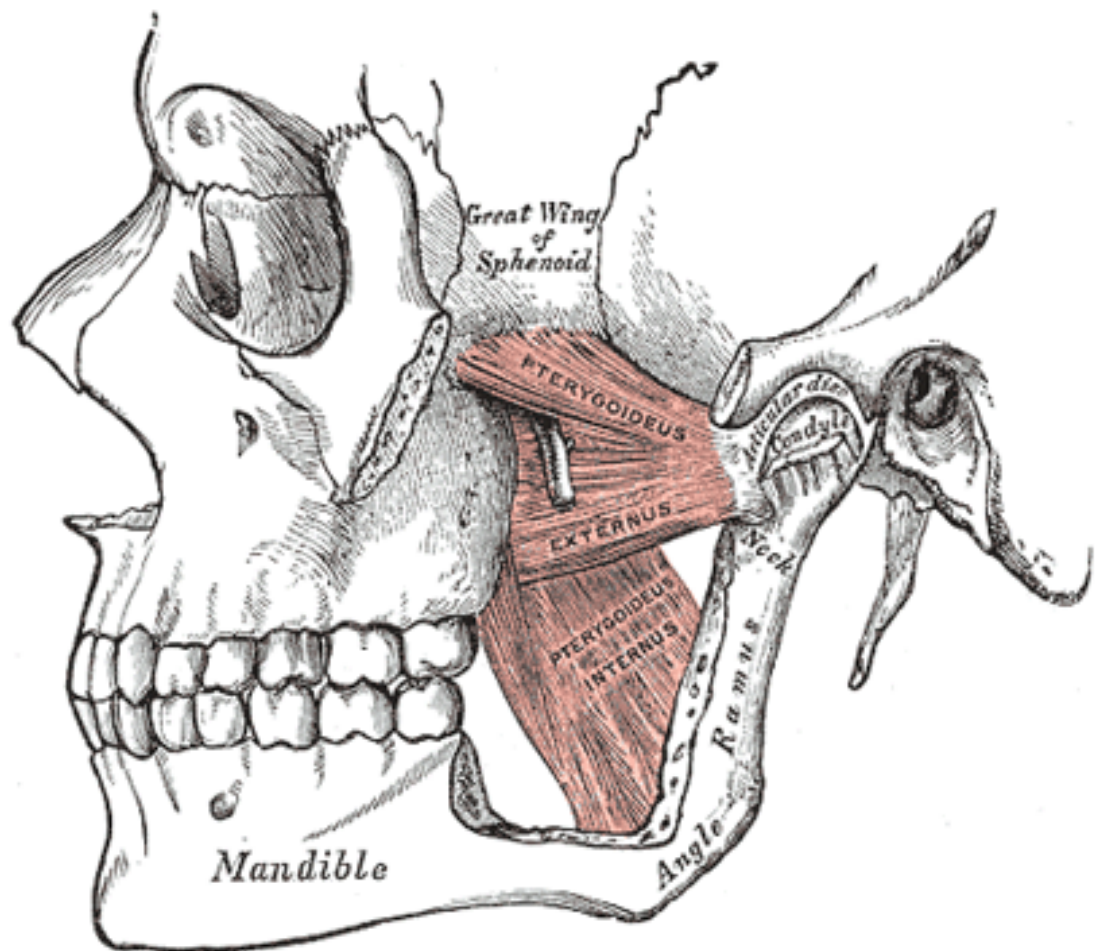
O: lower head: lateral surface of lateral pterygoid plate

superior head: infratemporal surface of greater wing of sphenoid

I: fibers are directed laterally and backwards into the front of the pterygoid plate

F: depress, protrusion, move mandible from side to side

Innerv: Mandibular N.



Great Wing
of
Sphenoid

PTERYGOIDEUS
EXTERNUS

PTERYGOIDEUS
INTERNUS

Articular disc
Condyle

Neck

Ramus

Angle

Mandible