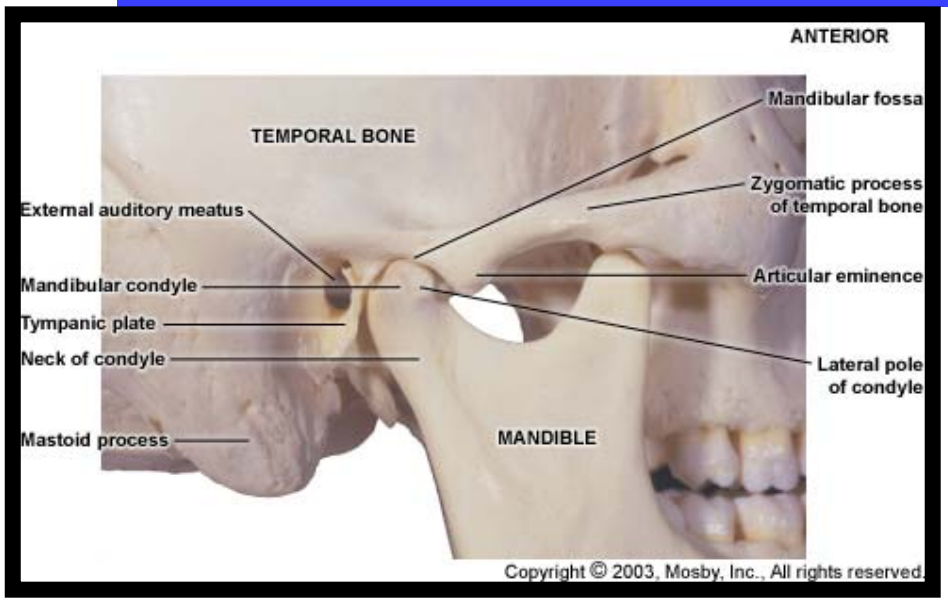
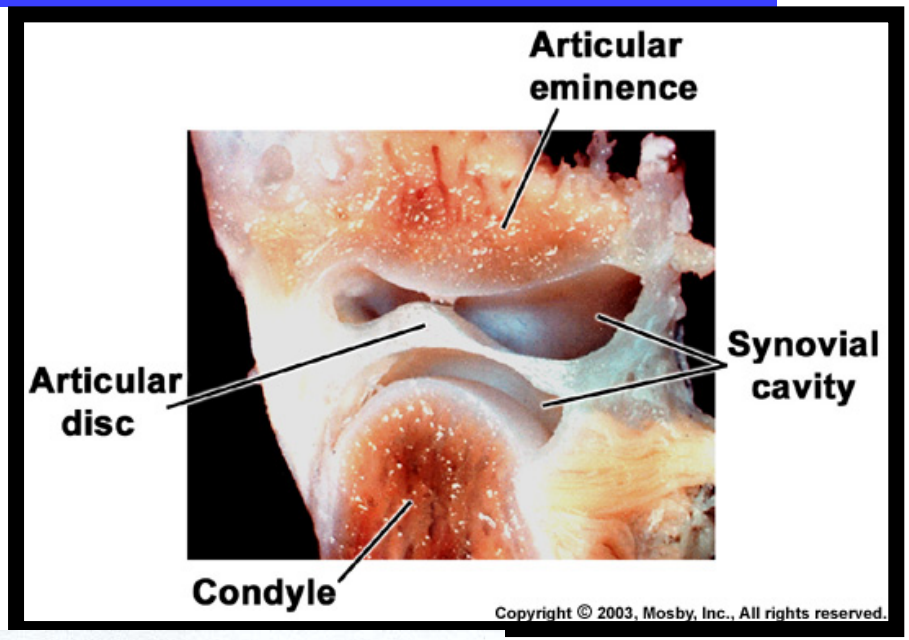
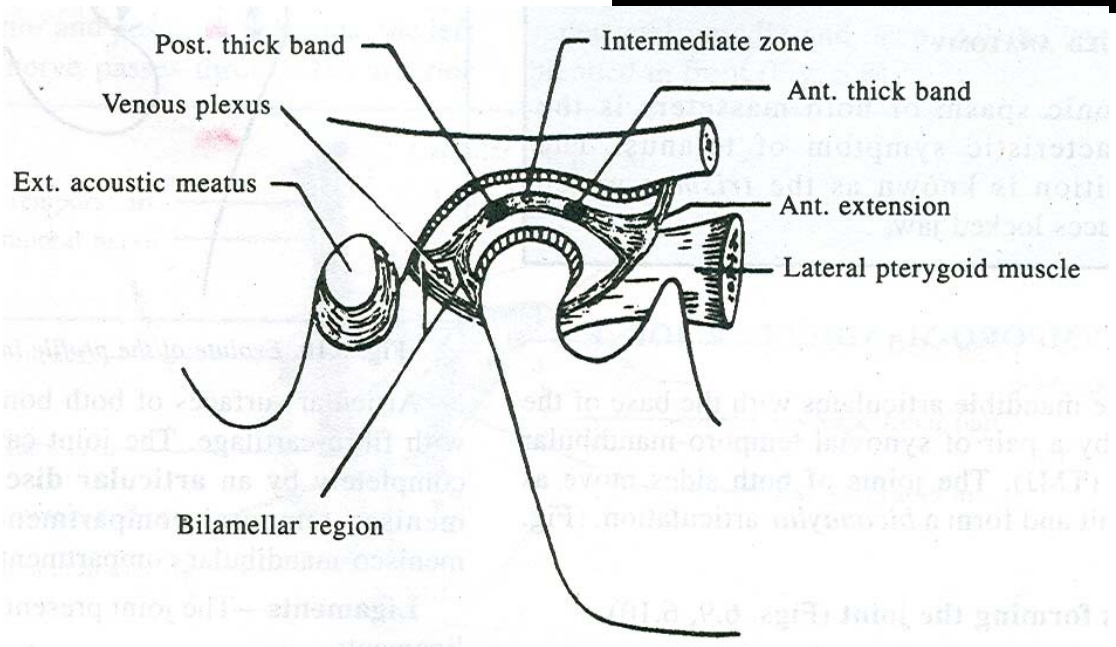
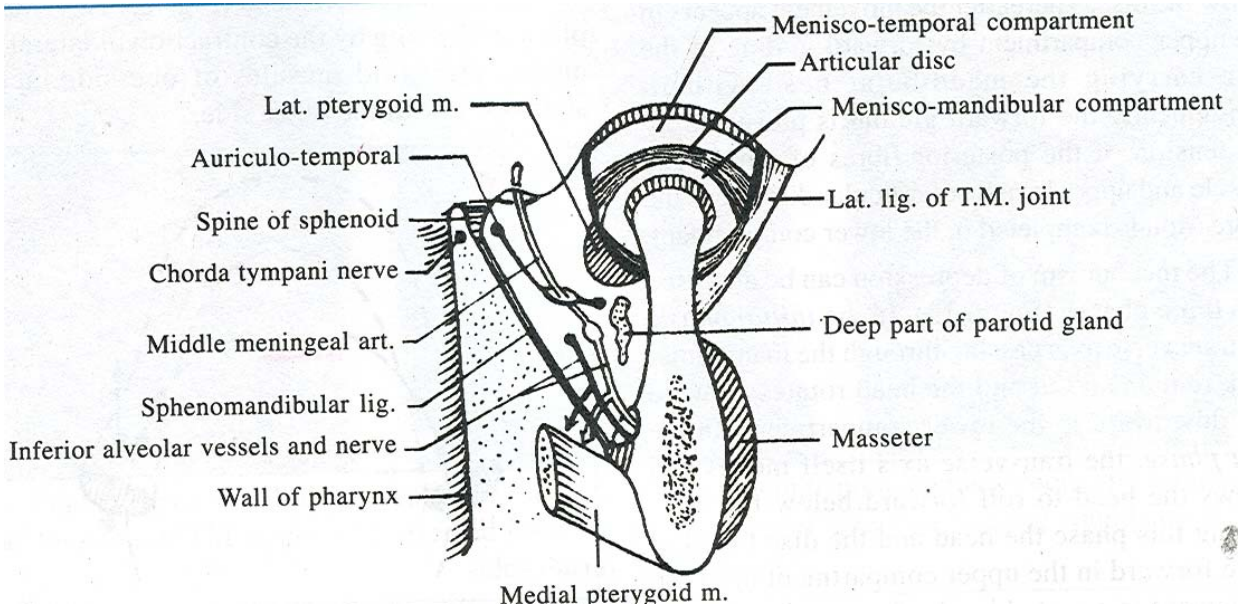
Temporomandibular Joint (TMJ)









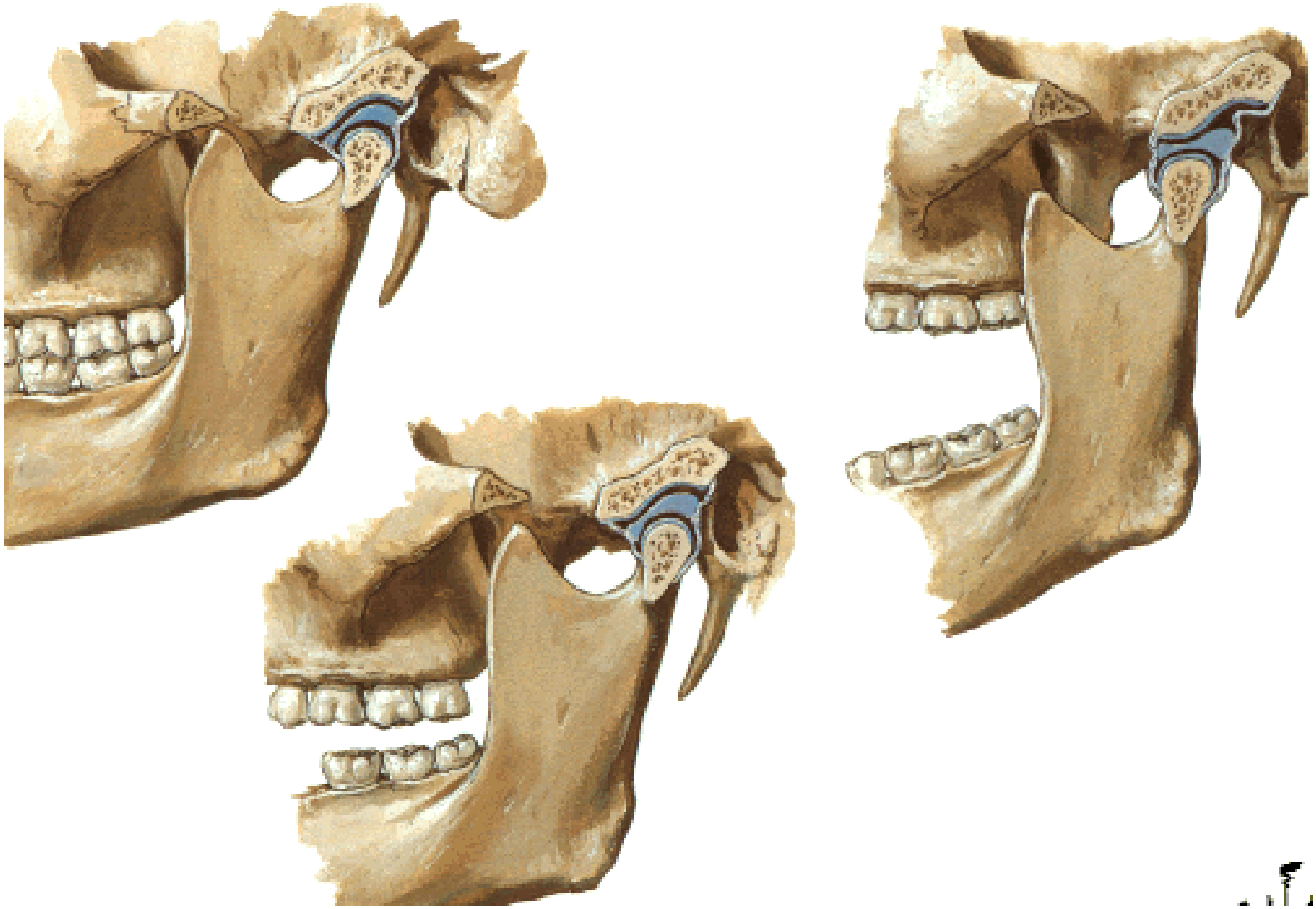
front > lat. pterygoid, temporalis & masseteric vessels & nerve

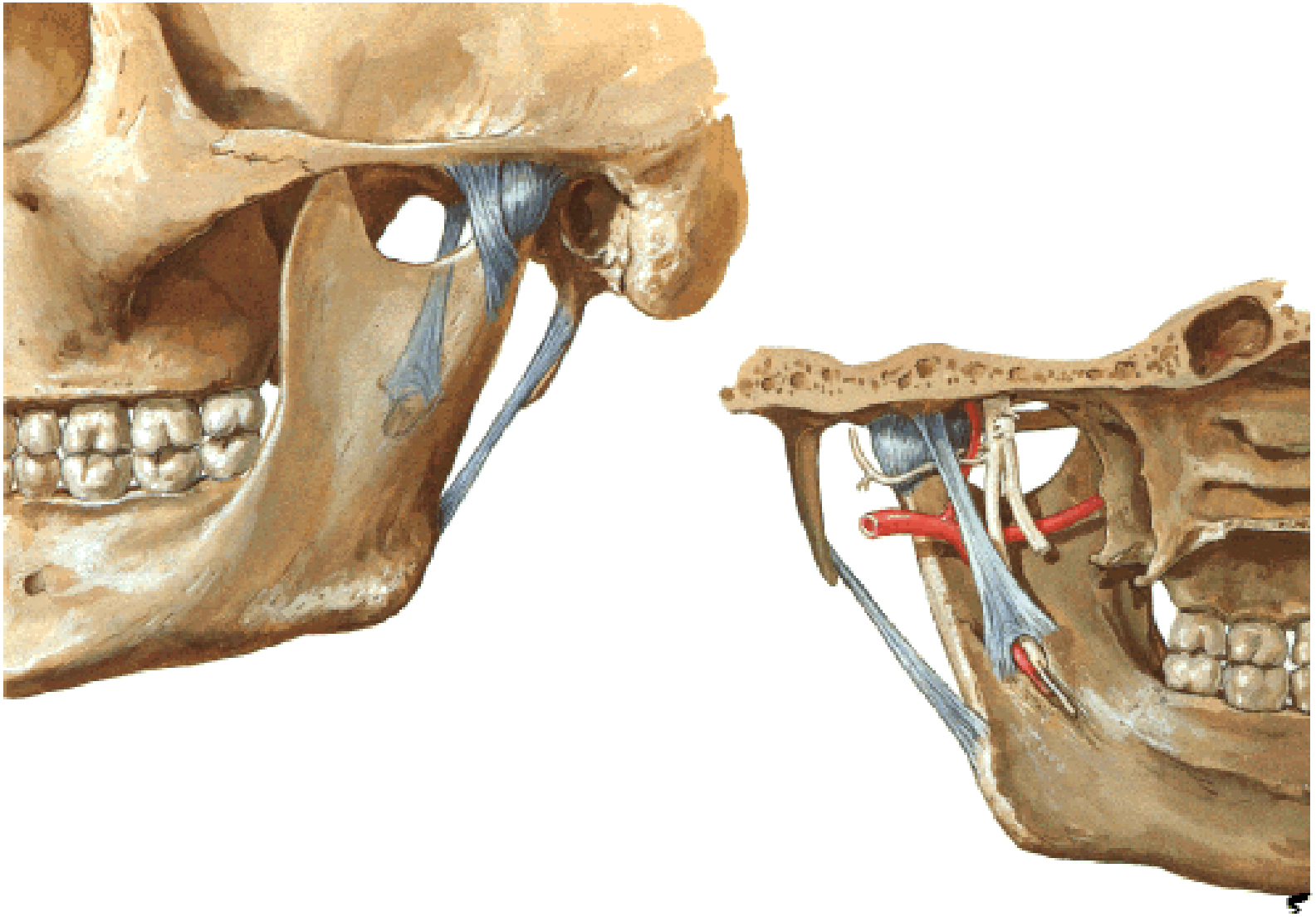
behind > parotid gland, sup. temporal vessels, auriculo-temporal nerve & external acoustic meatus

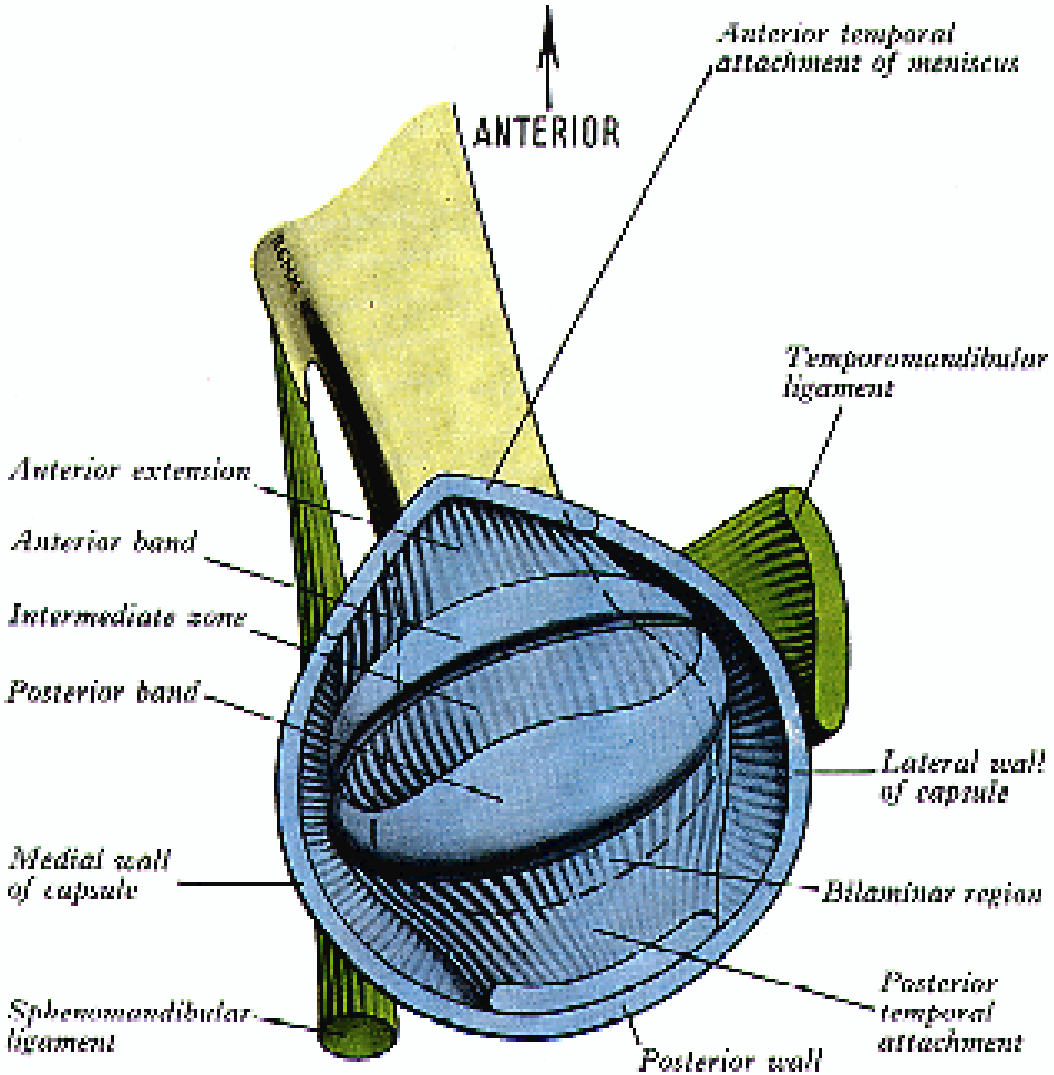
laterally > subcutaneous

medially > lat. period, roots of auriculo-temporal nerve enclosing middle meningeal artery, spine of sphenoid & spheno-mandibular ligament & chorda tympanic nerve

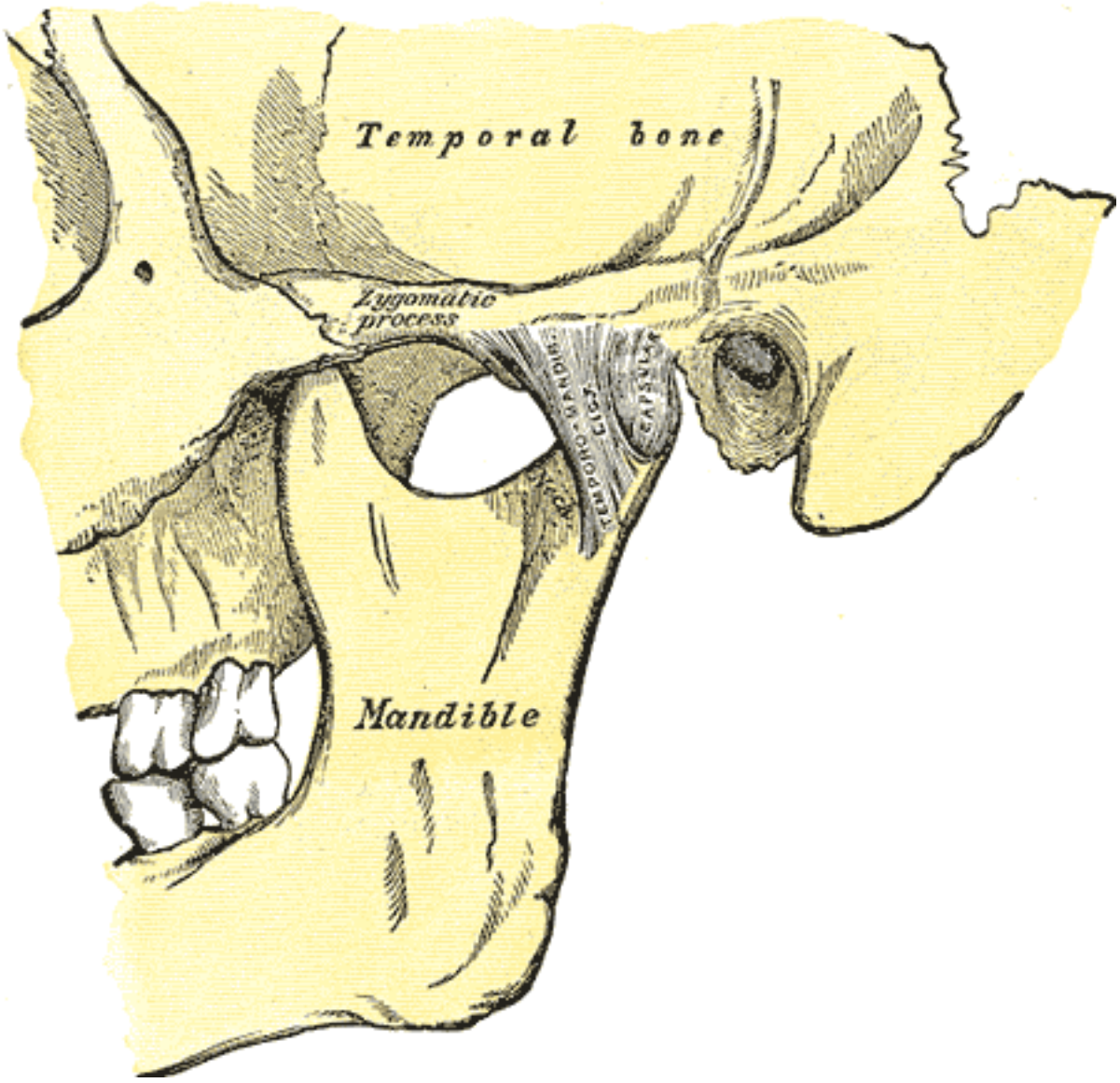
above > floor of middle cranial fossa separated by thin plate of bone

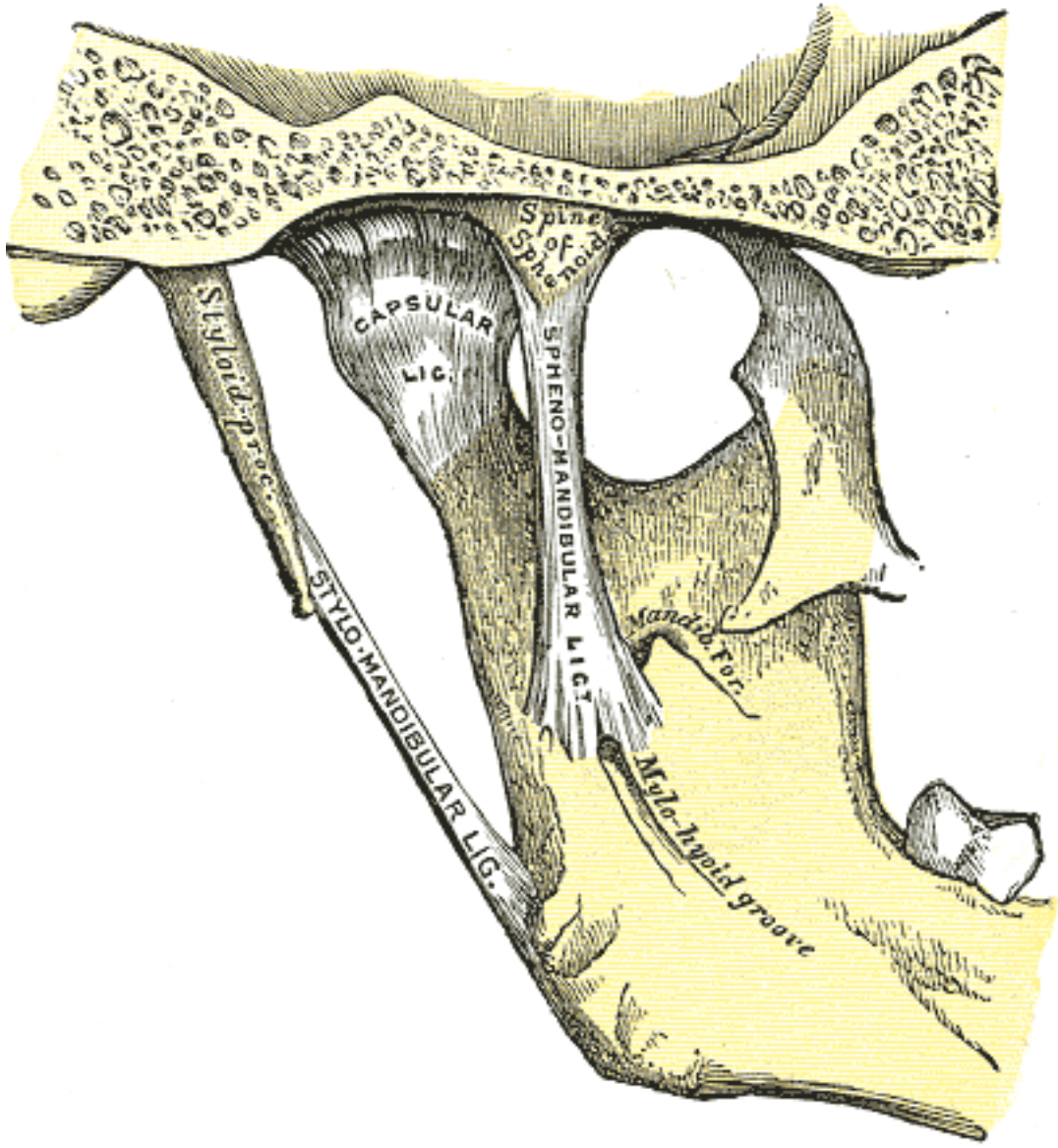


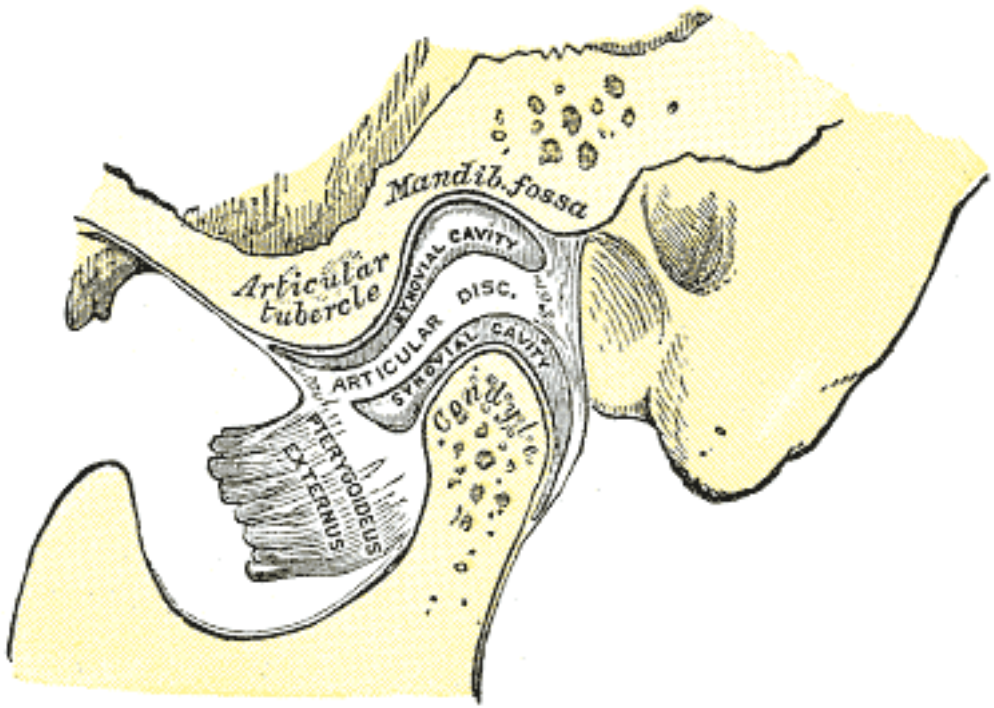


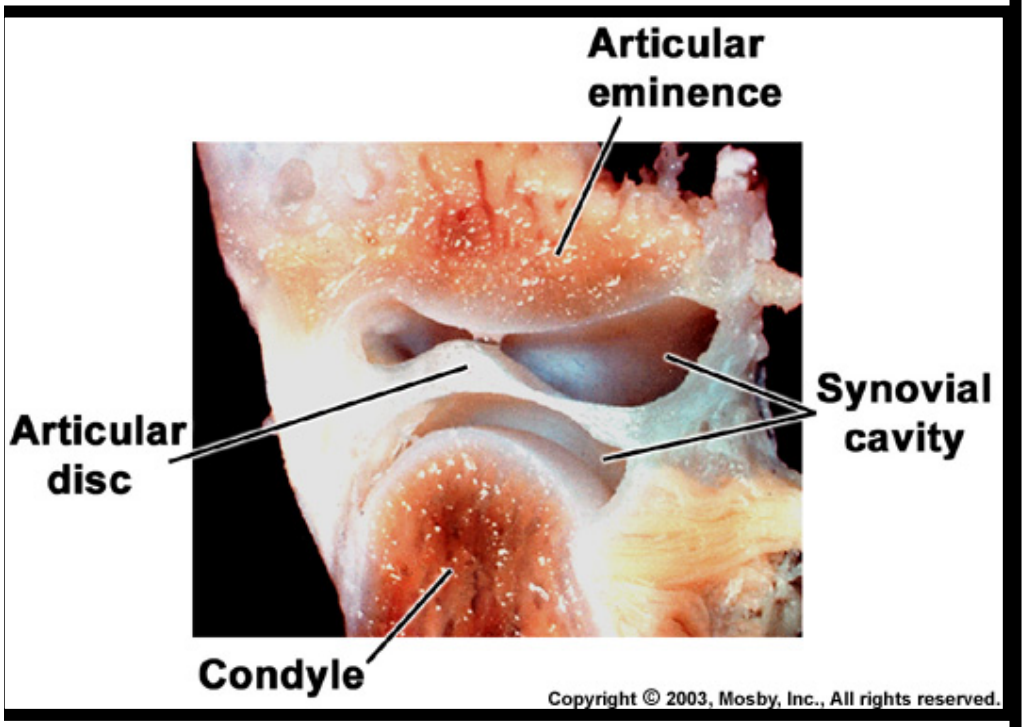


A Superior aspect.


Temporal bone
Zygomatic process
Mandible


Spine of Sphenoid
CAPSULAR LIG.
Styloid proc.
SPHENO-MANDIBULAR LIG.
STYLO-MANDIBULAR LIG.
Mandib. For.
Mylo-hyoid groove


Mandib. fossa
Articular tubercle
SYNOVIAL CAVITY
ARTICULAR DISC.
SYNOVIAL CAVITY
Condyle
PTERYGOIDEUS EXTERNUS


Articular eminence
Articular disc
Synovial cavity
Condyle
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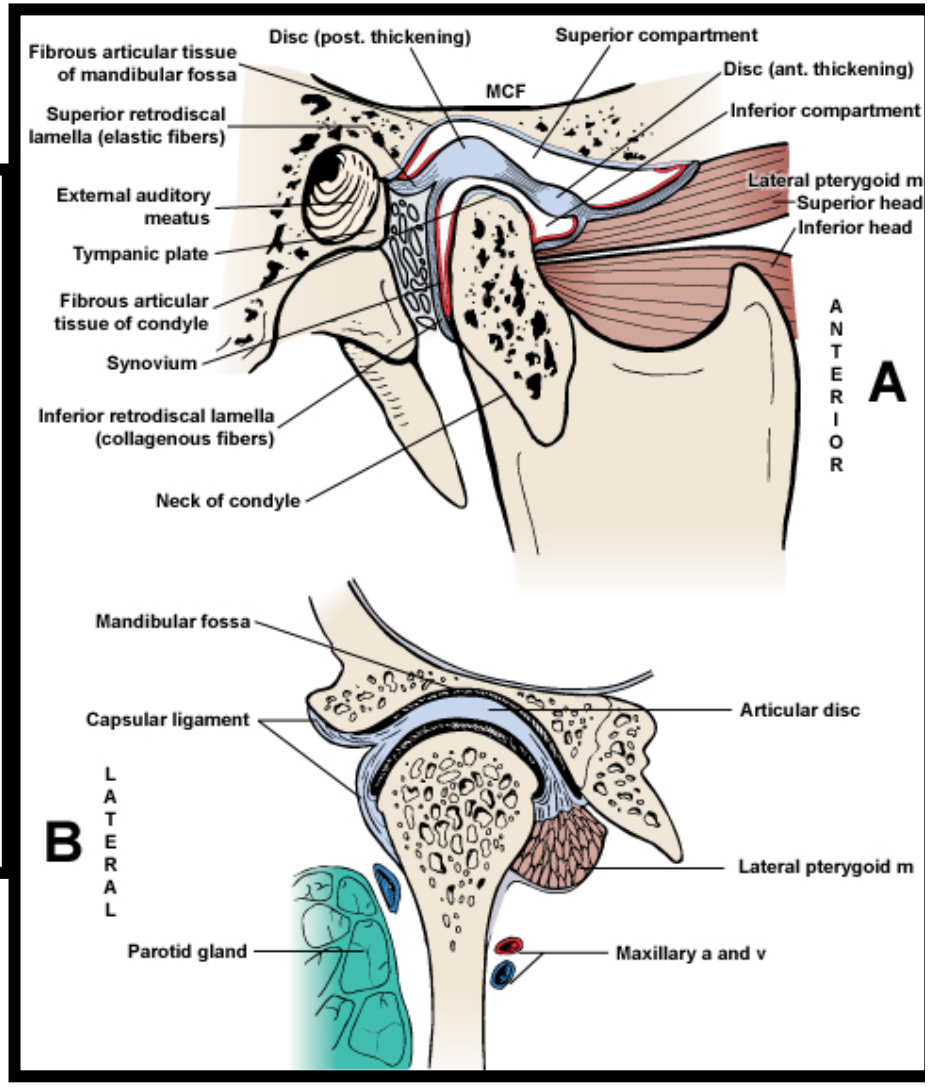

Fibrous articular tissue of mandibular fossa
Disc (post. thickening)
Superior compartment
Disc (ant. thickening)
MCF
Superior retrodiscal lamella (elastic fibers)
Inferior compartment
External auditory meatus
Lateral pterygoid m
Superior head
Inferior head
Tympanic plate
Fibrous articular tissue of condyle
Synovium
ANTERIOR
A
Inferior retrodiscal lamella (collagenous fibers)
Neck of condyle
Mandibular fossa
Capsular ligament
Articular disc
LATERAL
B
Lateral pterygoid m
Parotid gland
Maxillary a and v

D. Innervation

Movements of synovial joint initiated & effected by muscle coordination.

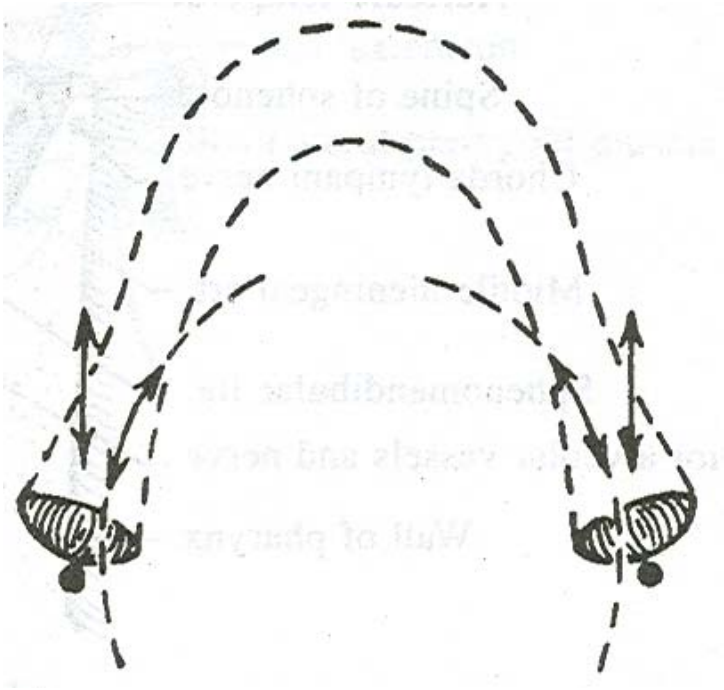
Achieved in part through sensory innervation.

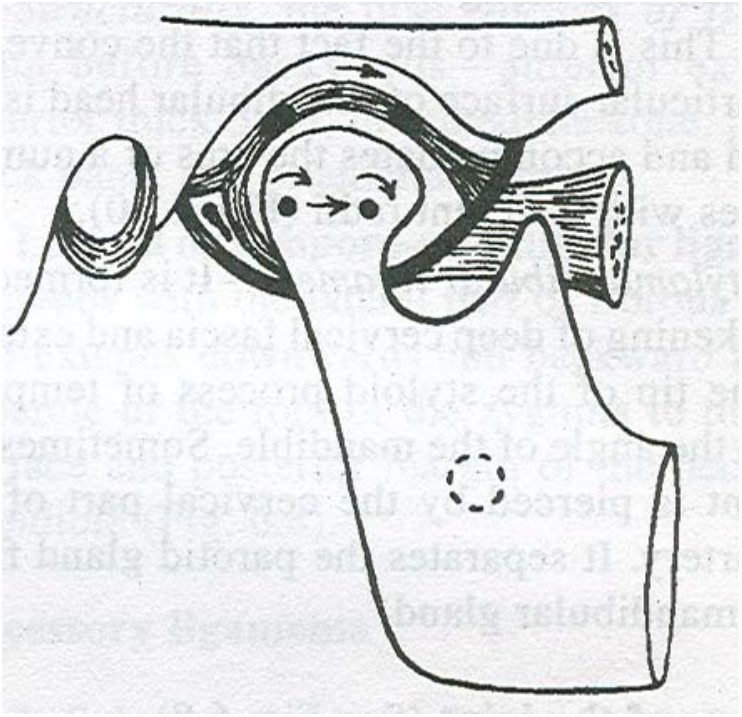
Hilton's Law:

The muscles acting on a joint have the same nerve supply as the joint.

Therefore:

Branches of the mandibular division of the fifth cranial nerve supply the TMJ (auriculotemporal, deep temporal, and masseteric)





PROTUSION > LAT & MED PTERYGOID
RETRACTION > TEMPORALIS - POST FIBRES
FORCEFULL > DEEP %& MIDDLE FIBRES OF MASSETER, DIGASTRIC & GH
DEPRESSION > **GRAVITY**, LAT PTERYGOID, GH MH DIAGARTRIC
ELEVATION > MASSETER , TEMPORALIS, MP
S-S > LAT & MED PTERYGOID

D. Biomechanics

Complex combinations of muscle activity

Disk enables complex movements