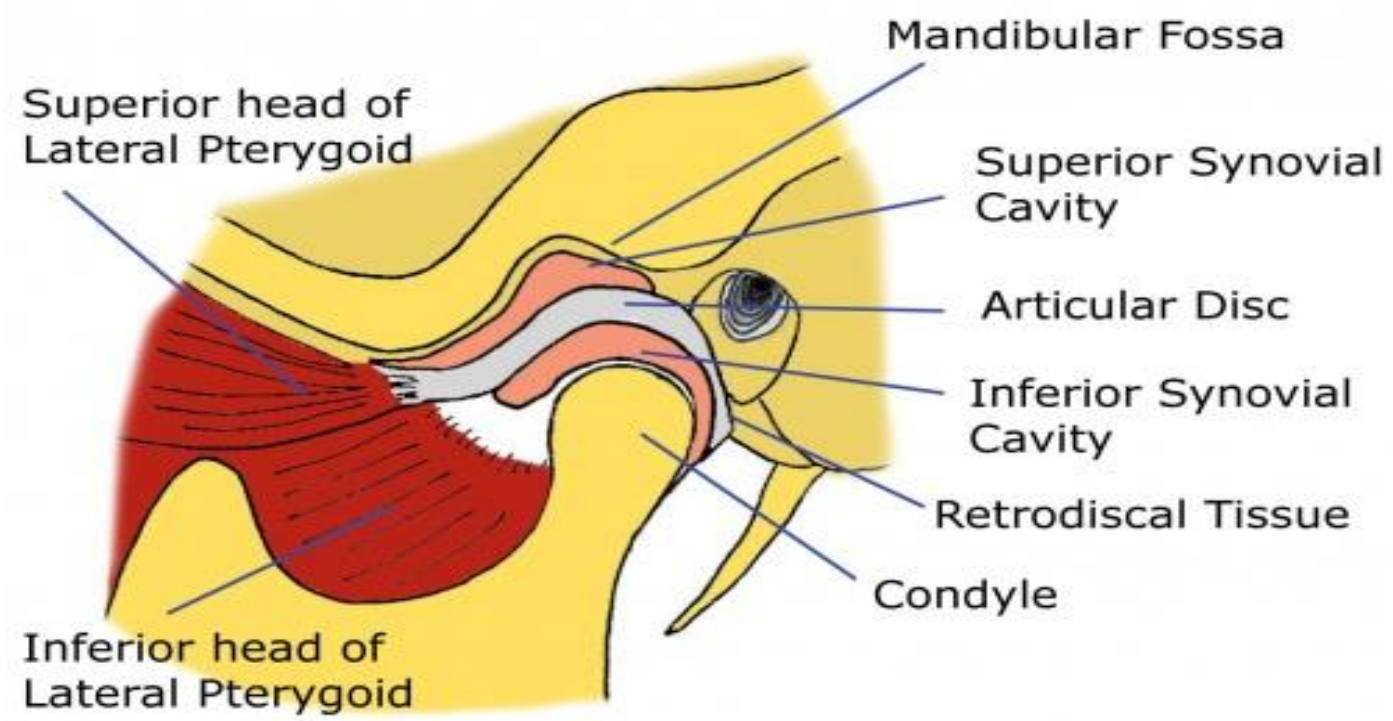
TEMPOROMANDIBULAR JOINT DISORDERS



TMJ ANATOMY :

BONY STRUCTURES, SYNOVIUM, ARTICULAR DISK.

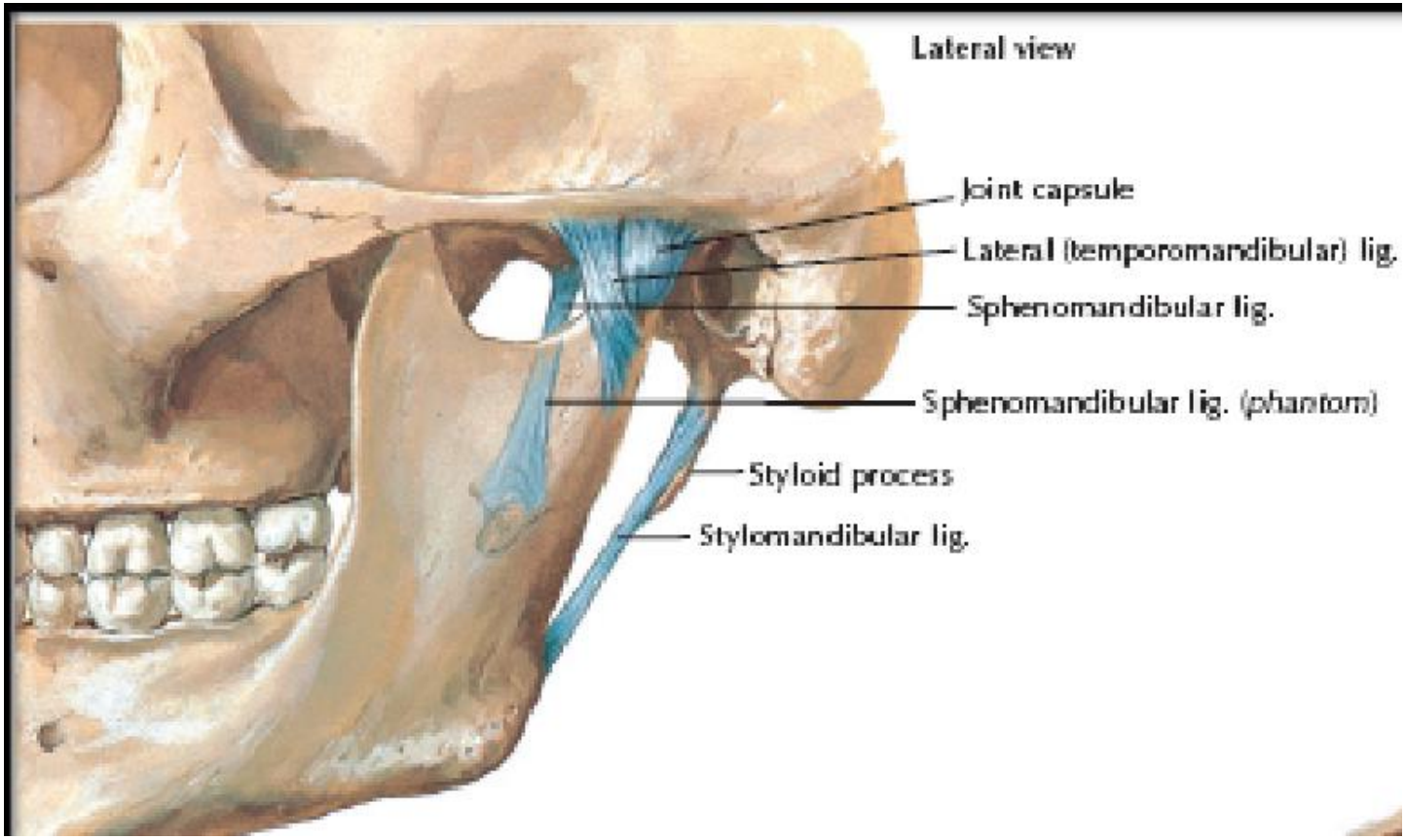


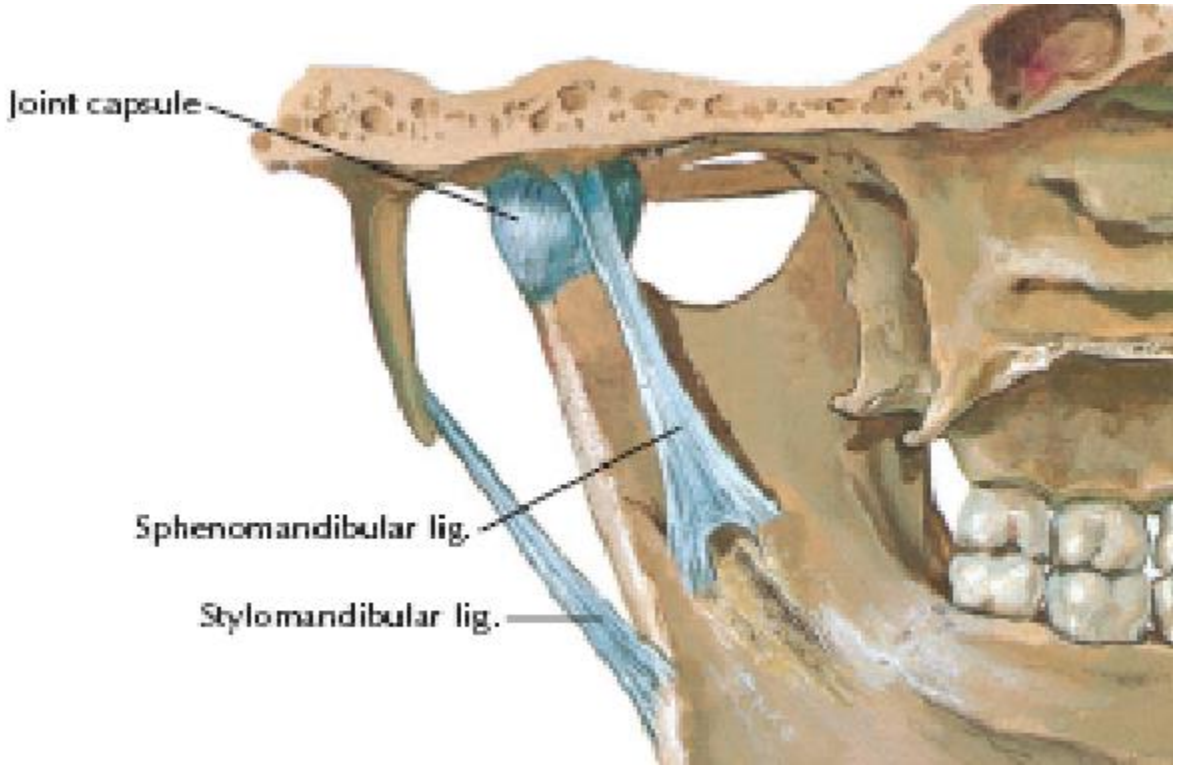
The Temporomandibular Joint

LIGAMENTS

Three functional ligaments:

- Capsular ligaments.
- Collateral (Diskal)
- Temporomandibular


Lateral view
Joint capsule
Lateral (temporomandibular) lig.
Sphenomandibular lig.
Sphenomandibular lig. (phantom)
Styloid process
Stylomandibular lig.

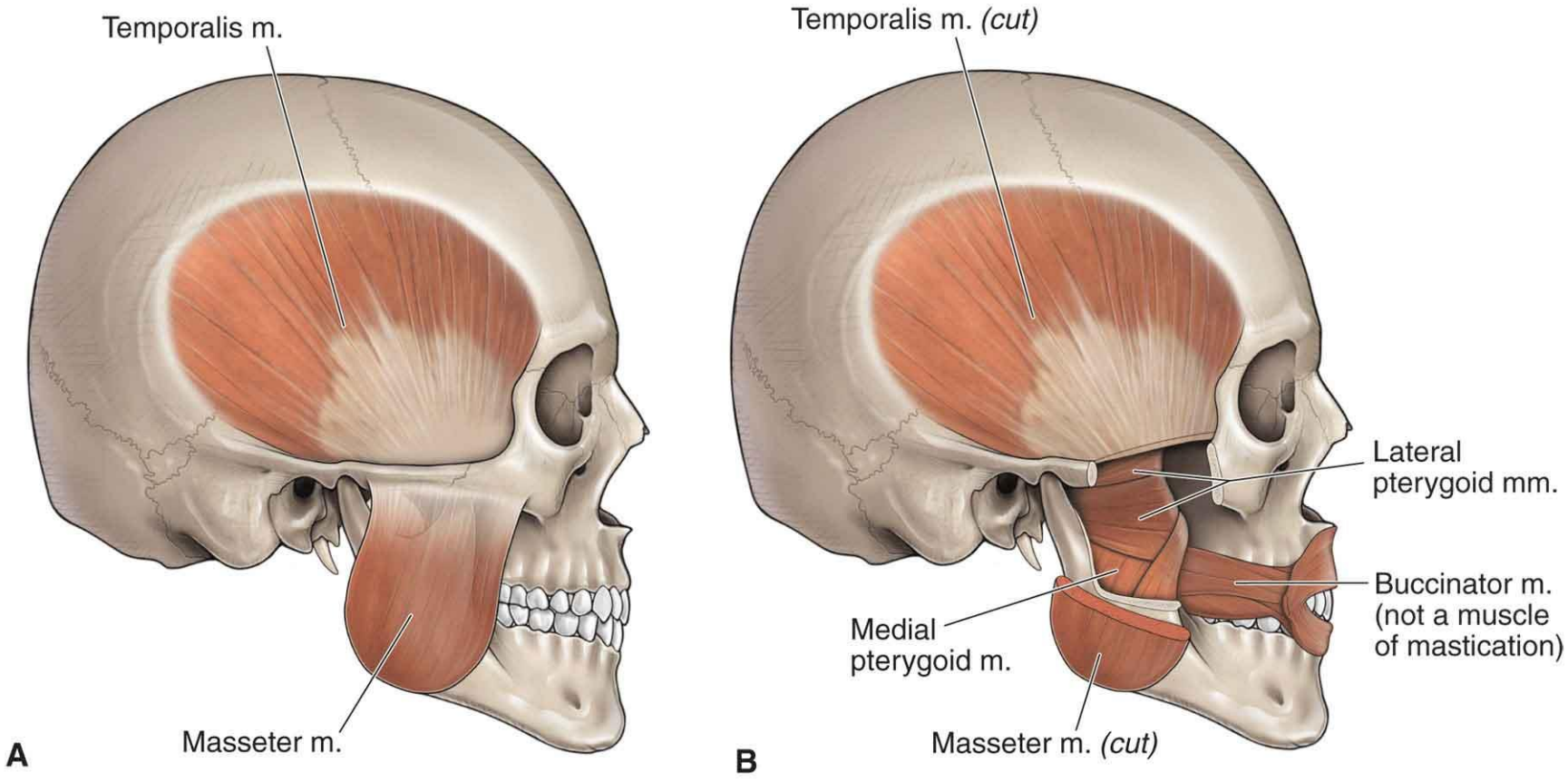

Joint capsule
Sphenomandibular lig.
Stylomandibular lig.

Nerve supply

Sensory innervation of the temporomandibular joint is derived from the auriculotemporal and masseteric branches of V3 or mandibular branch of the trigeminal nerve

.

MUSCLE ATTACHMENT



EVALUATION OF TMJ

1. Chief complaint

2.Histoy of present illness HPI

3.Medical and dental historyHx.

4. Clinical examination:


A
B
C

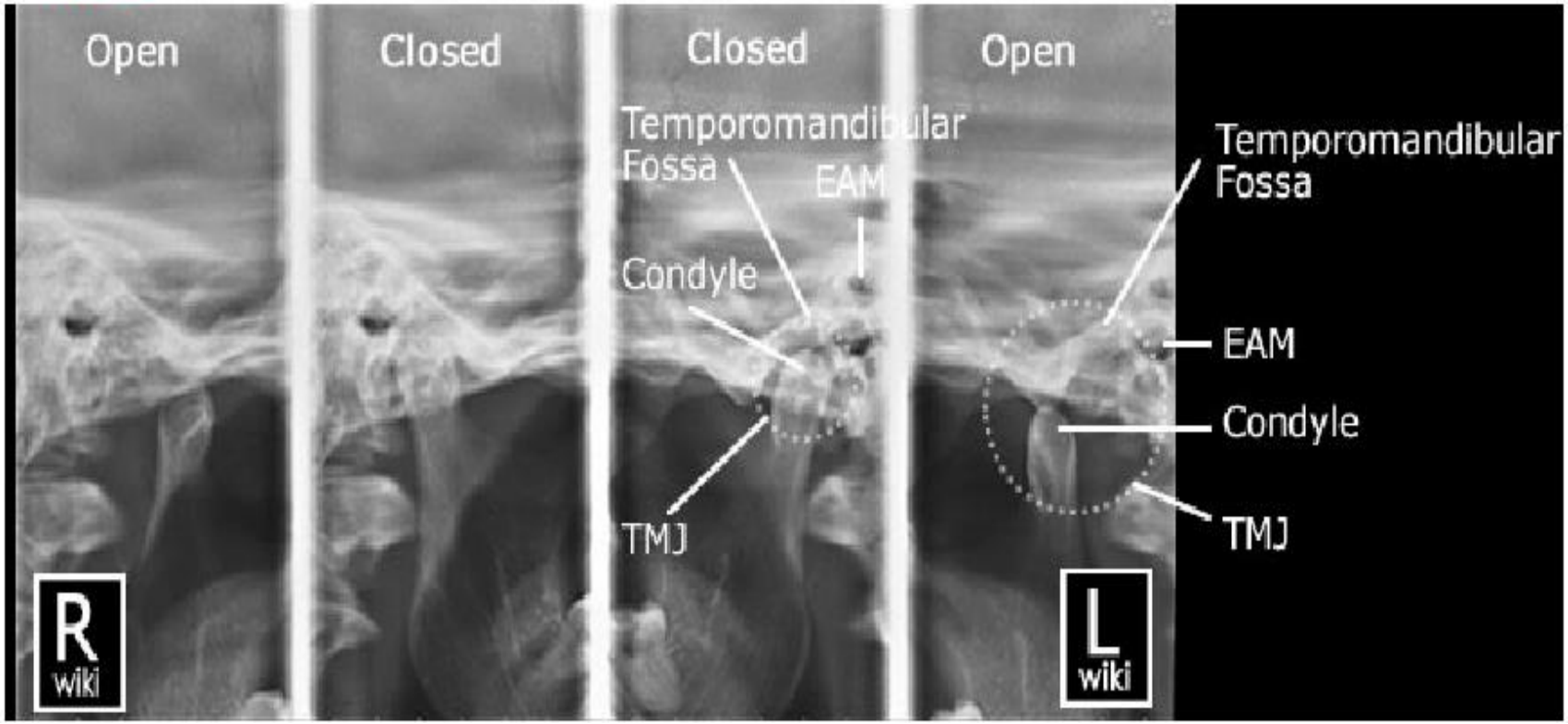

A
B

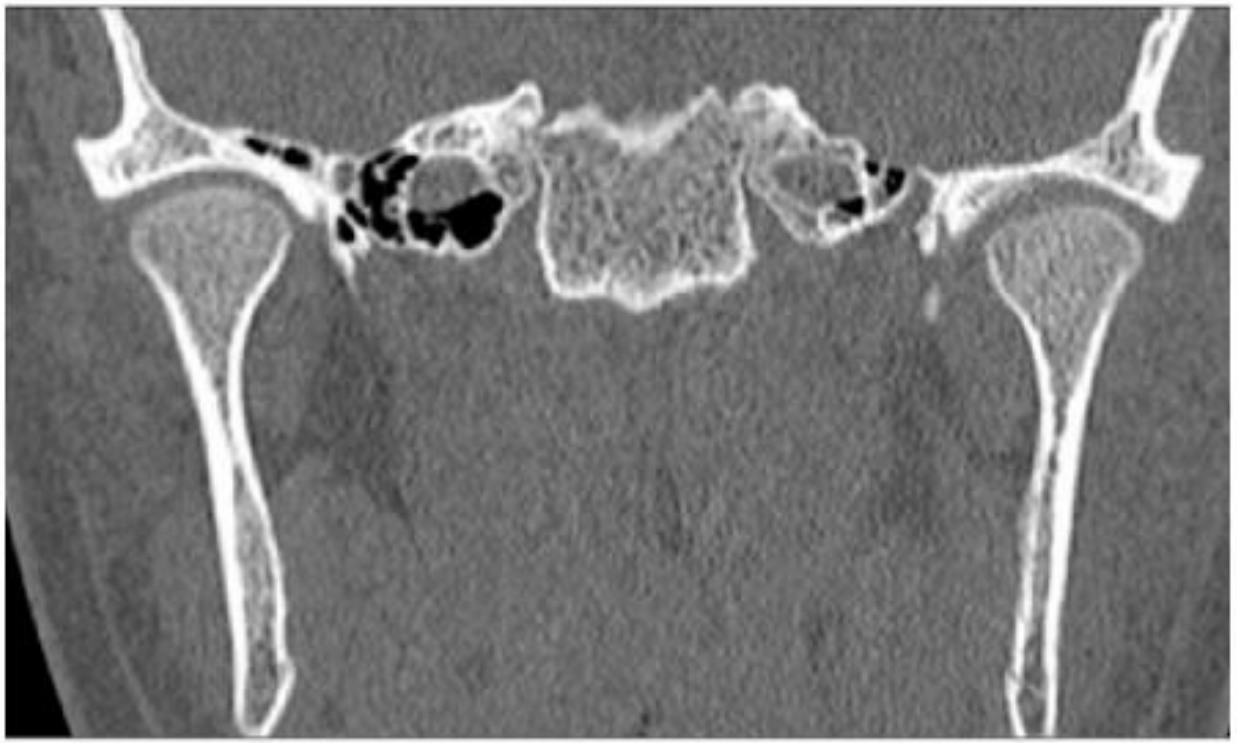




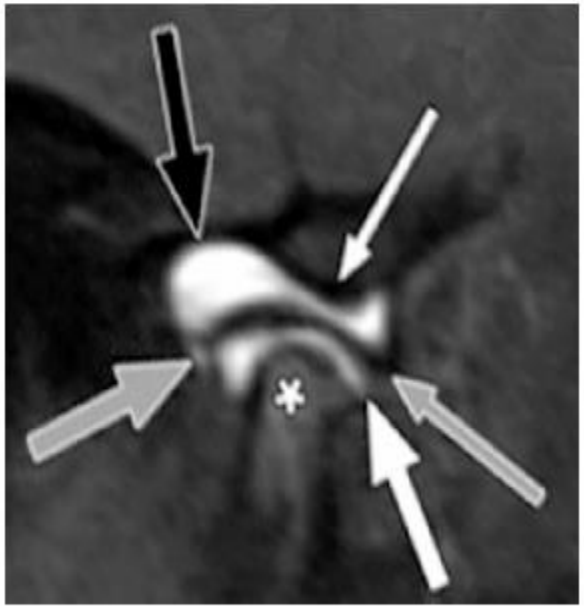
RADIOLOGICAL FINDINGS

-OPG





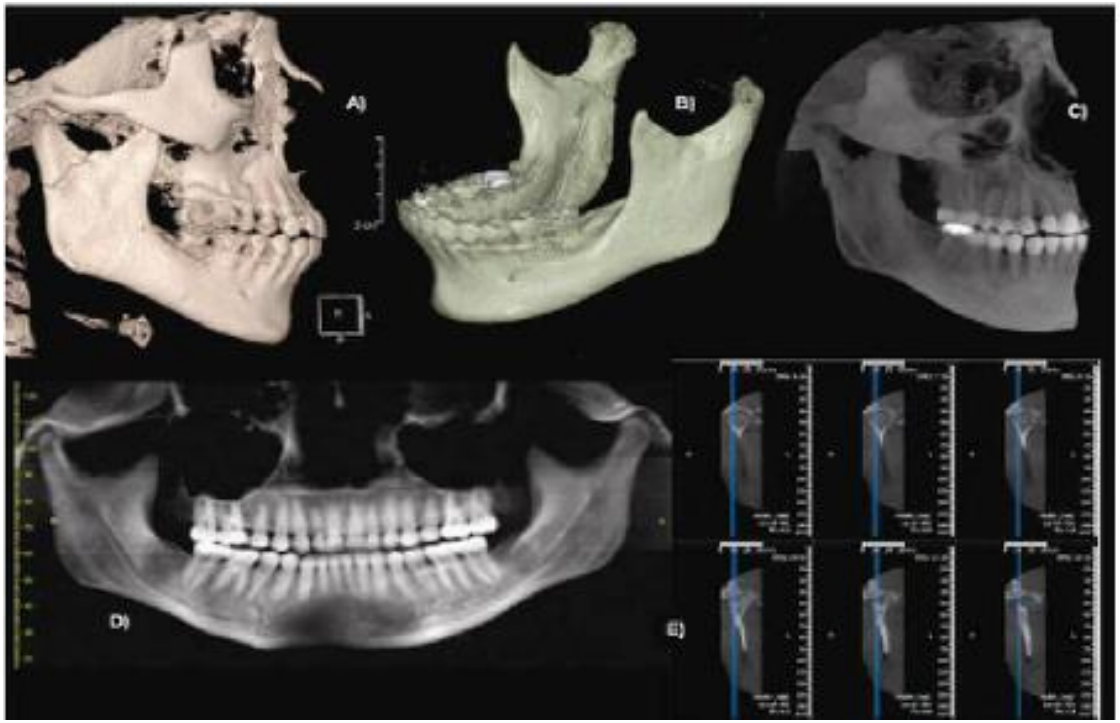




-US

-

Cone beam computerized tomography (CBCT)



DISORDERS OF TMJ

1. Structural (Internal derangement) abnormal condylar disk fossa relationship:

dislocation, displacement/degeneration of the articular disc, inflammation, infection, trauma or false ankylosis of the joint, condylar hyperplasia, or any neoplastic process (which can be either benign or malignant).

Wilkes classification of internal derangement:

Stage I Early reducing disk displacement

Stage II Late reducing disk displacement

Stage III Non reducing disk displacement: acute/subacute

Stage IV Non reducing disk displacement: chronic

Stage V Non reducing disk displacement: chronic with osteoarthritis

2.Functional (Myofascial pain):

Spectrum of facial pain disorders secondary to parafunctional habits(teeth clenching, bruxism,lip biting), occlusal anomalies, trauma, internal joint problems.

MANAGEMENT

Non surgical:

1. Behavioral(soft diet, avoid chewing gum)

2. Pharmacological

-

Local anesthesia: for diagnosis to block intraarticular or intramuscular/pain

relief/increase range of motion.

3. OCCLUSAL SPLINT



4. PHYSICAL THERAPY:

Thermal therapy (by hot moist wash clothes 15_20 min or deep heat by US)

Jaw exercise:

Passive jaw exercise has received a great deal of attention recently.

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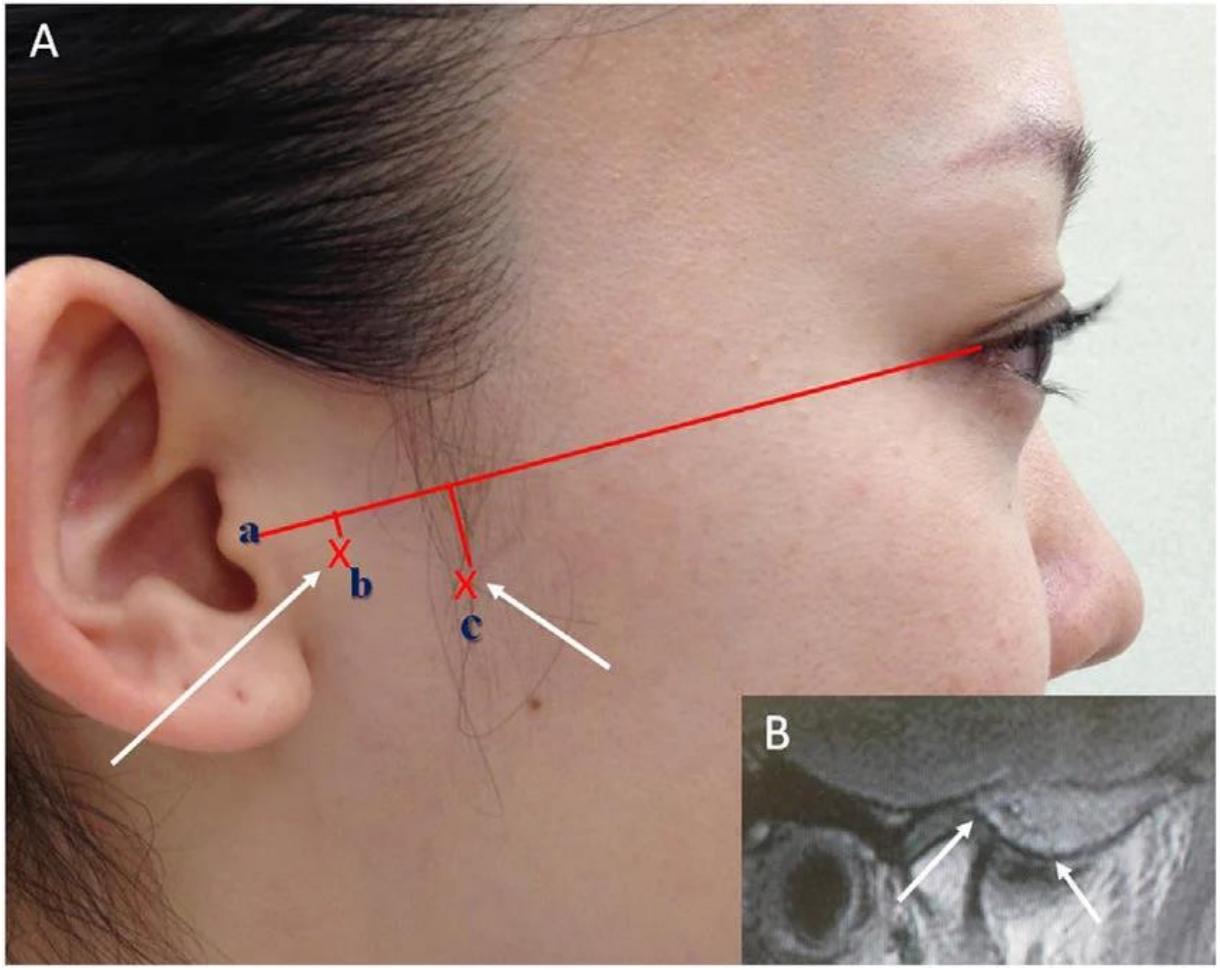
ACTIVE EXERCISE

In the active stretch phase patients are advised to

keep their mouth open for several seconds and relax. They are instructed to open until they perceive pain and then advised to hold for several seconds and repeat this exercise several times a day.

5. Occlusal managment: (for eg overjet).

MINIMALLY INVASIVE (ARTHROCENTESIS, ARTHROSCOPY)



SURGERY

-Surgical procedures:

1. Disc repositioning (discopexy)

2.Disc repositioning & discoplasty.

3. Disc repositioning & arthroplasty for condyle or fossa

4. Disc repair

5. Discectomy

6. Discectomy with replacement by:

Temporalis muscle/fascia flap

Ear cartilage

Dermal graft

Abdominal dermis/fat graft

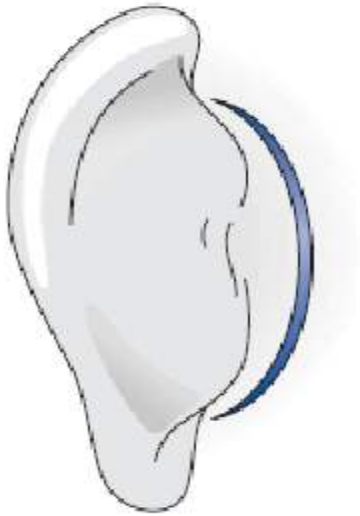
7. Modified mandibular Condylotomy: intraoral vertical subsigmoid osteotomy with condylar sagging for 4 mm

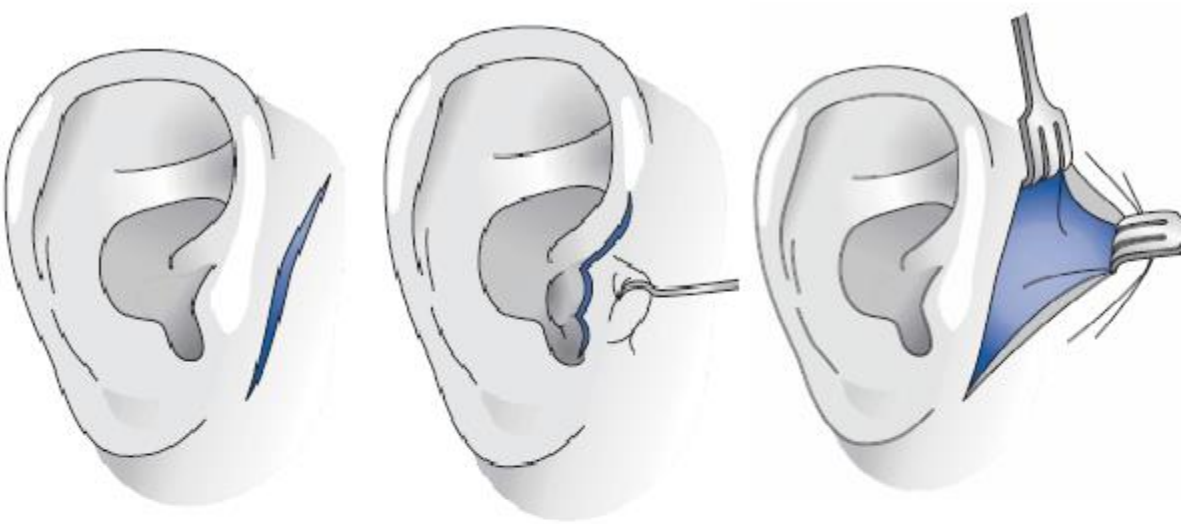
SURGICAL APPROACHES

1.Preauricular

2. Endaural

3. Postauricular



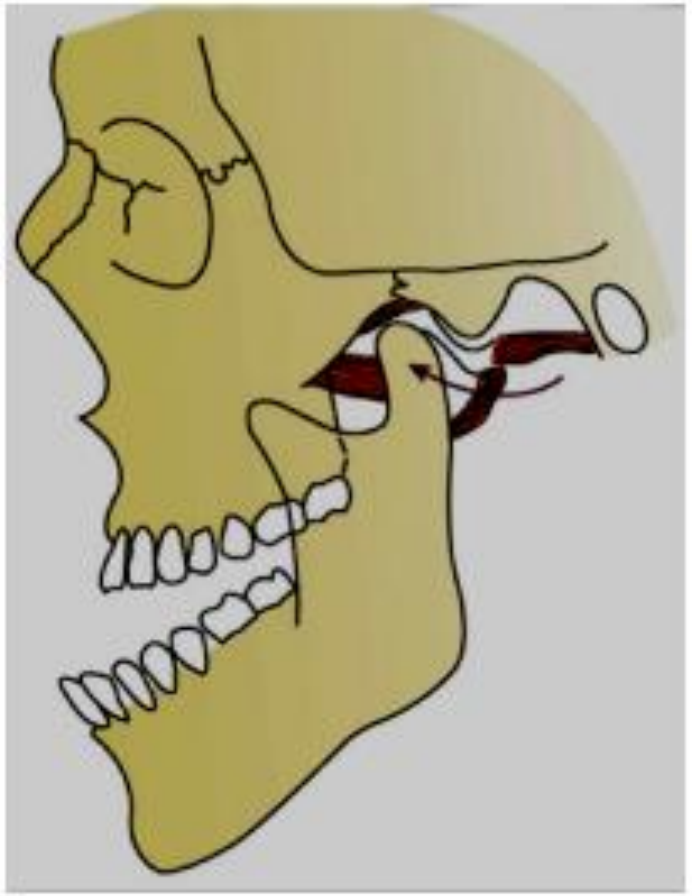




HYPERMOBILITY

OF TMJ:

1. Subluxation
2. Dislocation



CAUSES

1. EXTRINSIC trauma: force against a partially opened mandible

2. INTRINSIC trauma: excessive opening of the mandible (such as may occur during yawning and dental procedures

3. CT disorders

4. Psycogenic: habitual

5. Drugs induced; phenothizine

*Acute:

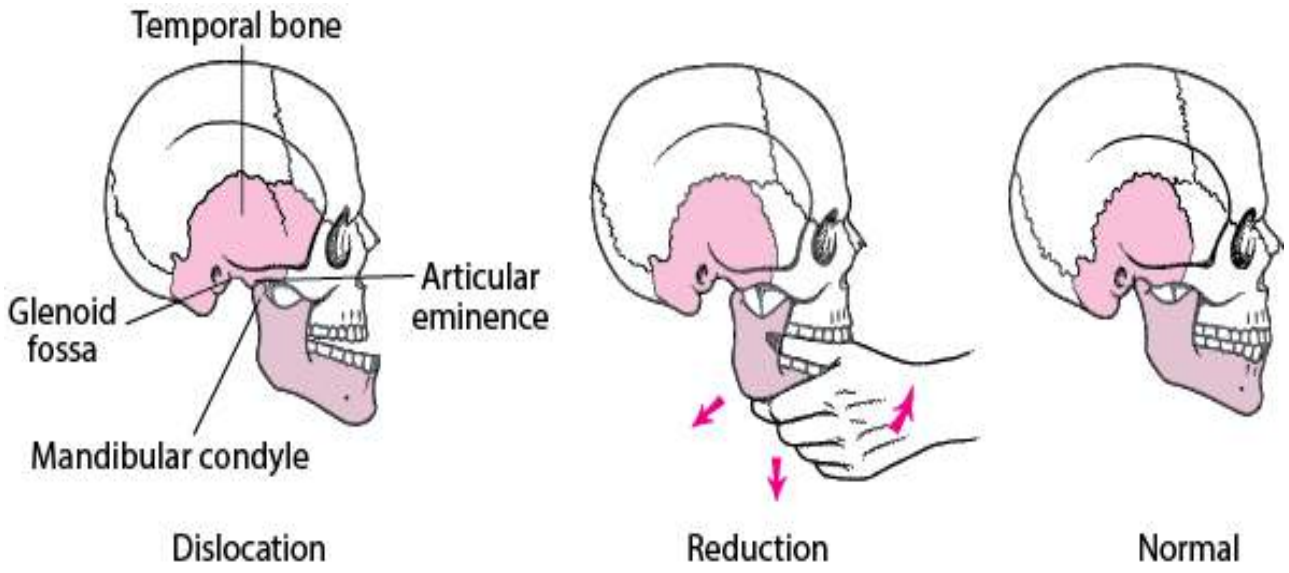
-Manual reduction followed by IMF for 2w

*Chronic:

-Manual reduction

-Condylotomy

-Condylectomy



Recurrent:

-Conservative:

a. Prolonged IMF for 2_6weeks

b. Chemical capsulorrhaphy by STD or sodium psylliate

-

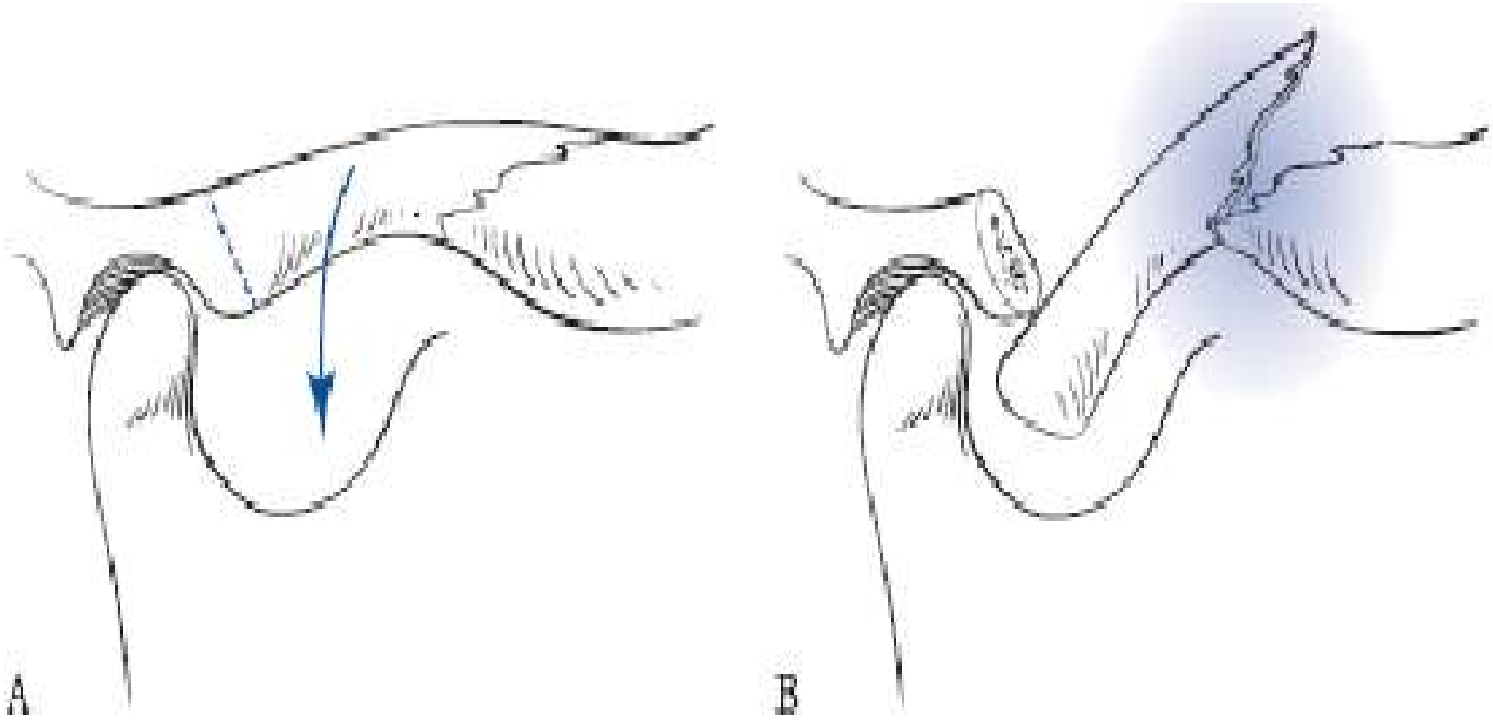
Surgical:

1. Capsular plication

2. Augmentation of articular eminence by bone graft or L shaped pin

3. Inferior displacement of zygomatic arch (LeClerc procedure

: vertical fracture of zygomatic arch in front of the joint and the proximal segment is lowered to obstruct the condylar path, modified by Dautery: downward and forward osteotomy)


A
B

4. Eminectomy(removal of articular eminence)

5. Lat pterygoid myotomy

6. Inj of botulinium toxin in LPM

HYPOMOBILITY OF TMJ:

Trismus: temporary limitation of mouth opening usually caused by muscle spasm.

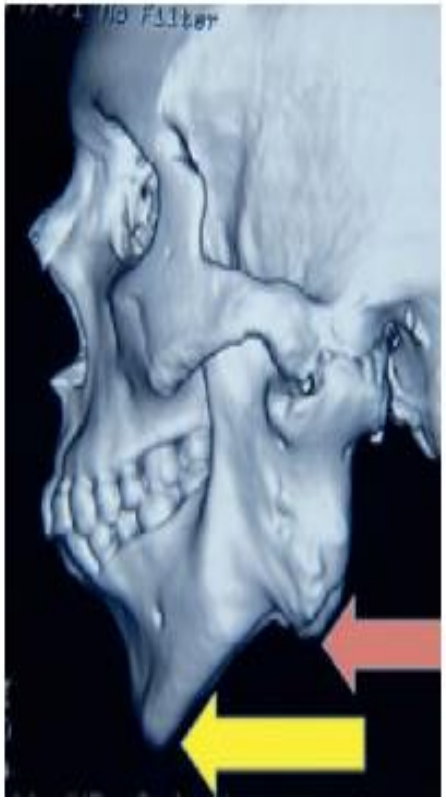
Pseudoankylosis(Extra articular)

True ankylosis:

persistent limitation of mouth opening. It may be bony, fibrous or mixed ankylosis.






No Filter


LEFT
TBL 8
ANT
SCAN

Topazian classification of TMJ ankylosis:

Stage 1: Ankylotic bone limited to the condylar process

Stage 2: Ankylotic bone extending to the sigmoid notch

Stage 3: Ankylotic bone extending to the coronoid process

The basic principles of TMJ ankylosis release should be followed:

1-Gap arthroplasty:

resection of ankylotic mass and creation gap for at least 1 cm between roof of glenoid fossa and the ramus.

2-Interpositioning:

-temporalis myofascial flap

-temporalis fascia alone

-full thickness temporalis pericranial flap

-alloplastic materials

3-Reconstruction of resected joint:

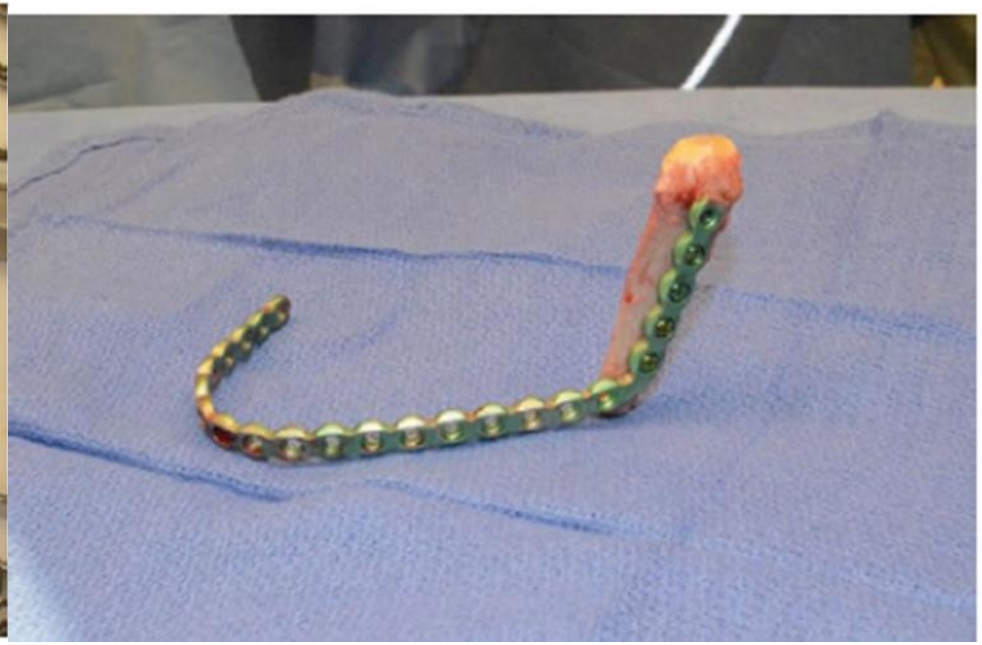
Goals:

-restore joint function

-reestablish vertical height of ramus

-provide growth potential in children





[redacted]

