TEMPOROMANDIBULAR JOINT

PRESENTED BY : DR. SUNITA GARG

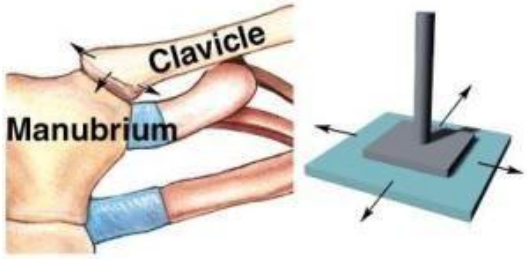
CONTENTS

WHAT ARE JOINTS?

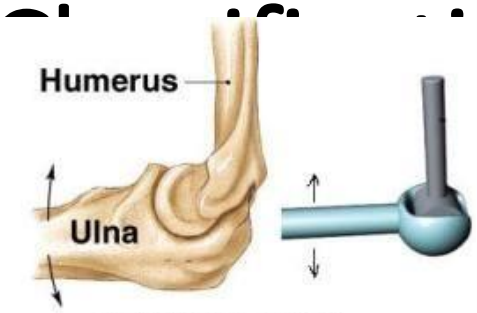
The site where two skeletal elements come together are termed as joints.

CLASSIFICATION OF JOINTS

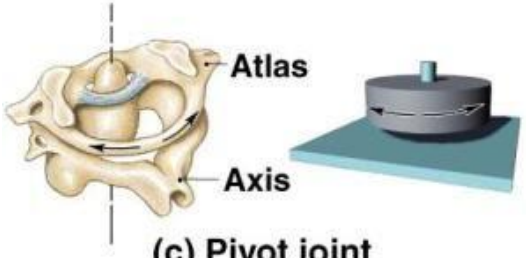
SYNOVIAL JOINTS



(a) Gliding joint

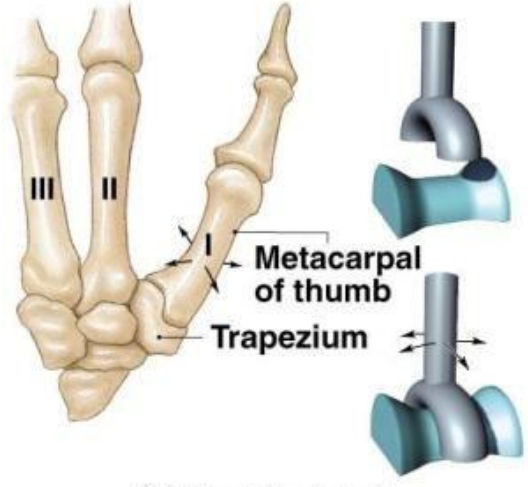


(b) Hinge joint

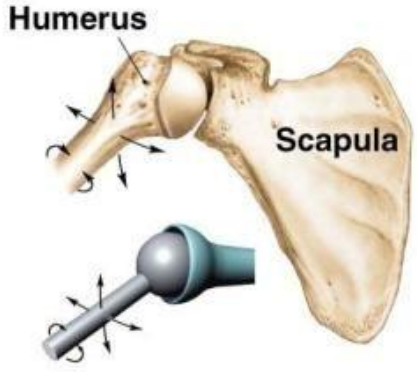


(c) Pivot joint

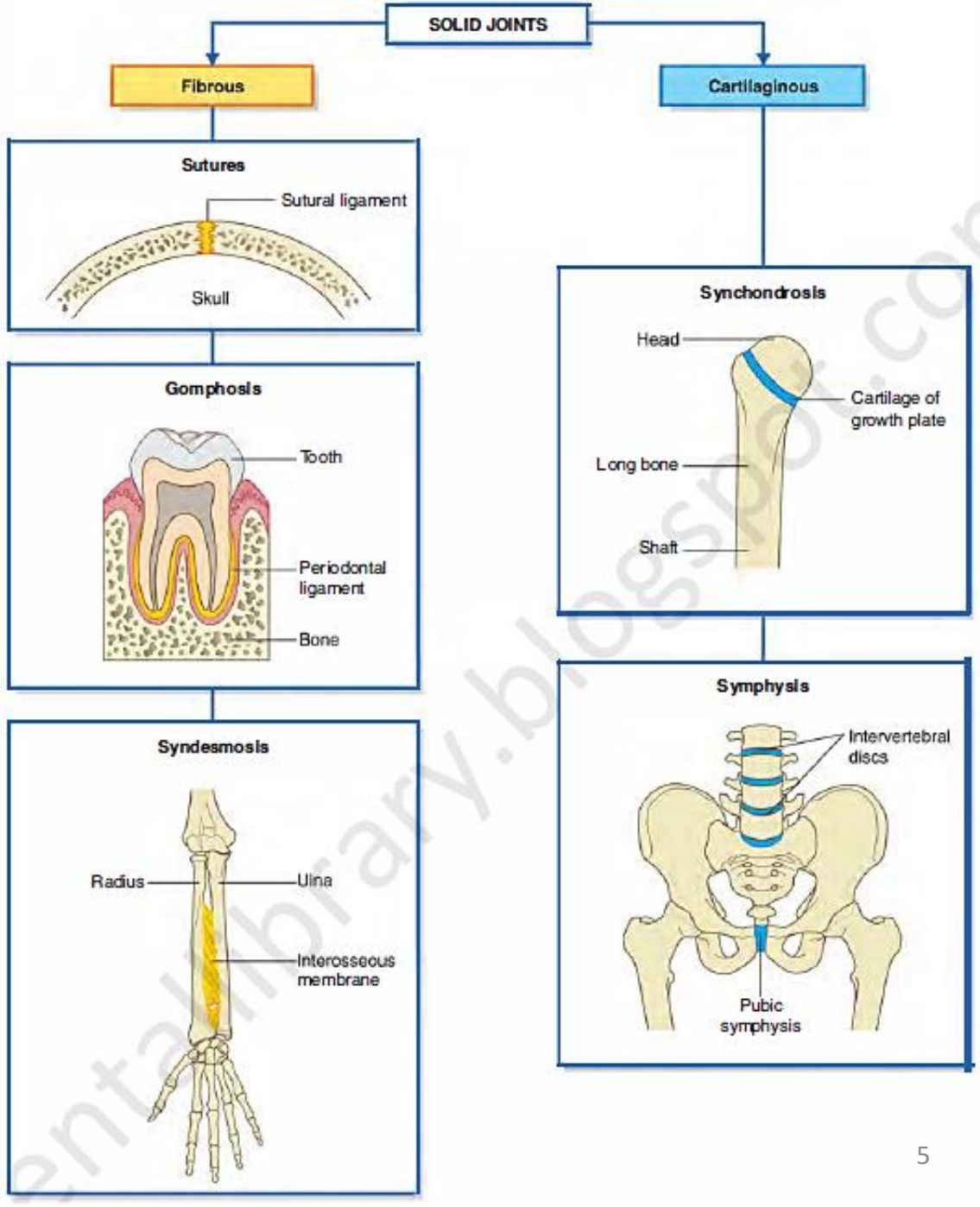
(d) Ellipsoidal joint



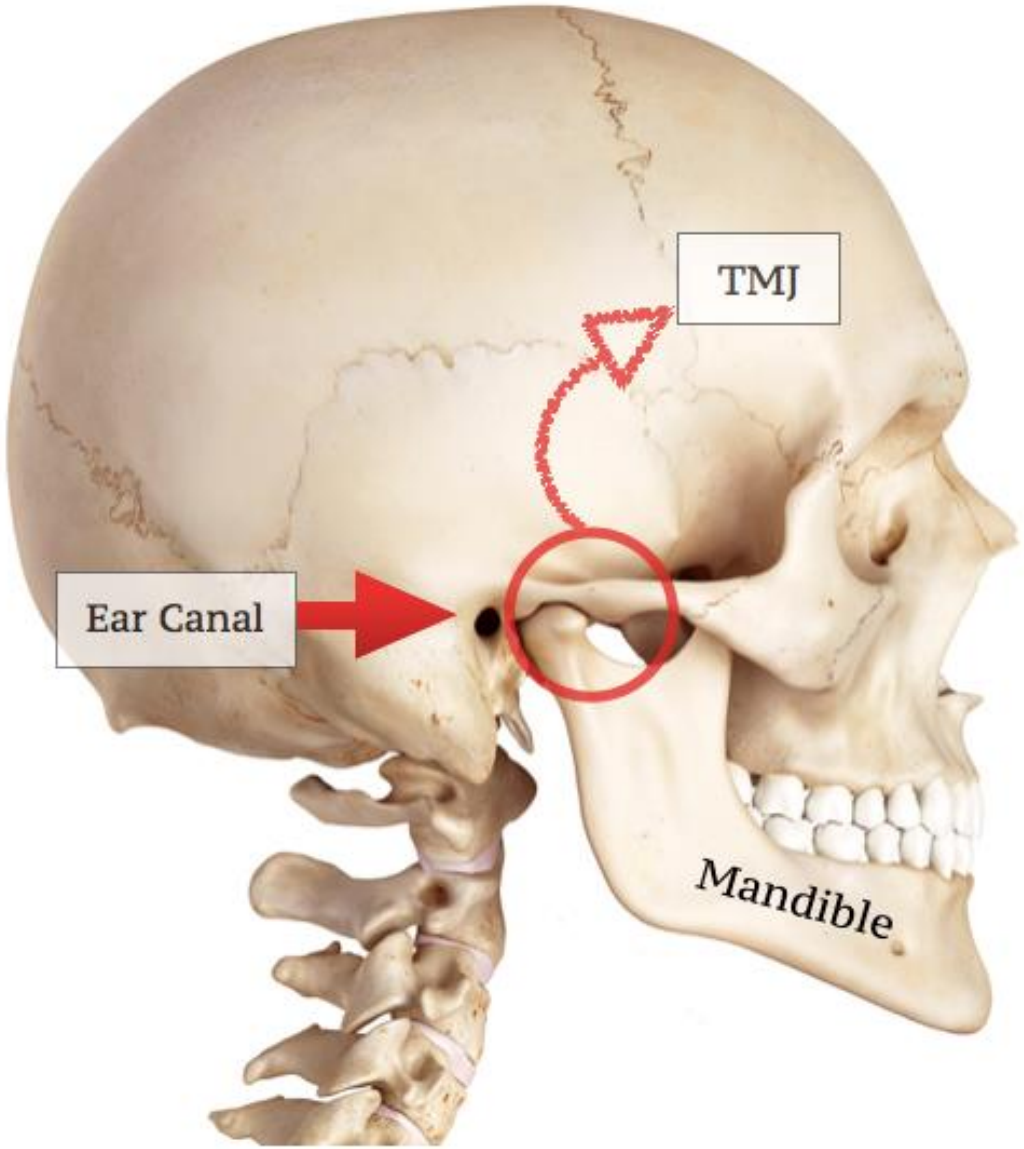
(e) Saddle joint



(f) Ball-and-socket joint



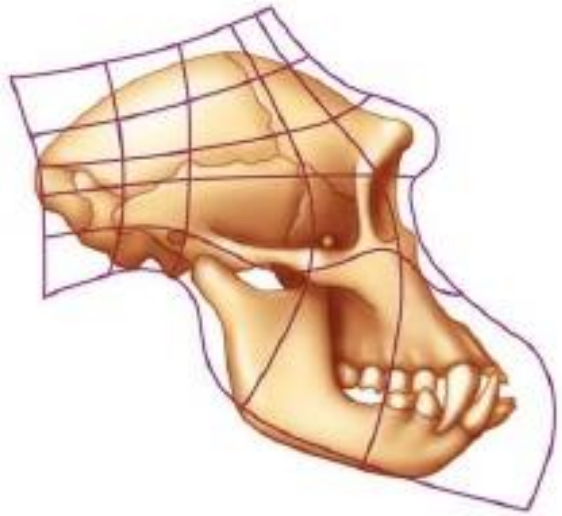
DEFINITION

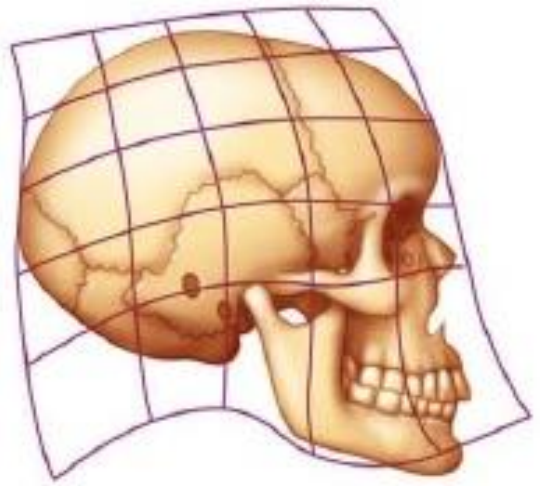


- The joint that hinges the lower jaw (mandible) to the temporal bone of the skull is called temporomandibular joint.

EVOLUTION

FEATURE	PRIMATES	HOMOSAPIENS (HUMANS)
ARTICULAR EMINENCE	POORLY FORMED	WELL FORMED
DEPTH OF GLENOID FOSSA	SHALLOW	RELATIVELY DEEPER
POSITION OF GLENOID FOSSA	LATERALLY PLACED	MEDIALLY PLACED
OVERALL SIZE OF JOINT	LARGER	SMALLER

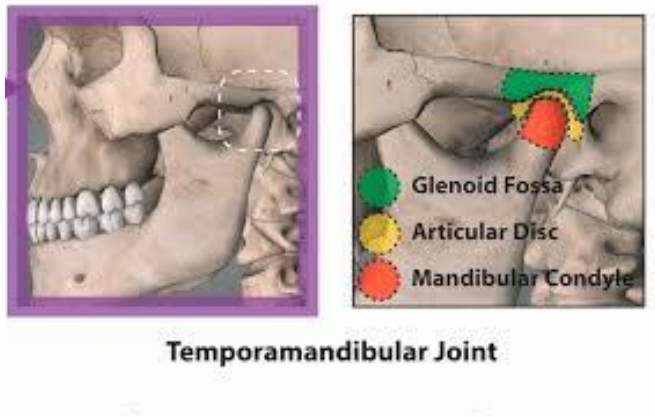




EMBRYOLOGY

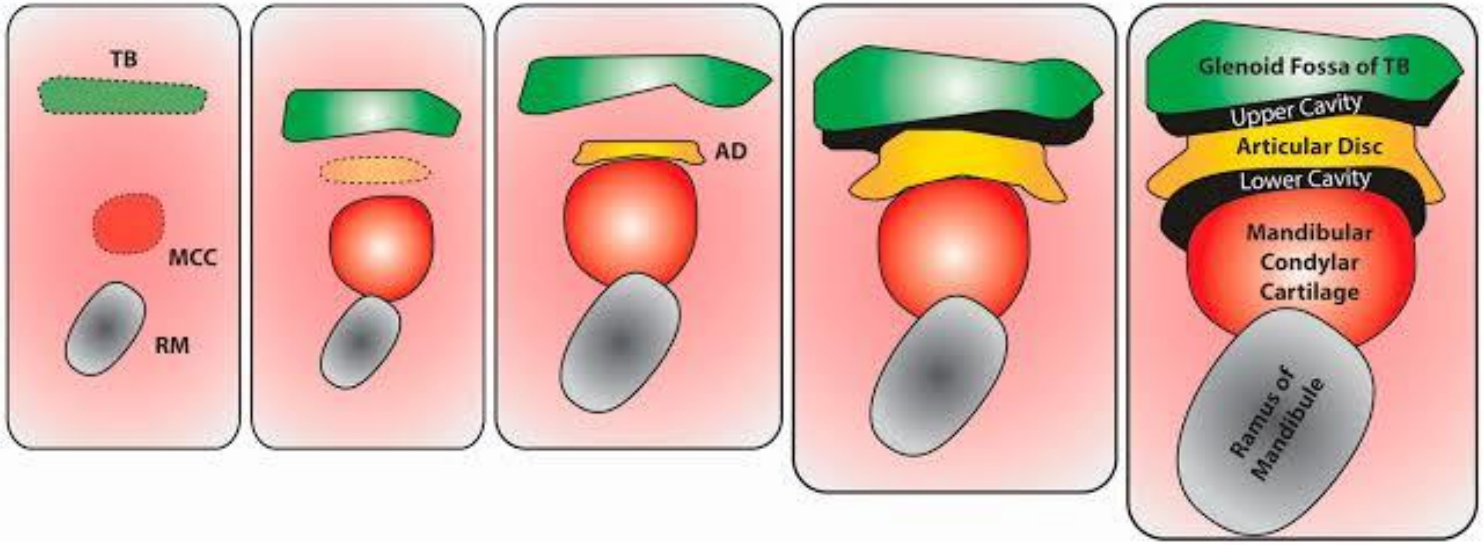
EMBRYOLOGY

Early TMJ structures emerged from a block of embryonic mesenchymal cells interposed between the developing temporal bone and mandible.
The critical period of morphogenesis of TMJ occurs between 7th and 11th week of gestation.



At 3 months of gestation, two distinct regions of mesenchymal condensation appear:

- TEMPORAL BLASTEMA
- CONDYLAR BLASTEMA

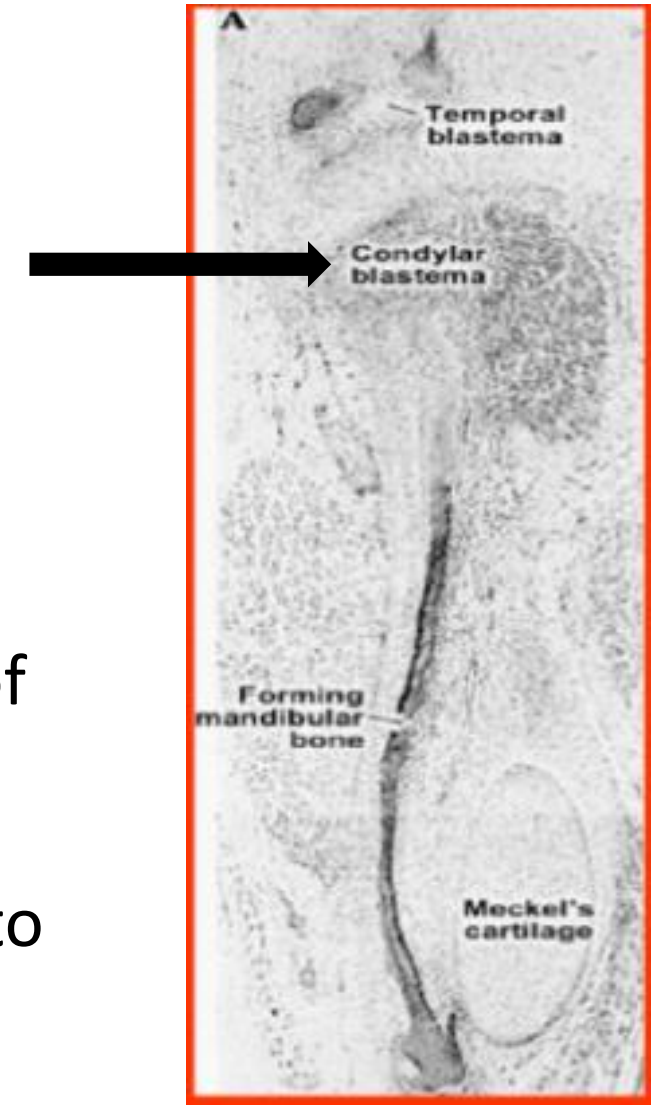


TEMPORAL BLASTEMA

- Give rise to articular eminence and glenoid fossa.
- First appearance of glenoid fossa occurs at approx 7-7.5 weeks
- Upto 9 weeks, shape of glenoid fossa is convex.
- Later, the fossa progressively takes on its definitive concave shape.

CONDYLAR BLASTEMA

- Gives rise to condyle & articular disc.
- Condensation and shaping of mandibular condyle occur at about the same time as for the articular fossa.
- This mass is superiorly convex.
- Small coalescing clefts for the lower compartment of joint cavity appear at about 9 weeks, and for upper compartment at 11 weeks.
- These small clefts gradually enlarge and coalesce into larger spaces.

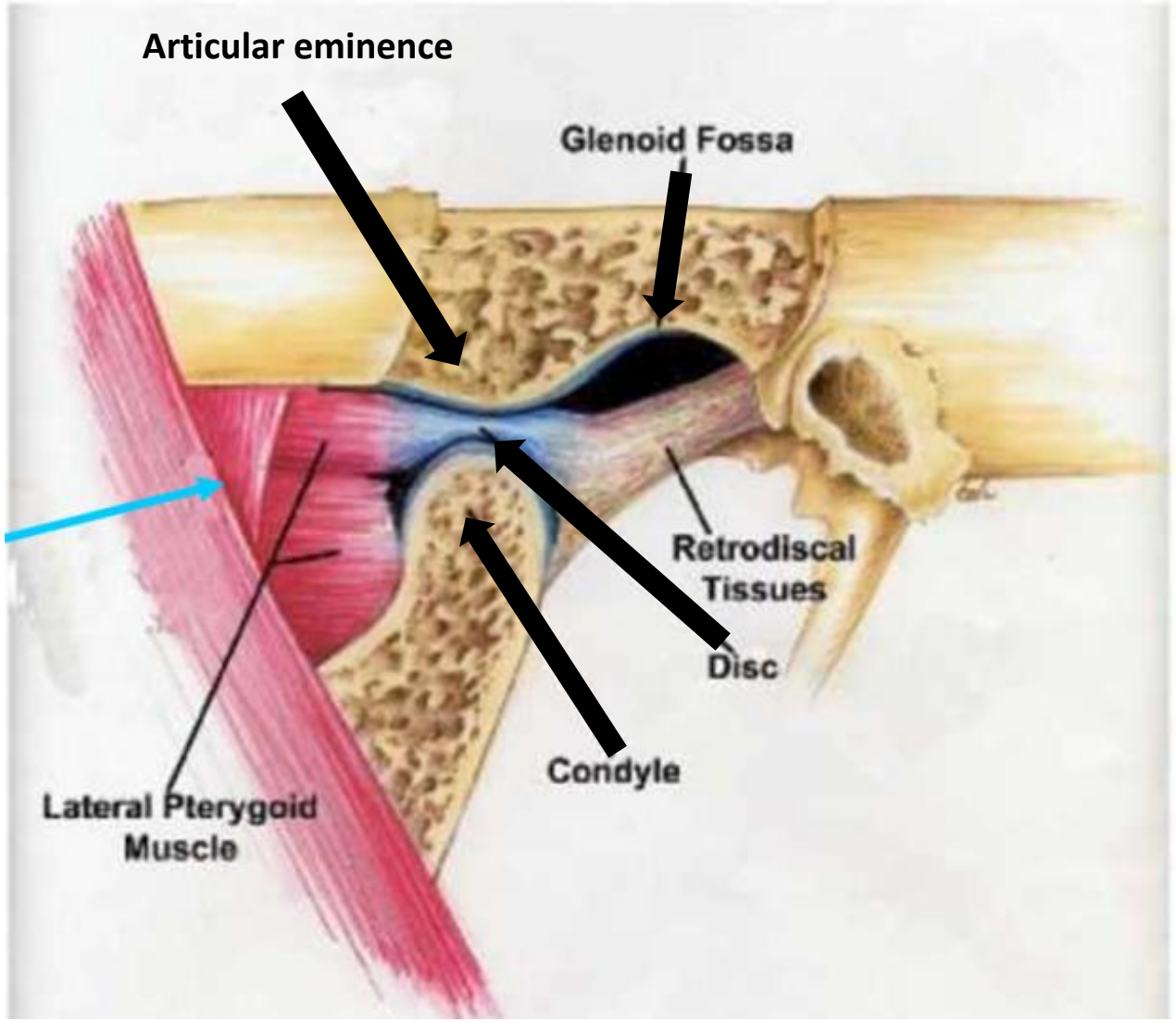


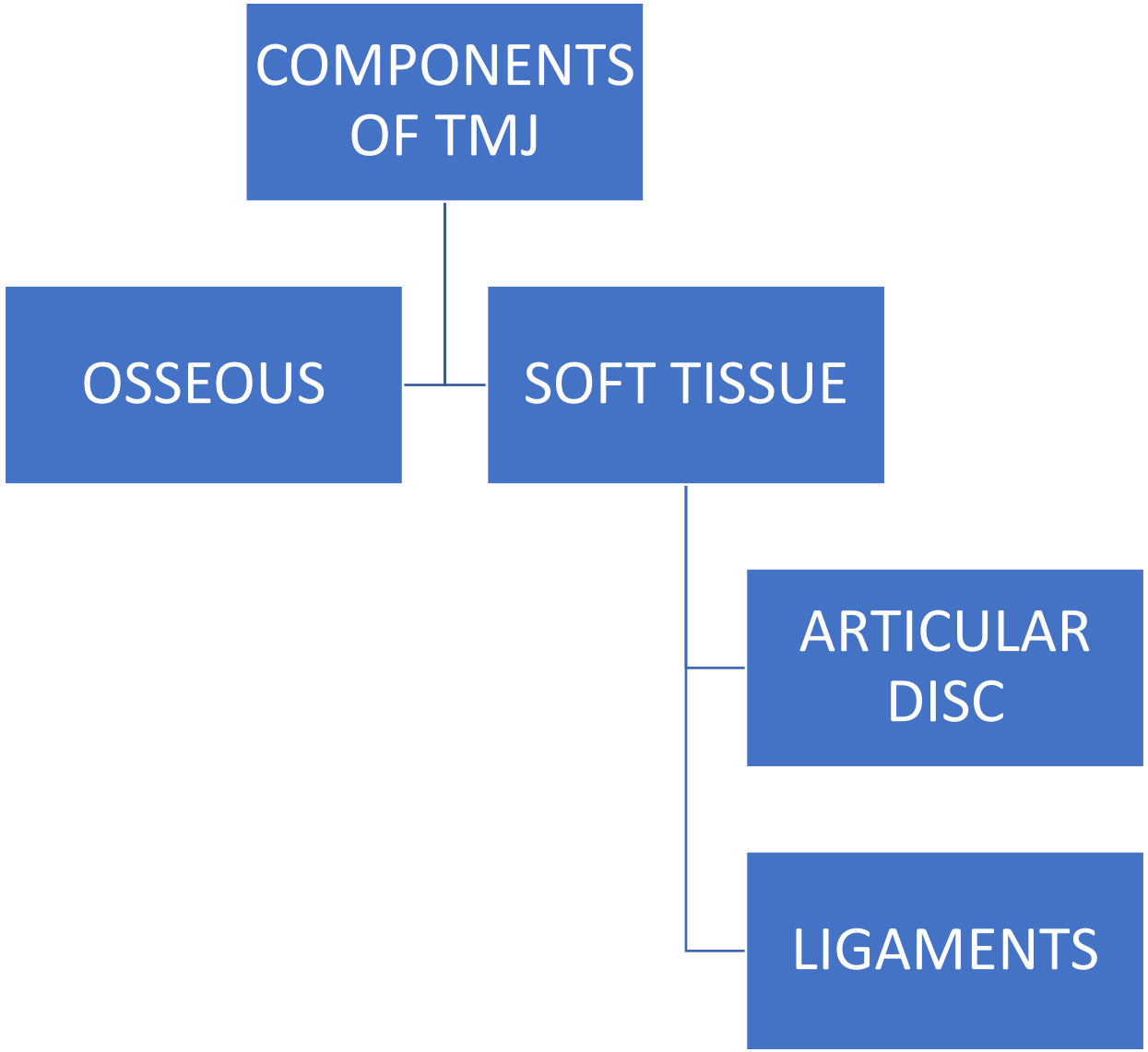
PHASES IN TMJ DEVELOPMENT

- Three phases in the development of the TMJ were identified.
- The first is the **blastematic stage** (weeks 7–8 of development), which corresponds with the onset of the organization of the condyle and the articular disc and capsule. During week 8, ossification of the temporal squamous bone begins.
- The second stage is the **cavitation stage** (weeks 9–11 of development), corresponding to the initial formation of the inferior joint cavity (week 9). Week 11 marks the initiation of organization of the superior joint cavity.
- The third stage is the **maturation stage** (after week 12 of development).

COMPONENTS OF TMJ

COMPONENTS


Articular eminence
Glenoid Fossa
Retrodiscal Tissues
Disc
Condyle
Lateral Pterygoid Muscle


COMPONENTS OF TMJ
OSSEOUS
SOFT TISSUE
ARTICULAR DISC
LIGAMENTS

OSSEOUS STRUCTURES

Squamous Portion of the Temporal Bone

Articular eminence - The strong bony prominence on the base of the zygomatic process

Articular tubercle - The lateral part of the articular eminence is referred to as the articular tubercle and provides attachment to the capsule and lateral temporomandibular ligament

Glenoid fossa - The depression into which the condyle is located. The glenoid fossa can be divided into 2 parts

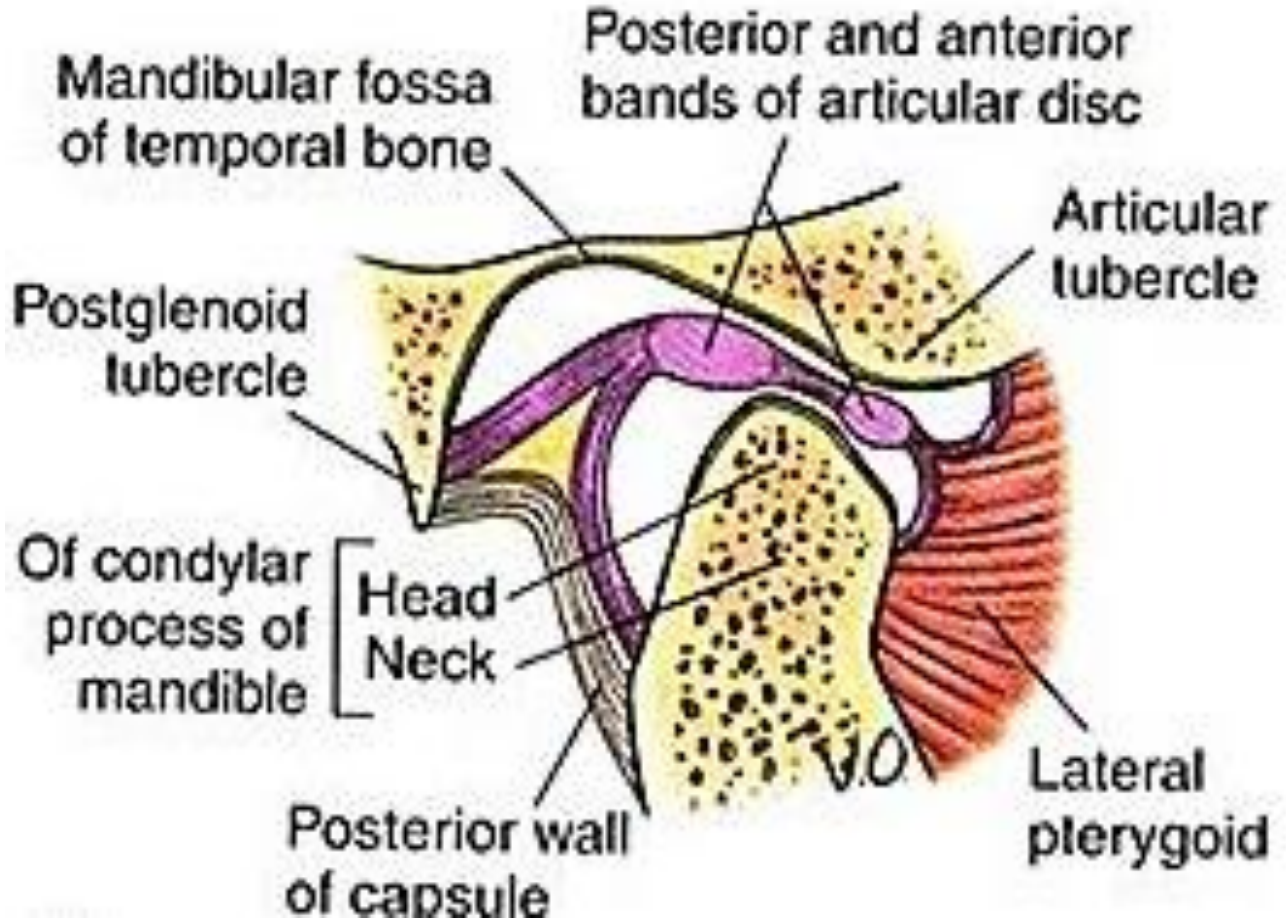
• Anterior articular area—squamosal part of the temporal bone

• Posterior nonarticular area—tympanic portion

Postglenoid tubercle - An inferior extension of the squamous portion of the temporal bone.

Makes the posterior aspect of the glenoid fossa.

Provides attachment to the capsule and retrodiscal pad



Mandibular Condyles

• Articulate with the articular disc

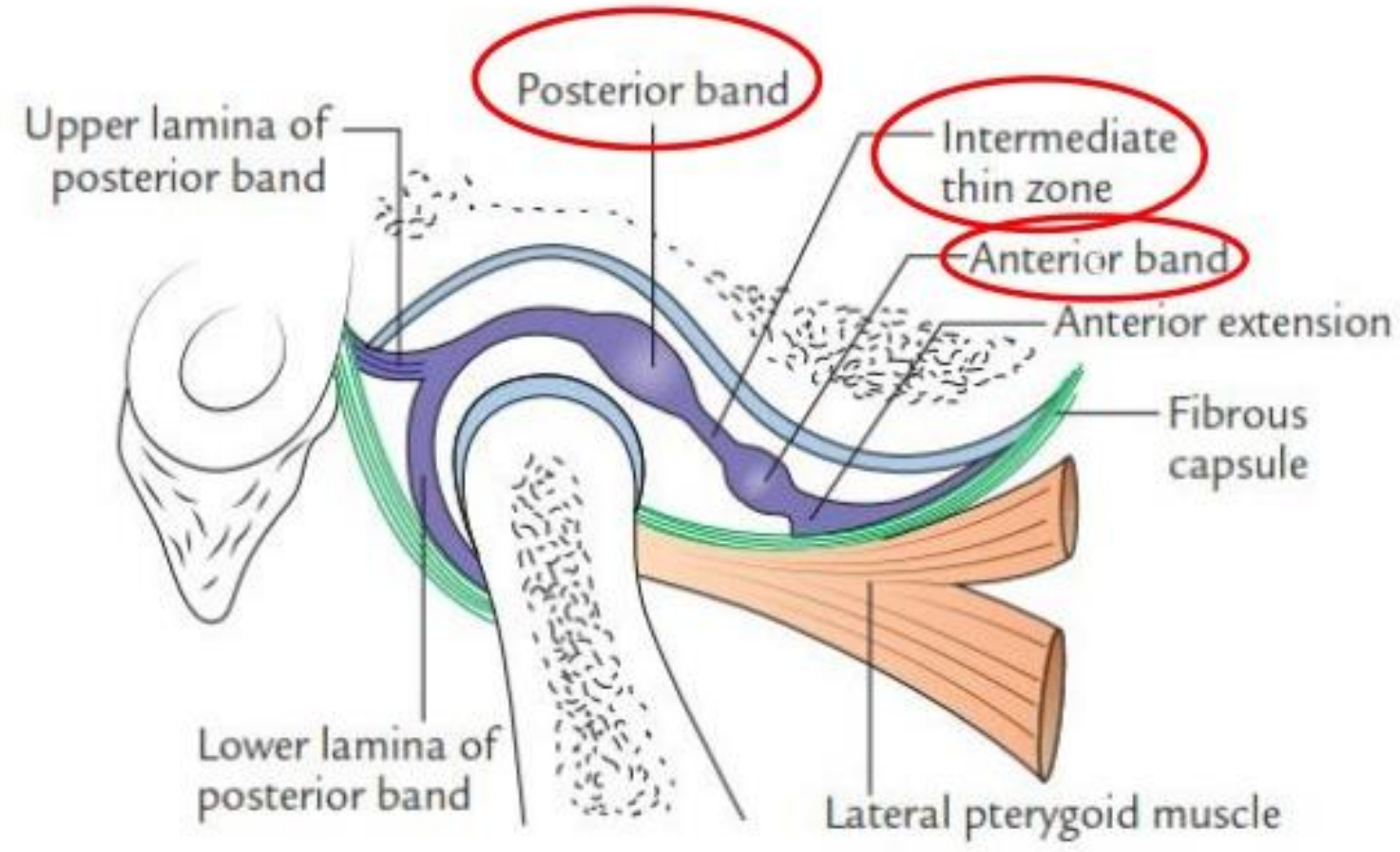
• Ovoid in shape

• Articular surface is avascular fibrous connective tissue instead of hyaline cartilage

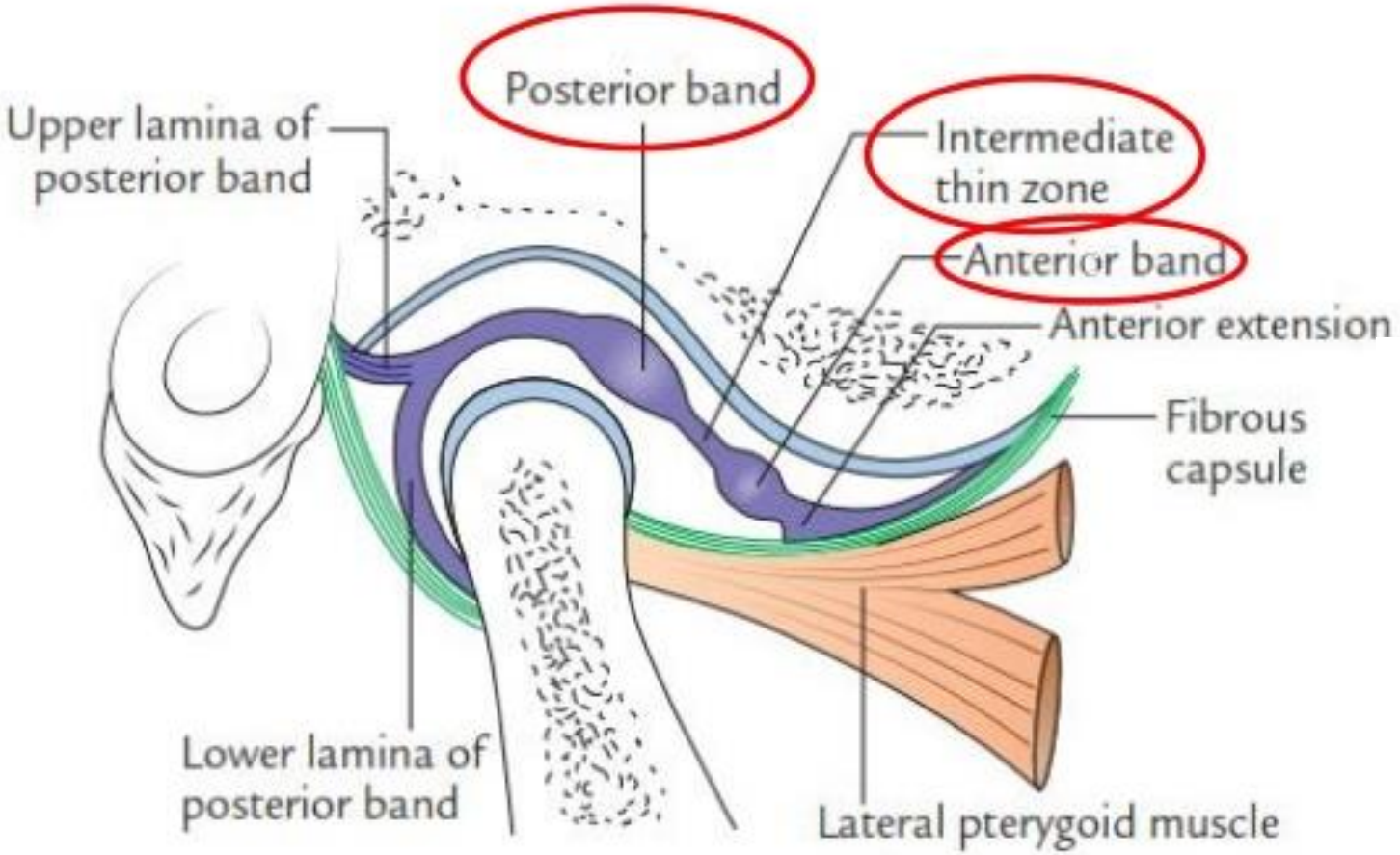
• The main load-bearing areas are on the lateral aspect

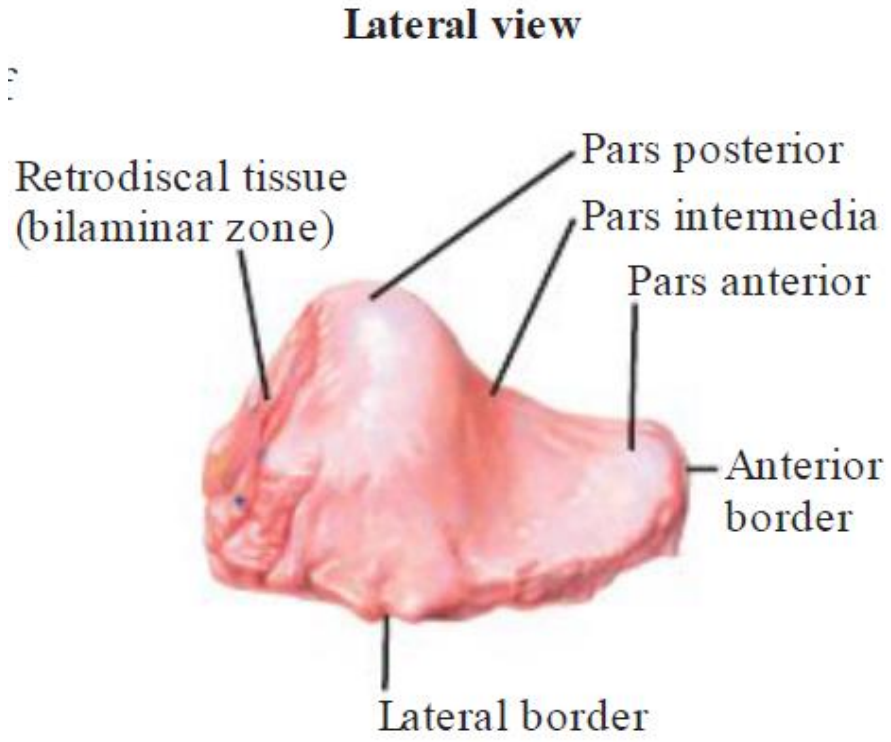
ARTICULAR DISC

- Oval fibrous plate composed of dense fibrous connective tissue
- Is avascular and aneural in its central part but is vascular and innervated in the peripheral areas, where load-bearing is minimal



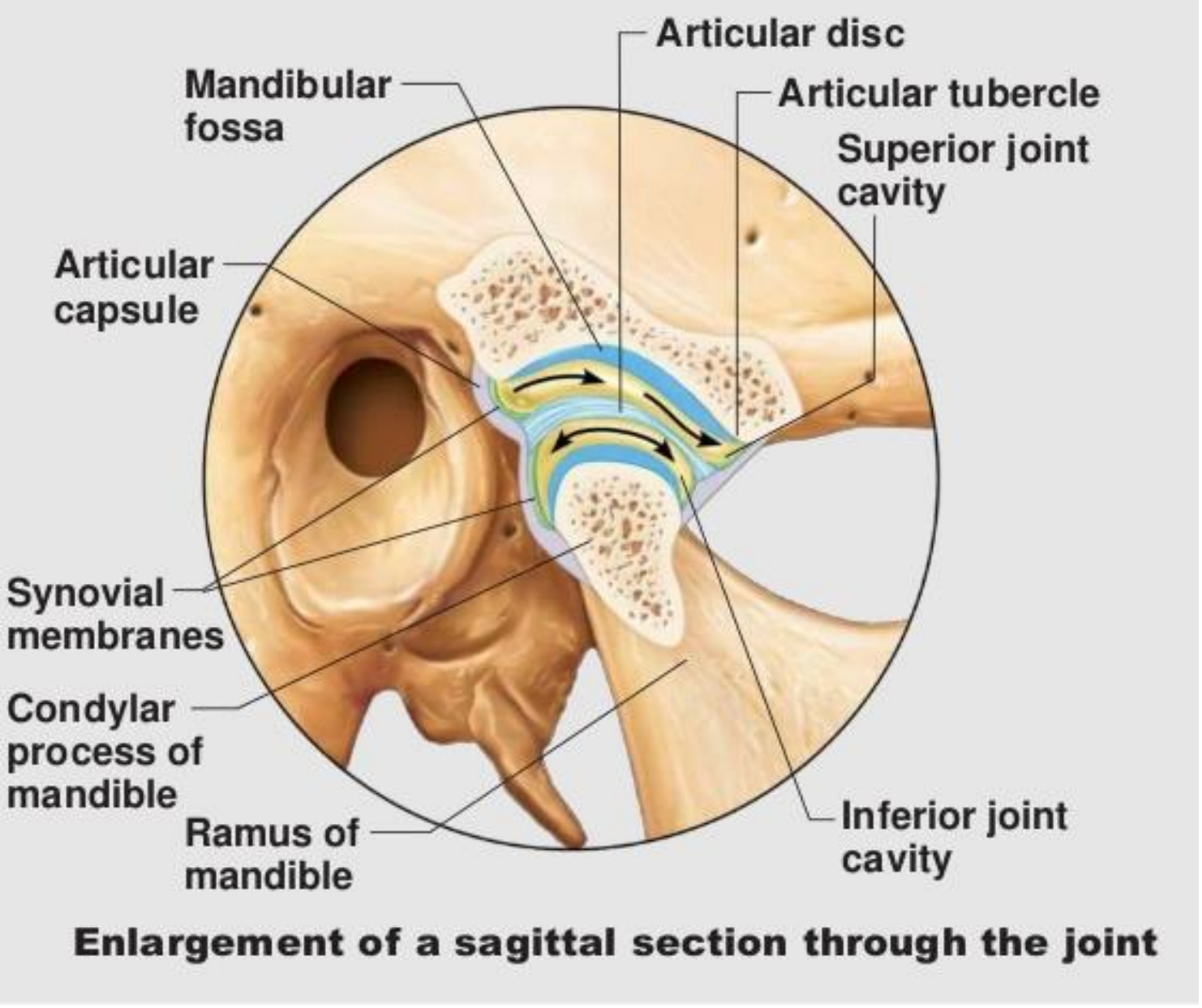
BILAMINAR ZONE





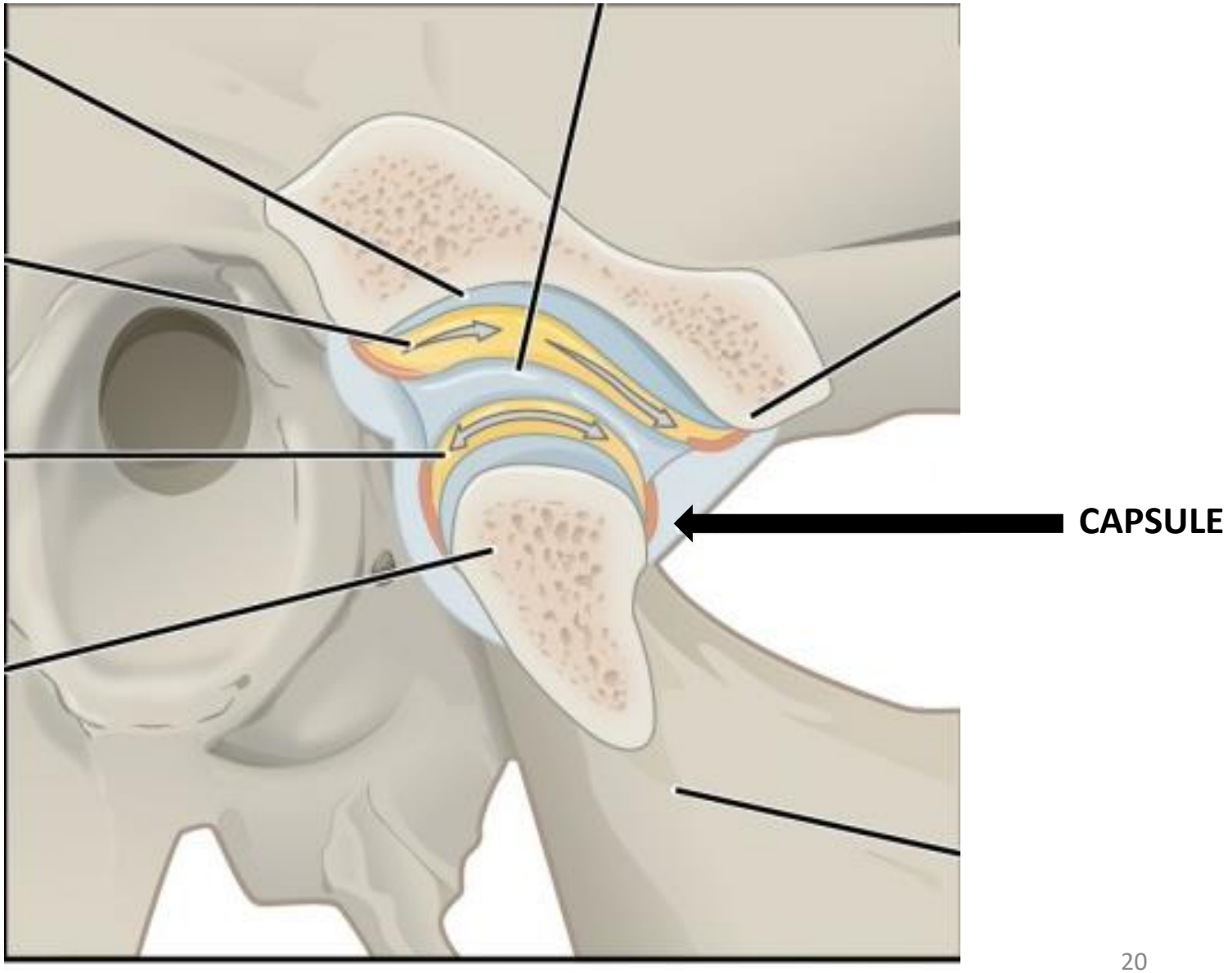
- A structure located posterior to the articular disc
- Highly distortable, especially on opening the mouth

TMJ COMPARTMENTS

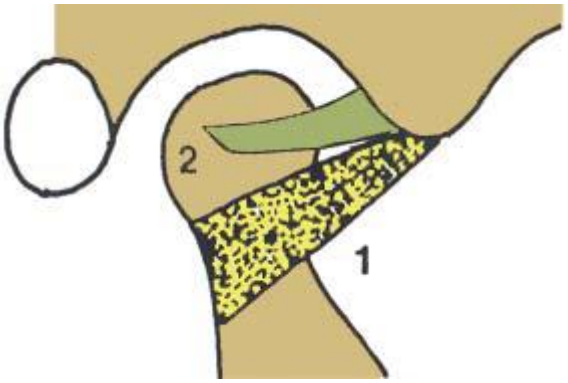


CAPSULE

- Completely encloses the articular surface of the temporal bone and the condyle
- Composed of fibrous connective tissue



LIGAMENTS



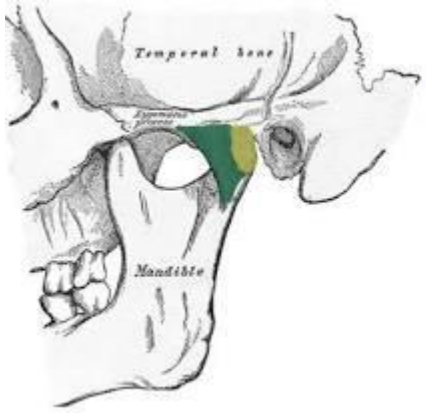
Lateral ligament of TMJ
(1) Oblique component
(2) Horizontal component

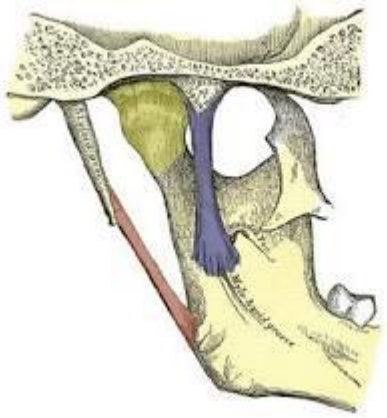
- The TMJ consists of 3 ligaments

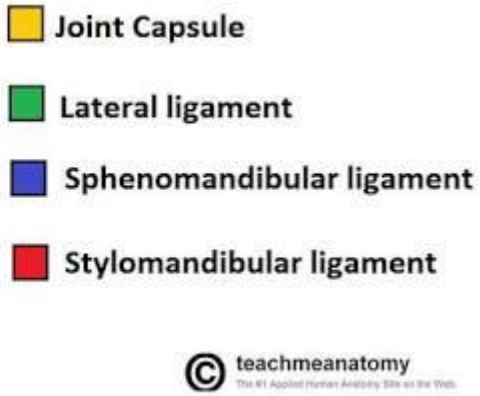
a) Lateral or temporomandibular ligament

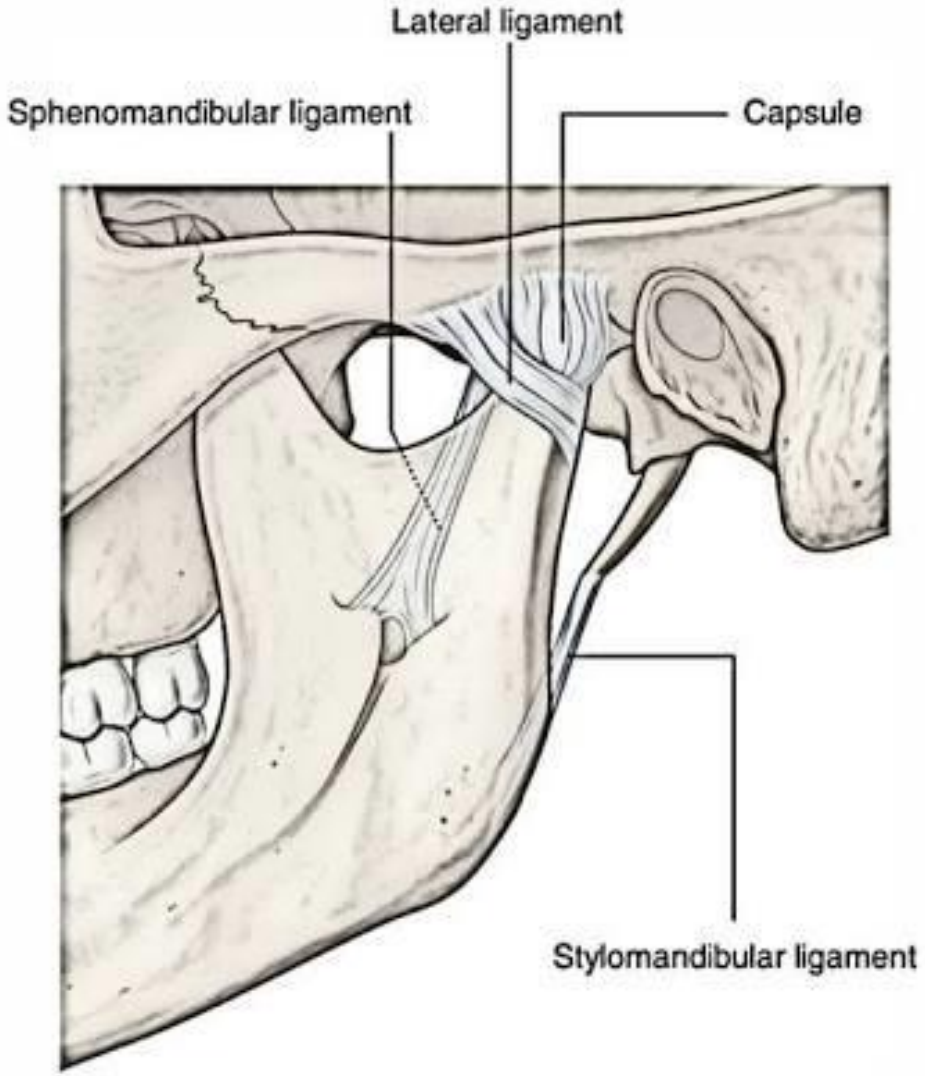
b) Sphenomandibular ligament

c) Stylomandibular ligament

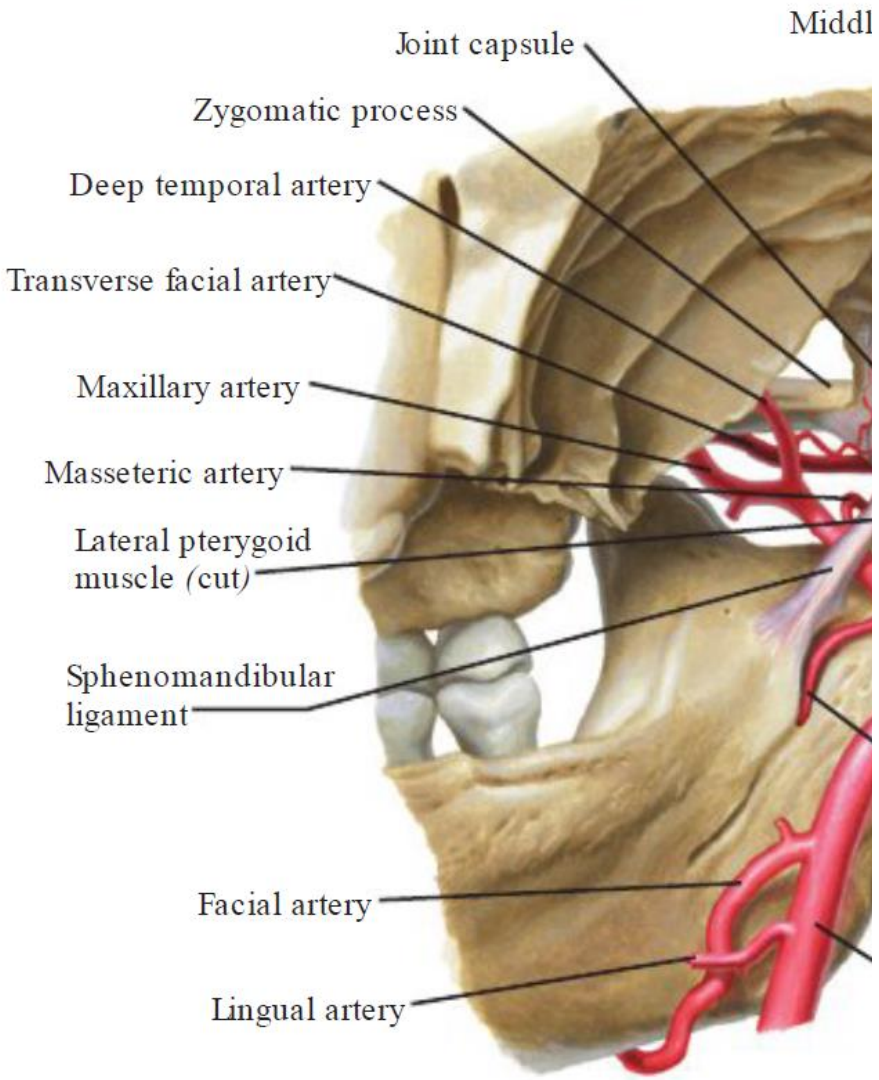




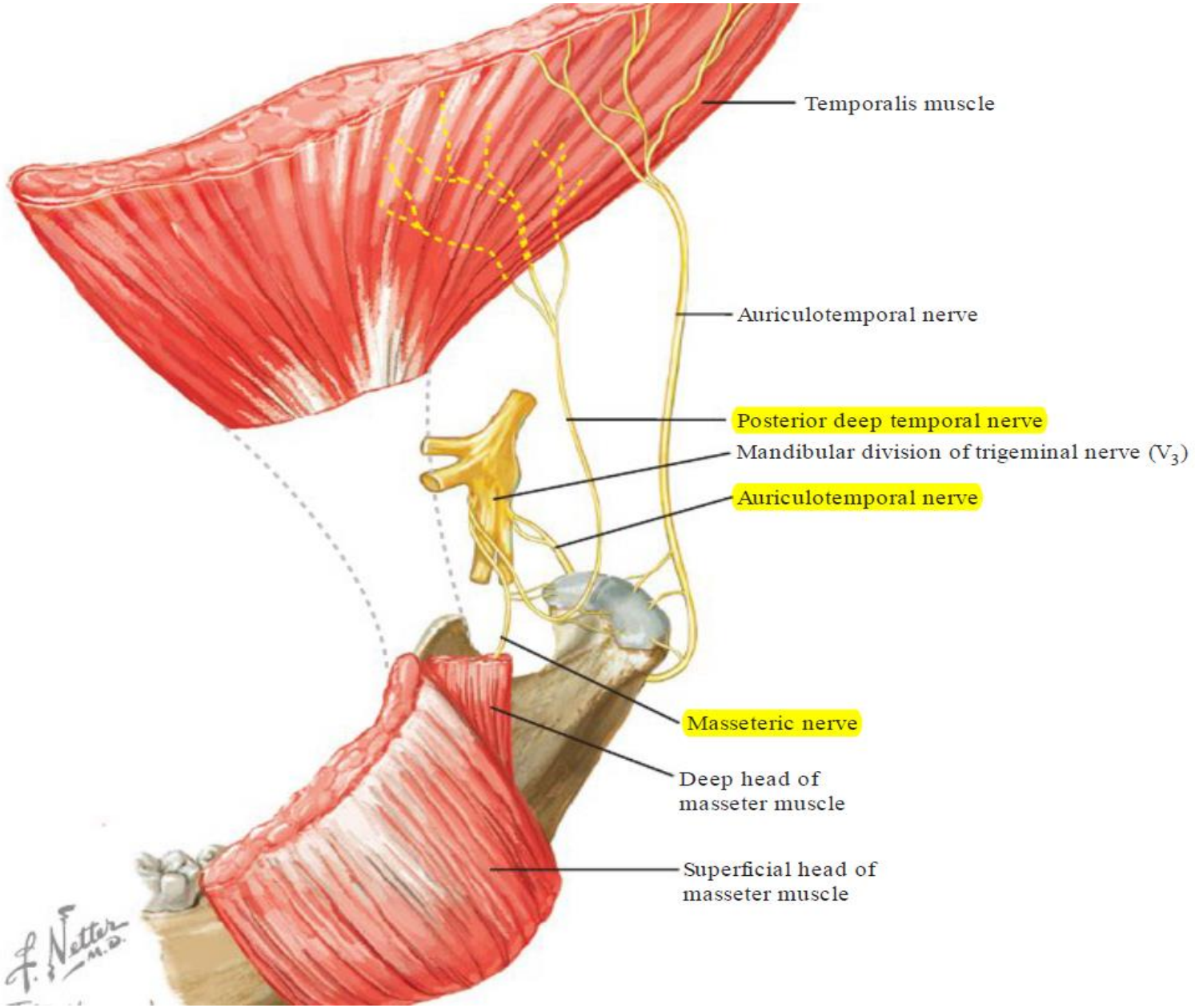




VASCULAR SUPPLY



NERVE SUPPLY



AGE CHANGES IN TMJ

- Condyle: Becomes more flattened
- Osteoporosis of underlying bone.
- Fibrous capsule becomes thicker.
- Disk: Becomes thinner. Shows hyalinization changes.
- Synovial fold: Become fibrotic with thick basement membrane.
- Blood vessels and nerves: Walls of blood vessels thickened. Nerves decrease in number.

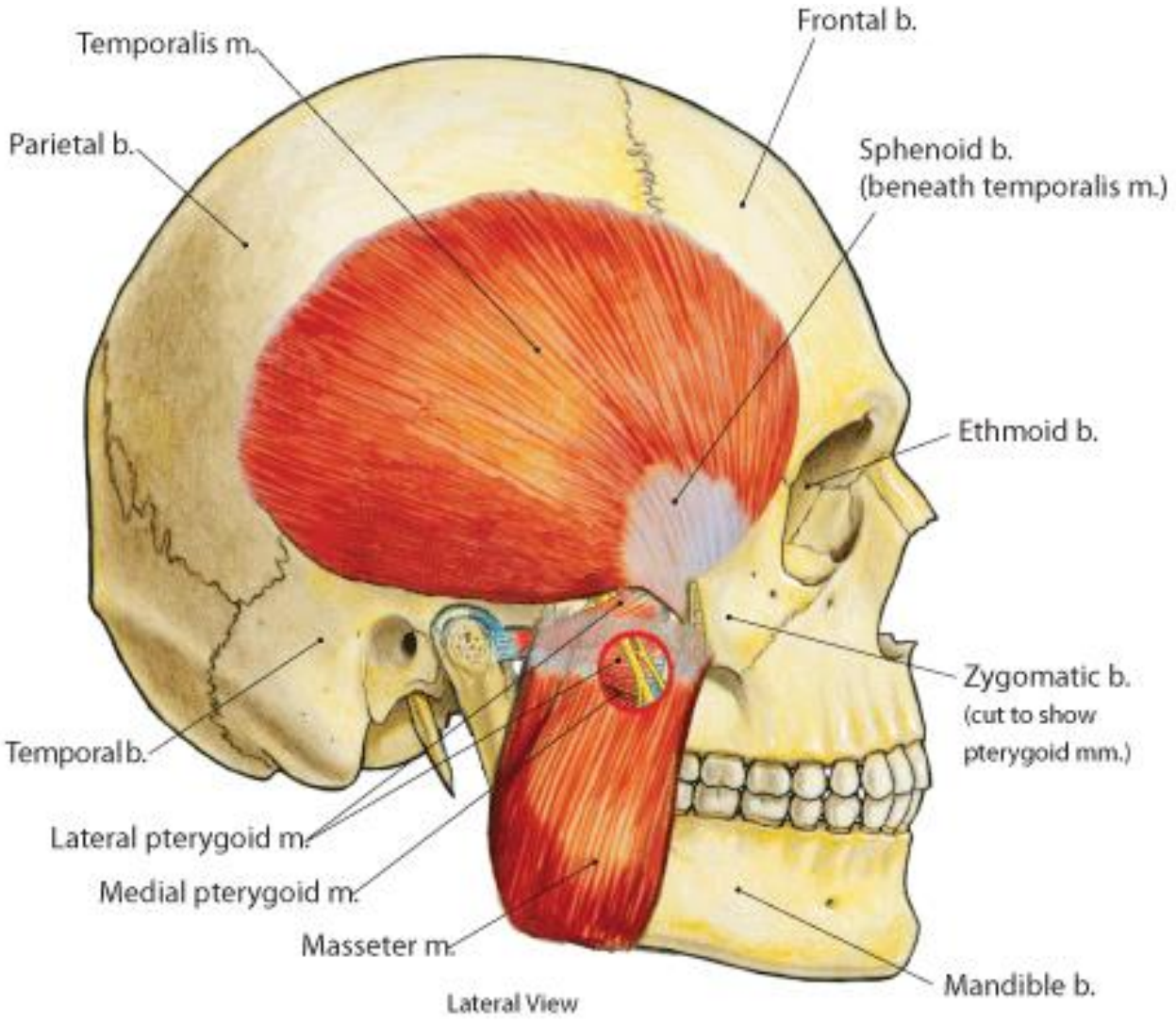
Age changes lead to:

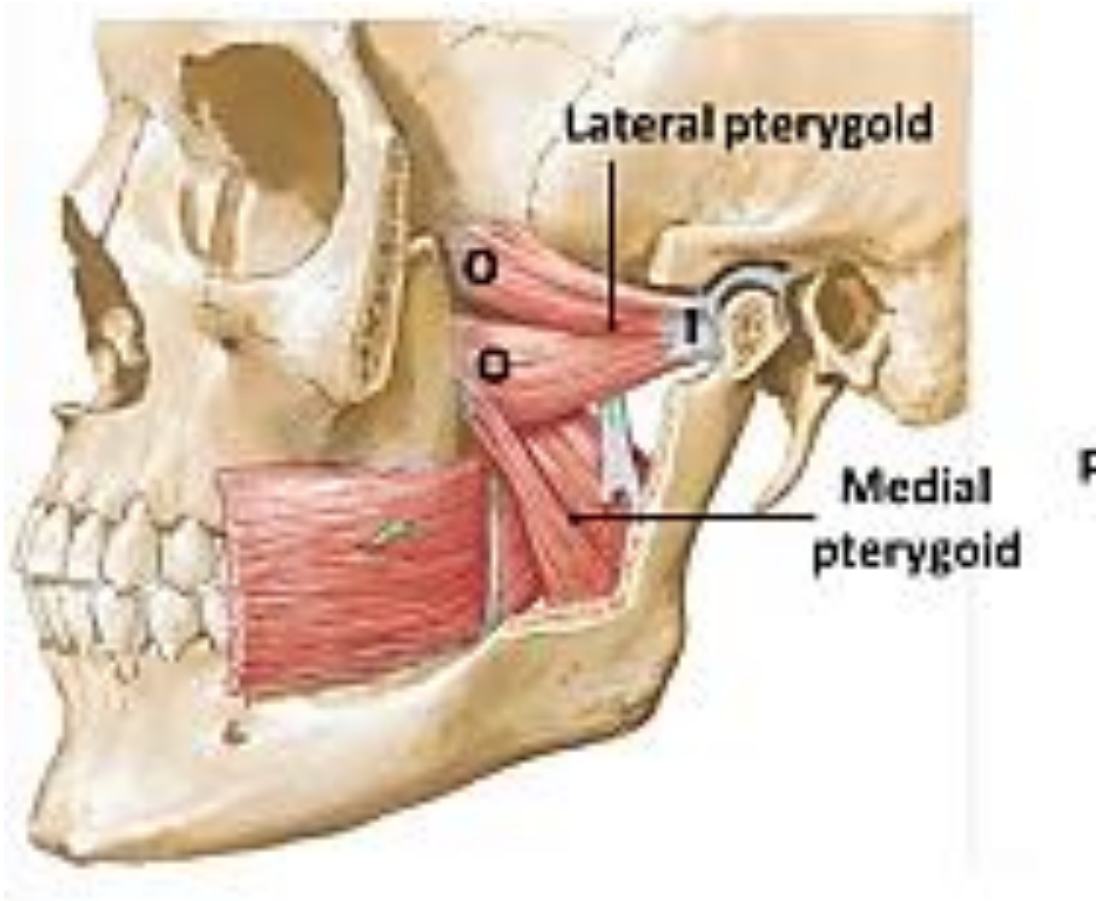
- Decrease in the synovial fluid formation.
- Impairment of motion due to decrease in the disc and capsule extensibility.
- Decrease the resilience during mastication
- Dysfunction in older people

MOVEMENTS OF TMJ

MOVEMENTS OF TMJ

MUSCLES OF MASTICATION





MASSETER

Origin

- Superficial layer (larger part)

  Inferior border of the anterior 2/ 3 of the zygomatic arch

  Maxillary process of the zygomatic bone
- Deep layer (smaller part)

  Medial border of the zygomatic arch

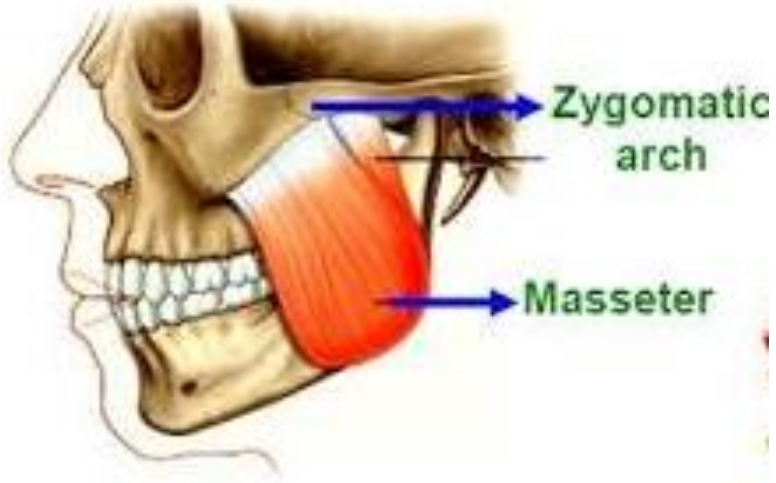
  Inferior border of the posterior 1/ 3 of the zygomatic arch

Insertion

- Superficial layer

  Into lower part of lateral surface of ramus of mandible
- Deep layer

  Into rest of the ramus of the mandible



TEMPORALIS

Origin

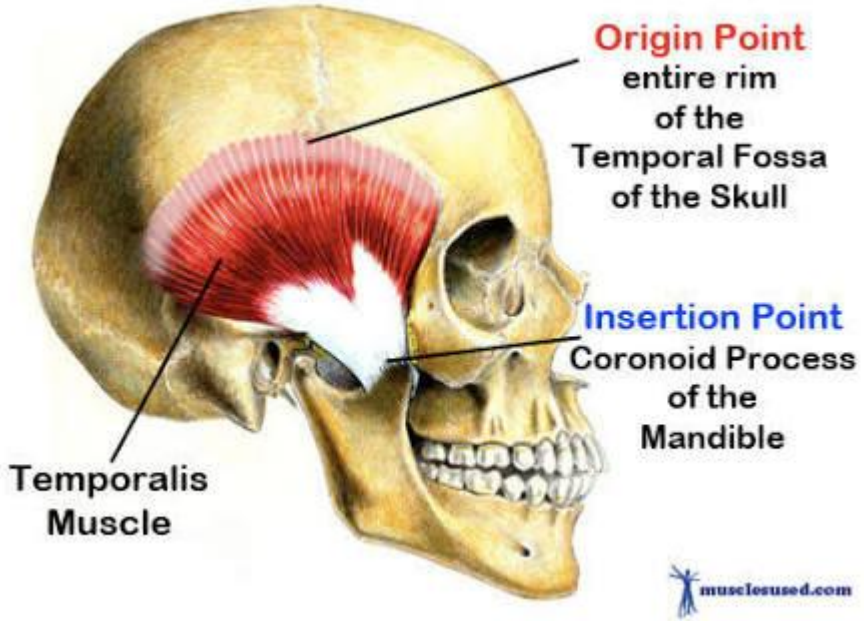
Temporal fossa (excluding zygomatic bone)

Temporal fascia

Insertion

Margins and deep surface of coronoid process

Anterior border of ramus of mandible



LATERAL PTERYGOID

Origin

- Upper head

  From infratemporal surface and crest of greater wing of sphenoid bone

- Lower head

  From lateral surface of lateral pterygoid plate

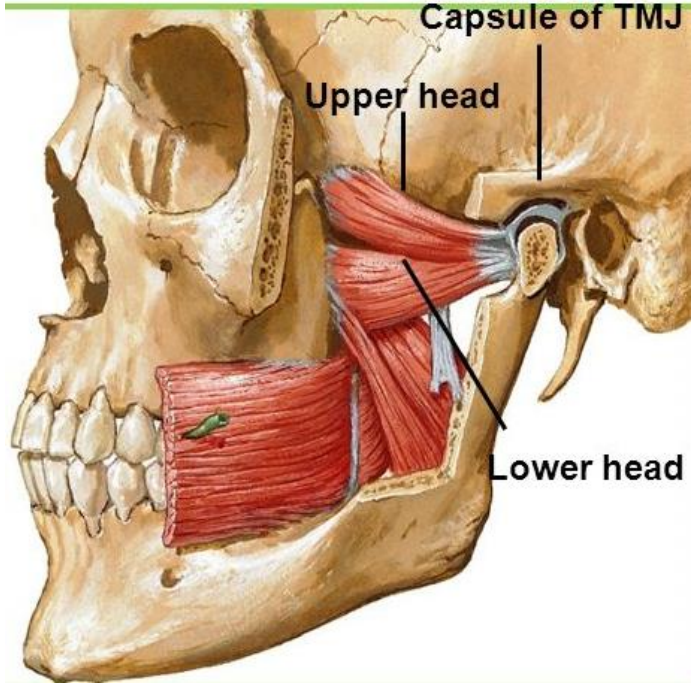
Insertion

- Upper head

  Anterior margin of articular disc and capsule of temporomandibular joint

- Lower head

  Pterygoid fovea on the anterior surface of neck of mandible



MEDIAL PTERYGOID

Origin

- Superficial head

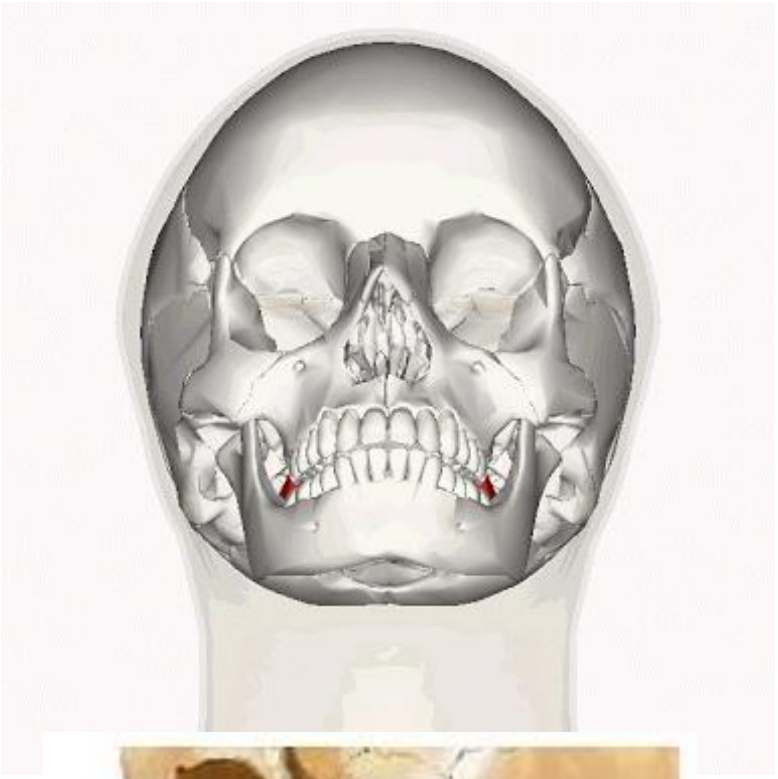
  Tuberosity of maxilla

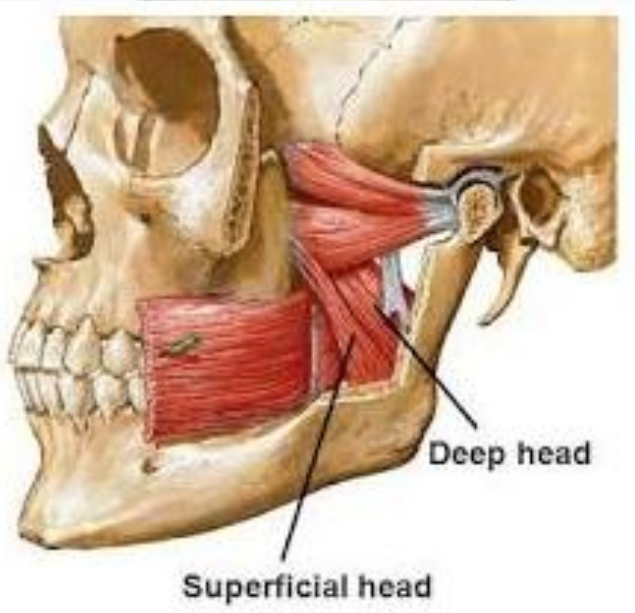
- Deep head

  From medial surface of lateral pterygoid plate and adjoining process of palatine bone

Insertion

Roughened area on the medial surface of angle and adjoining ramus of mandible





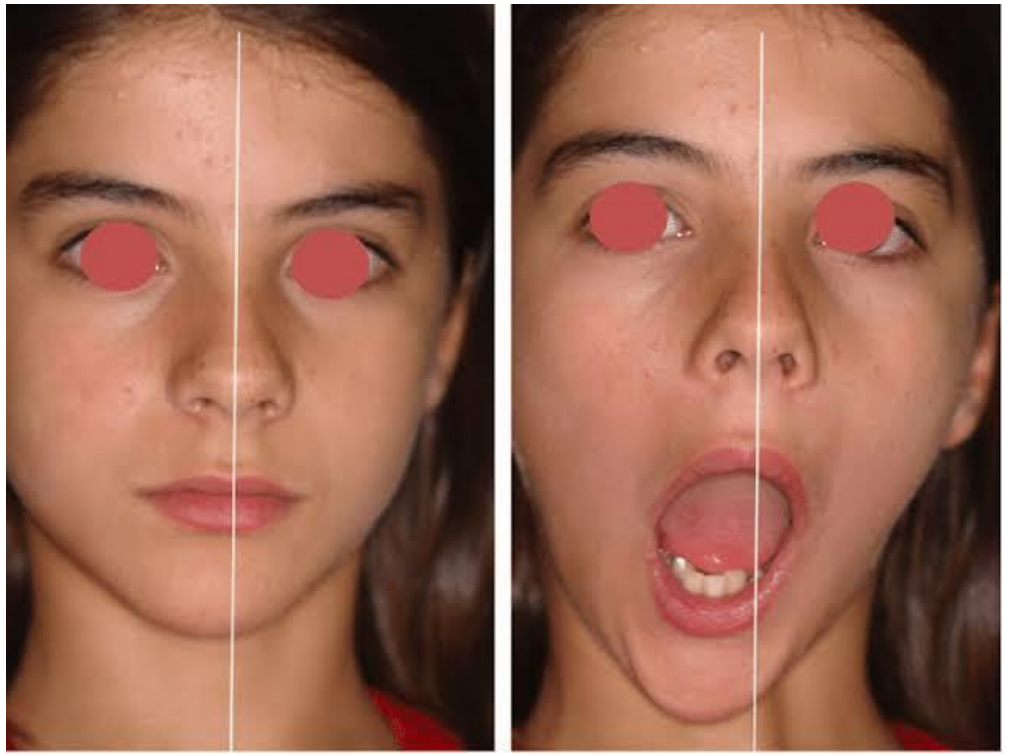
MUSCLES OF MASTICATION	MOVEMENTS
MASSETER	ELEVATES THE MANDIBLE
TEMPORALIS	ELEVATES THE MANDIBLE RETRACTION OF MANDIBLE
LATERAL PTERYGOID	DEPRESSES THE MANDIBLE PROTRUSION OF MANDIBLE
MEDIAL PTERYGOID	ELEVATES THE MANDIBLE PROTRUSION OF MANDIBLE

RIGHT LATERAL PTERYGOID & RIGHT MEDIAL PTERYGOID TURN THE CHIN TO THE LEFT SIDE AS A PART OF GRINDING MOVEMENTS.

EXAMINATION OF TEMPOROMANDIBULAR JOINT

INSPECTION

Maximum mouth opening

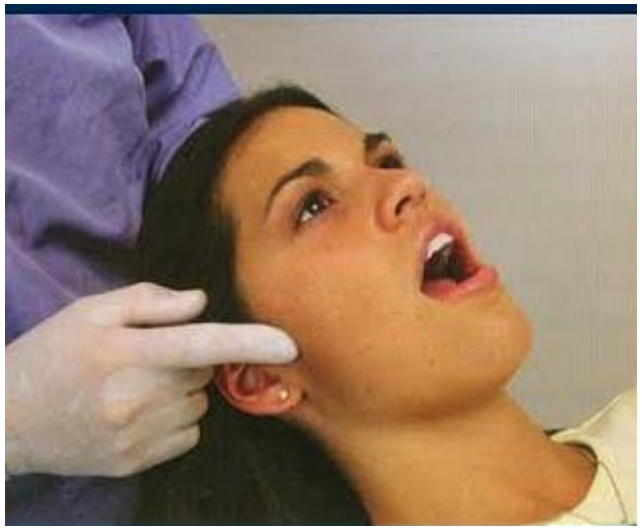


Deviation on opening

Normal lateral range of movement is >7mm

PALPATION

PRETRAGAL

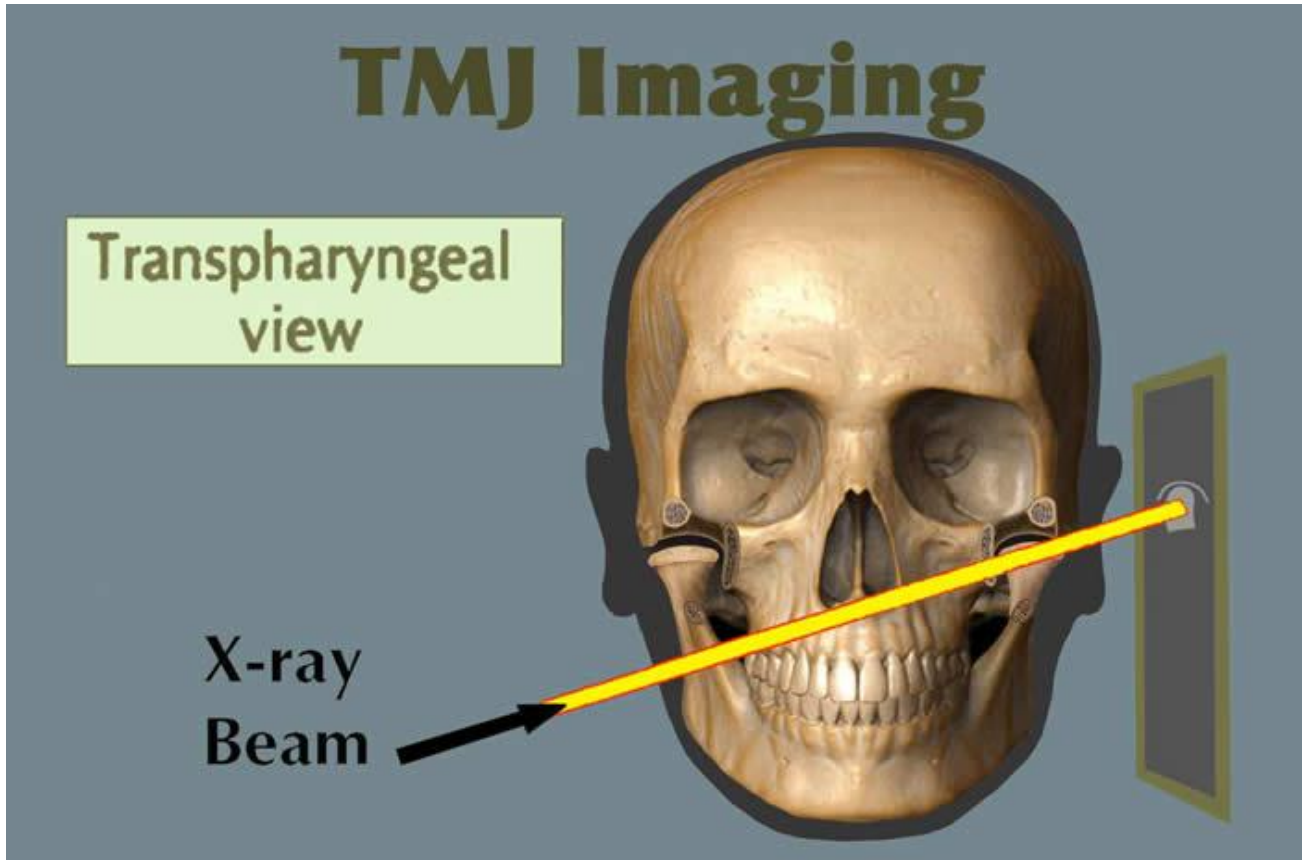


INTRA-AURICULAR

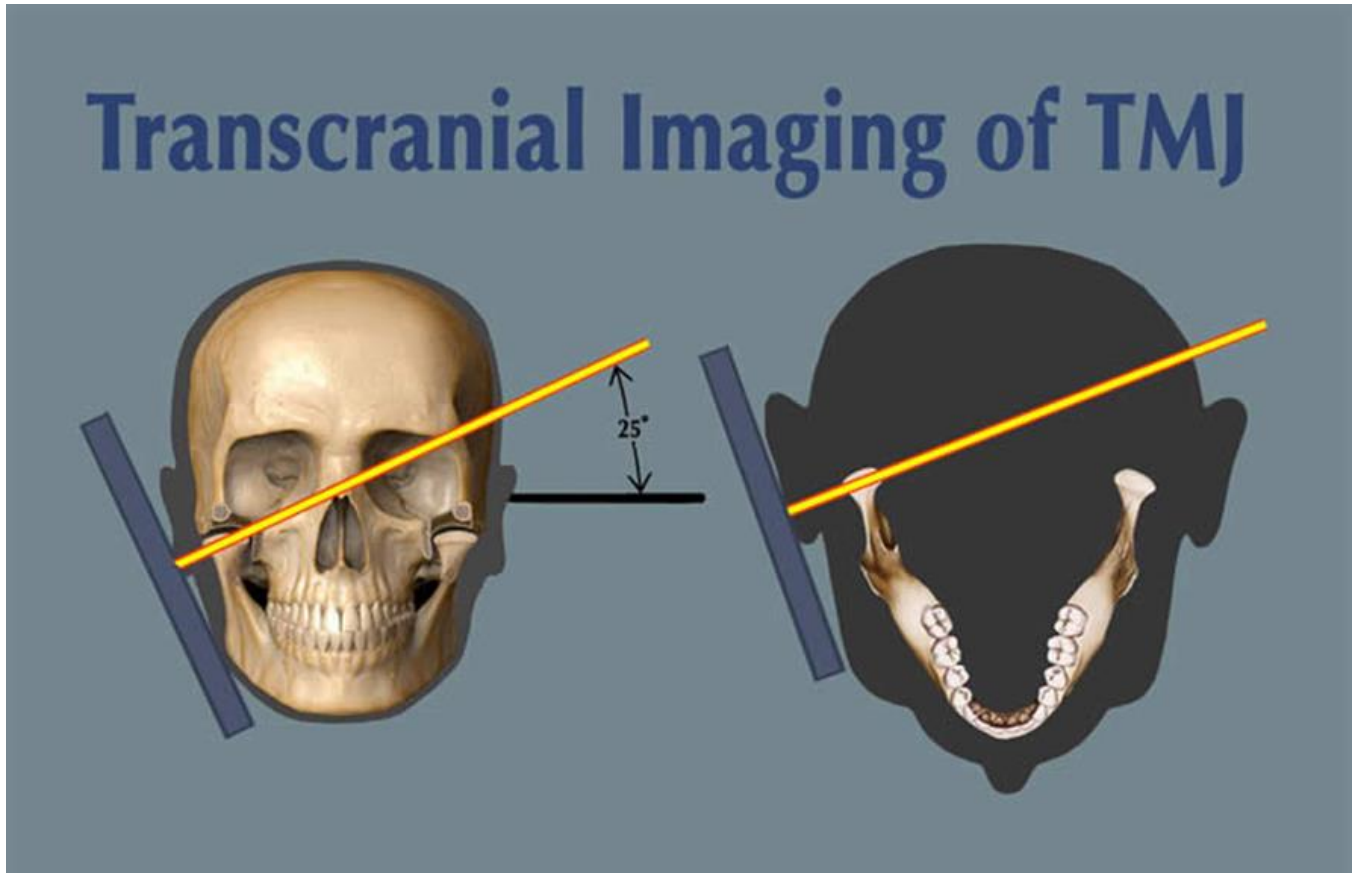
AUSCULTATION

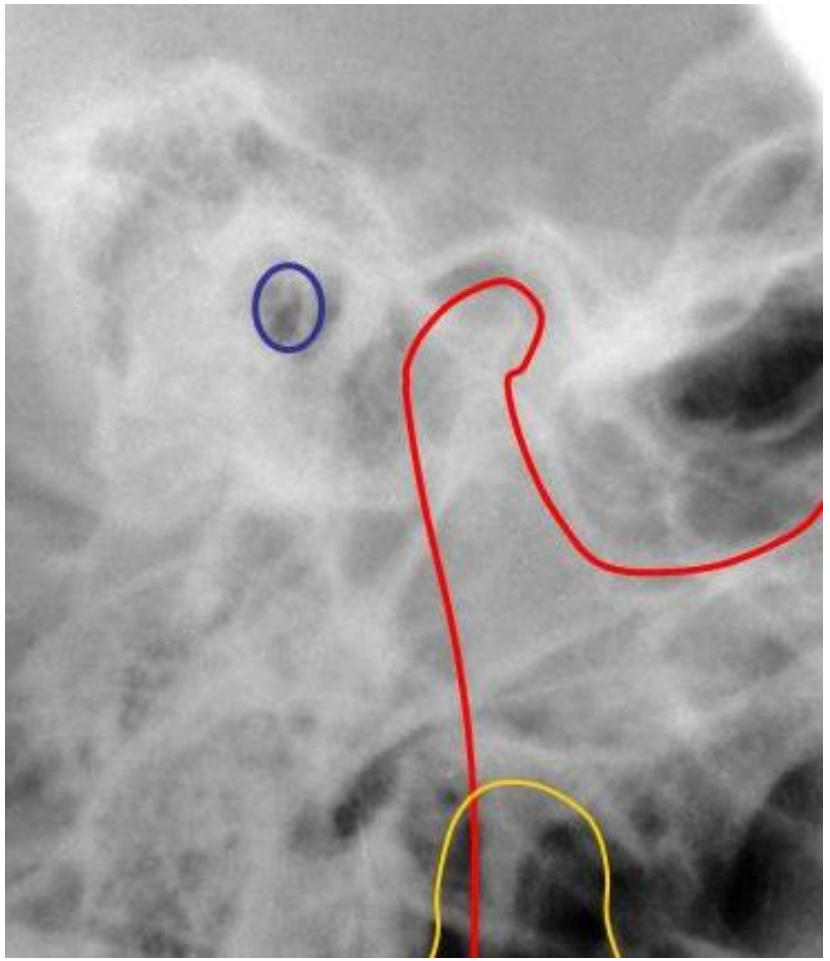
TMJ IMAGING

Transpharyngeal View

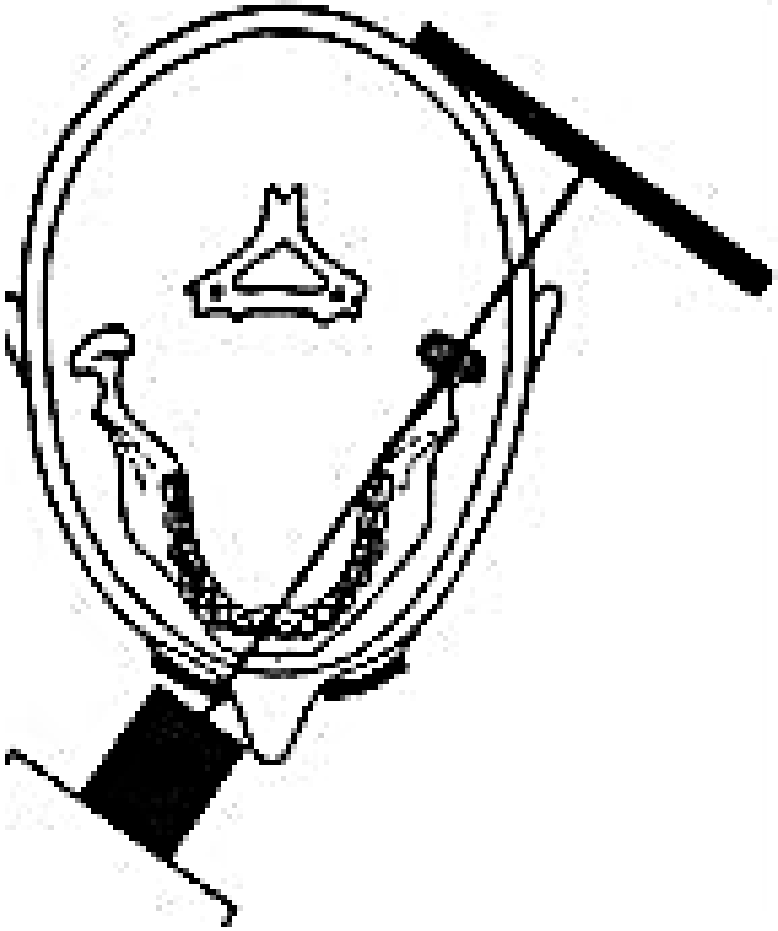


Transcranial View





Transorbital View

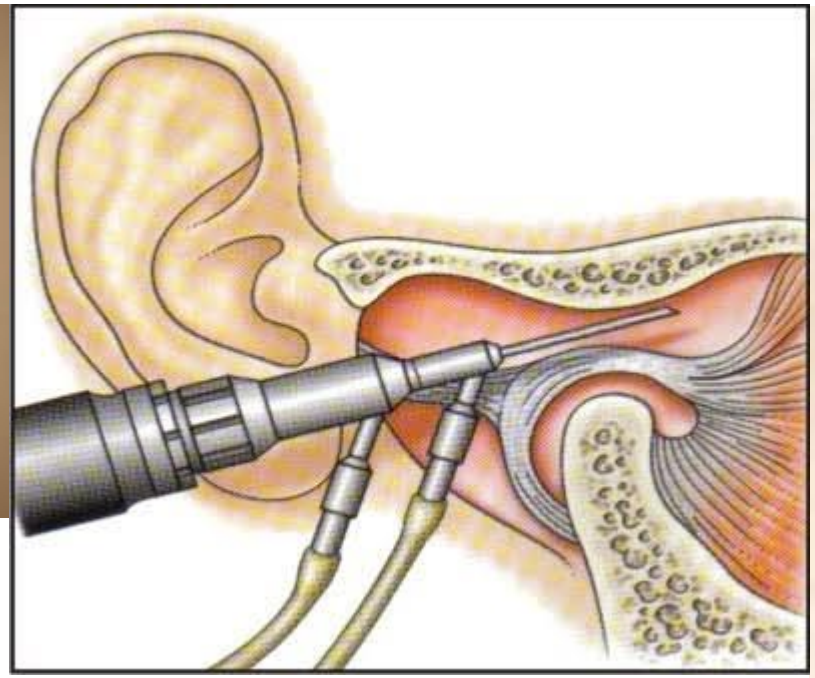


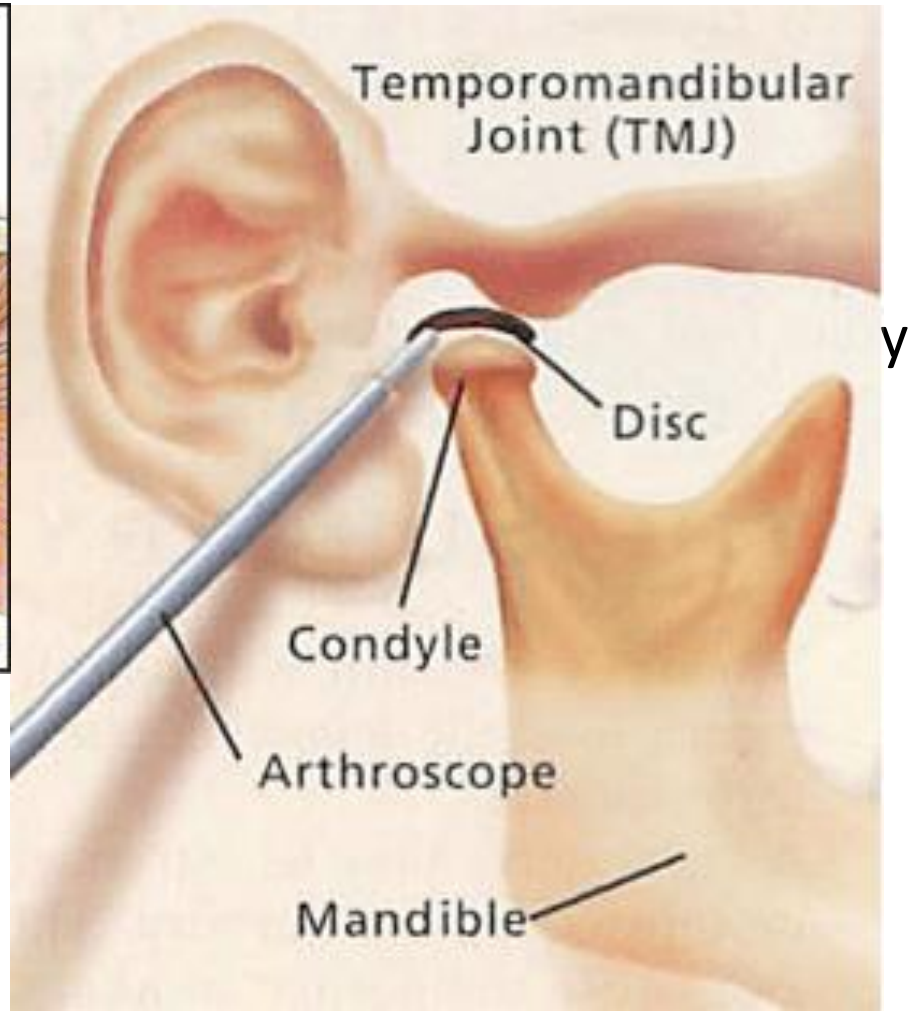
Reverse Towne's View

TMJ ARTHROSCOPY

TMJ ARTHROSCOPY

Consists of insertion of a specially designed fibreoptic endoscope into a joint compartment for diagnostic and therapeutic purpose.





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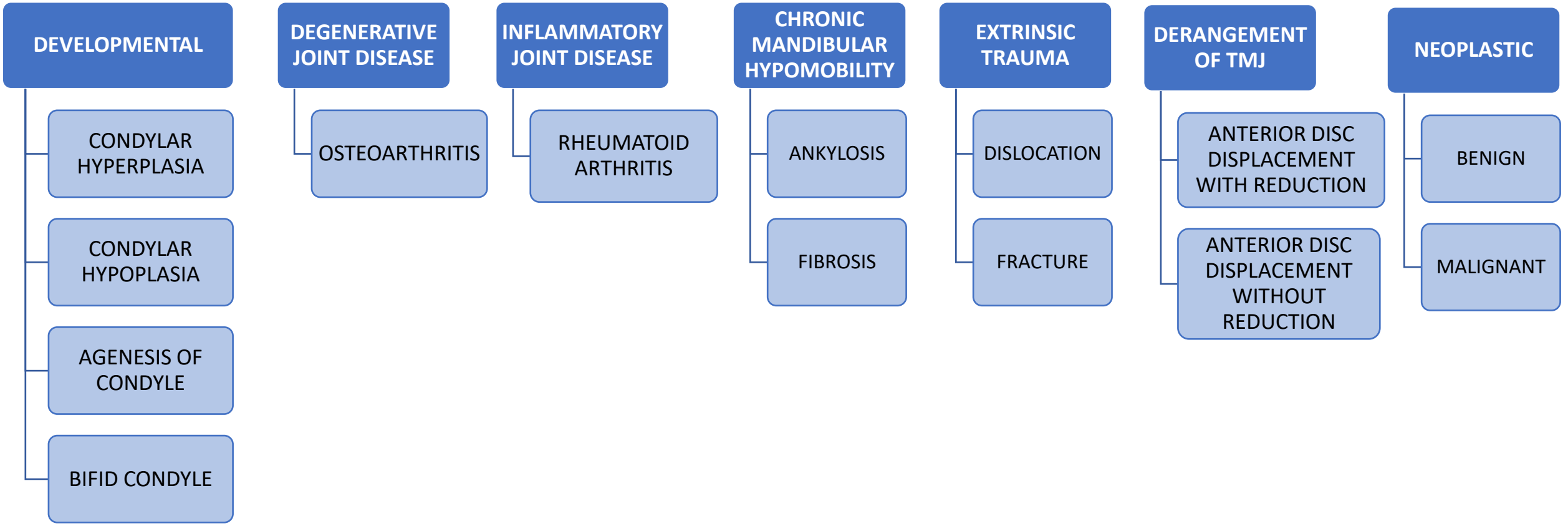
COMPLICATIONS

- Costly equipment
- Hearing loss or severe vertigo
- Facial paralysis
- Instrument breakage
- Iatrogenic damage to disk

TMJ DISORDERS

TMJ DISORDERS



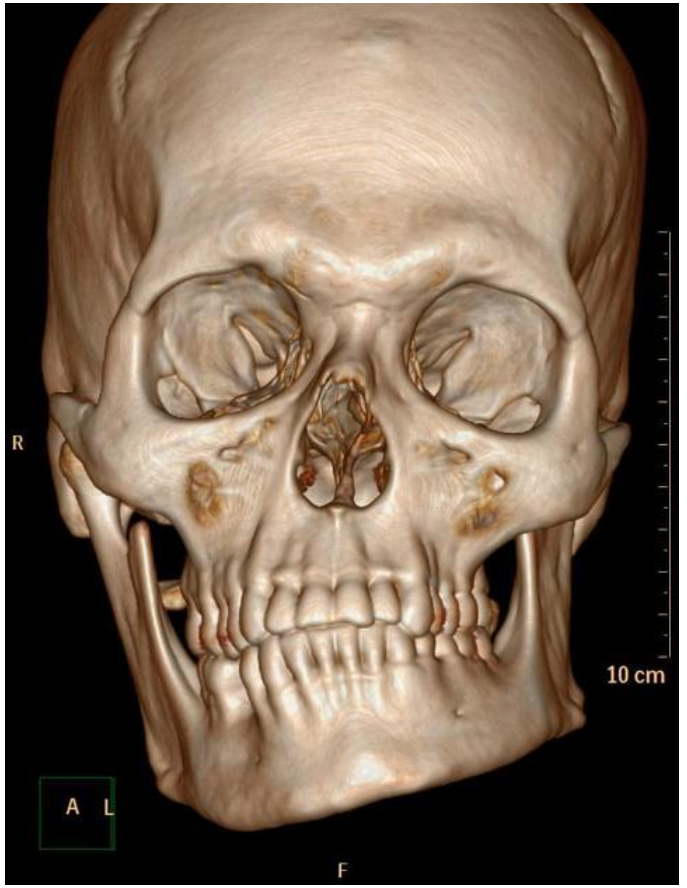
CONDYLAR HYPERPLASIA

Clinical features

- Limited and deviated mandibular opening.
- Chin may be deviated to the unaffected side.
- Posterior open bite on the affected side.
- Anterior crossbite.

Radiographic features

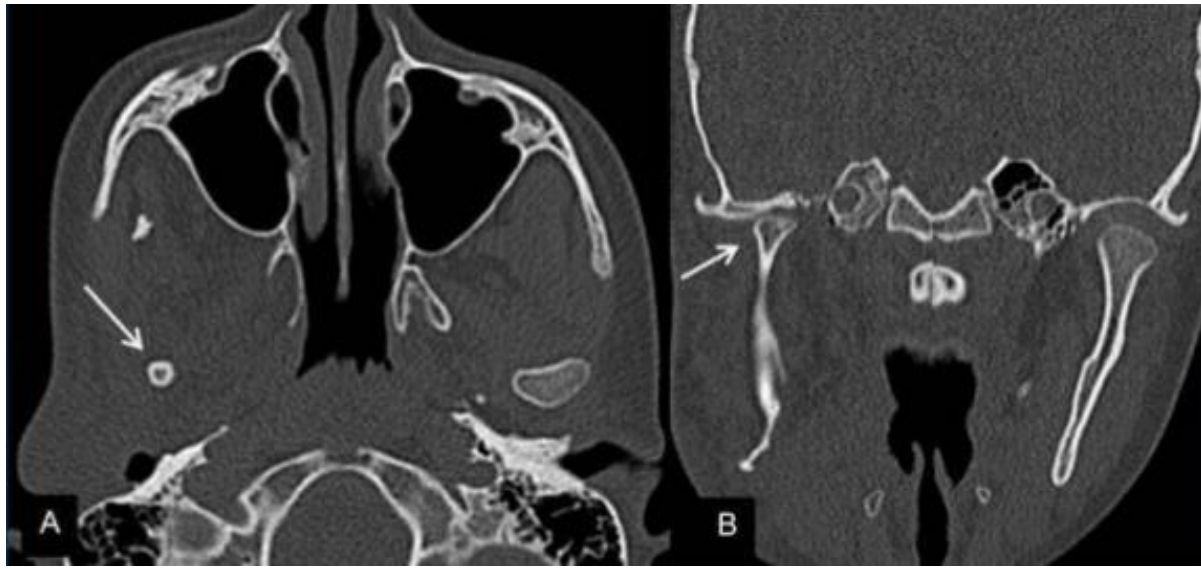
- The condyle may appear relatively normal but symmetrically enlarged.
- The glenoid fossa may be enlarged.
- The angle of the jaw is right angled or more obtuse.



CONDYLAR HYPOPLASIA

Clinical features

- Flat appearance of the face on the unaffected side.
- Chin is deviated to the affected side and the mandible deviates to the affected side during mandibular movements.
- The body of the mandible is short with unerupted and impacted molars leading to malocclusion.
- Lack of growth of mandible on both the sides.
- Micrognathia with chin retruded to the level of hyoid bone.
- Class 2 malocclusion



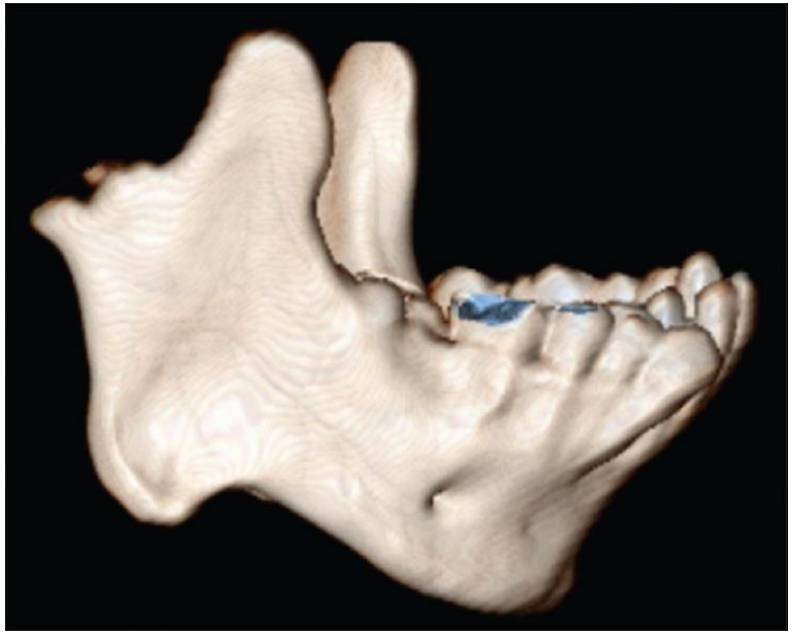
Radiographic features

- The condyle appears normal but slightly diminished in size.
- Mandibular fossa is proportionately smaller.
- Teeth may be impacted.

AGENESIS OF THE CONDYLE

Clinical features

- free movements of the joint
- Asymmetry of the face
- Anterior open bite
- Altered occlusion and inability to masticate
- In case of unilateral involvement, the mandible shifts to the affected side.



Radiographic features

- Absence of the condyle.

BIFID CONDYLE

Clinical features

- Usually asymptomatic.
- Limitation of opening of mouth, mild deviation
- Joint noises and pain

Radiographic features

- depression or notch may be present on the superior condylar surface.

OSTEOARTHRITIS = DEGENERATIVE ARTHRITIS

Deterioration and abrasion of articular cartilage with formation of new bone at joint surface

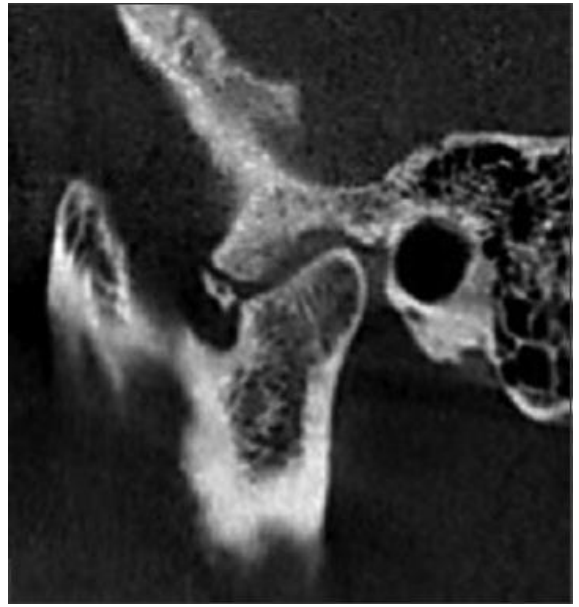
Clinical features

- Pain on palpation & movement
- Joint noises
- Limited range of motion
- Deviation of jaw TOWARDS the affected side
- Affected joint swollen, warm to touch, stiff, presence of crepitation

(sound indicates degeneration within the articular surface of joints)

Radiographic features

- Flattening of condyle
- Enlargement and shallowing of mandibular fossa
- Subchondral sclerosis
- Narrow or absent joint space
- Ely cysts – not true cysts but areas of degeneration containing fibrous tissue, granulation tissue, osteoid
- Osteophyte formation (proliferative component) to extensive erosions (degenerative component)
- Osteophytes may break off and lie free within the joint space (joint mice)



RHEUMATOID ARTHRITIS

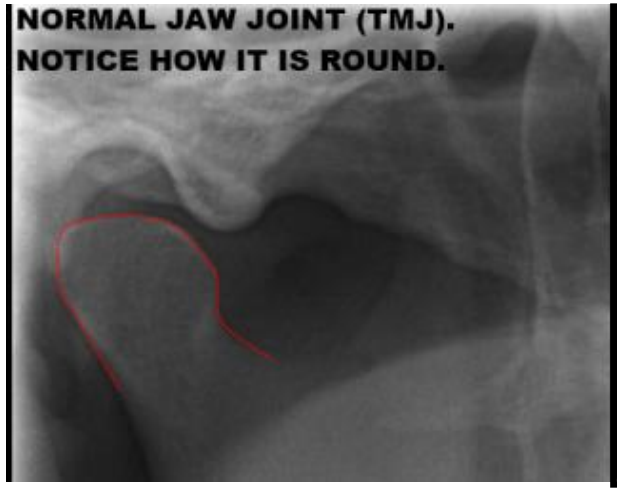
- Bilateral involvement of large joints
- Nonsuppurative inflammatory destruction of joint
- Granulomatous involvement of synovial membrane-articular surface of condyle

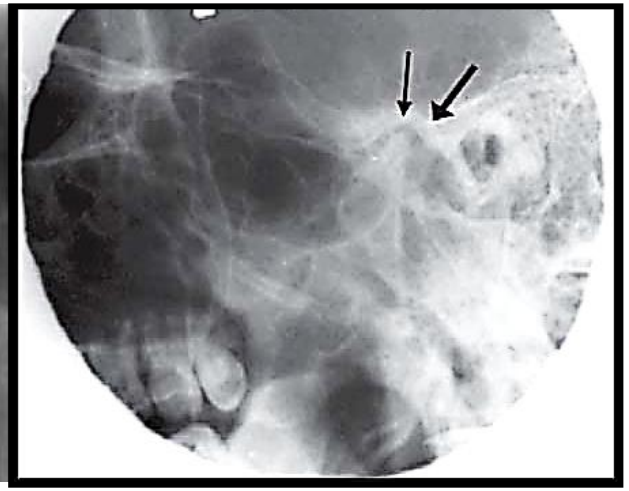
Clinical Features

- Bilateral stiffness, crepitus , tenderness and swelling over the joints, limitation in mouth opening
- Referred pain in temporal region, ear and mandible
- Anterior open bite
- Fibrous ankylosis may be present
- Fever, fatigue, weight loss ,pain and stiffness in limb
- Polyarthritis, subcutaneous nodules
- Muscle atropy around the joints

Radiographic features

- Reduced joint space, flattening and erosion of head of condyle, condyle becomes increasingly irregular and ragged
- In most severe cases completely resorbed
- Sharpened pencil or mouth piece of flute appearance
- Subchondral sclerosis





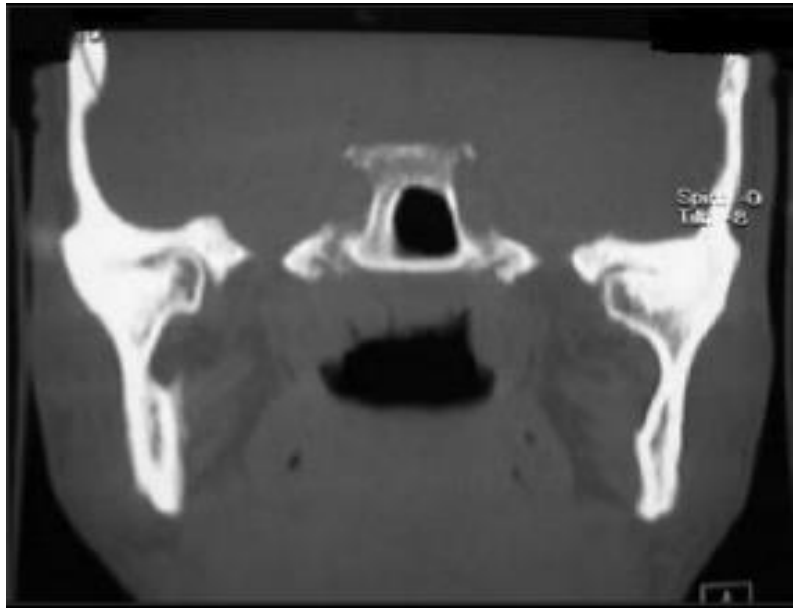
ANKYLOSIS OF TMJ

- CLASSIFICATION :
  - extra or intra-articular ankylosis
  - fibrous or bony ankylosis
  - unilateral or bilateral ankylosis
  - partial or complete ankylosis
- Most common etiology of Ankylosis is TRAUMA
- Other causes include –
  - Bone impingement
  - Inflammatory disorders like osteoarthritis
  - Systemic diseases like scarlet fever

UNILATERAL ANKYLOSIS

Clinical features

- Facial asymmetry
- Deviation of mandible TOWARDS the affected
- Fullness of face on affected side & flatness on unaffected side
- Condylar movements absent on affected side
- Cross-bite
- Class II malocclusion on the affected side

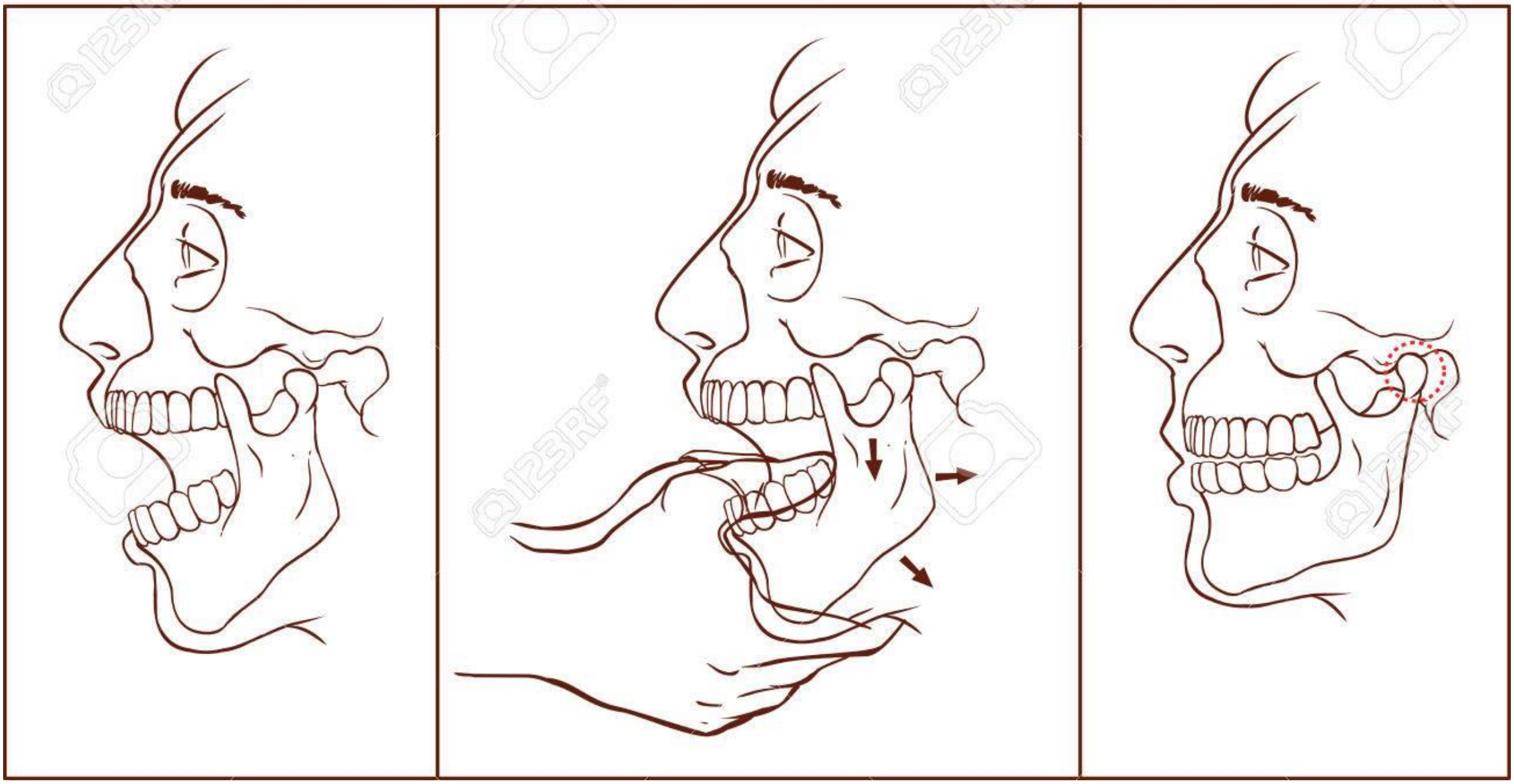


BILATERAL ANKYLOSIS

Clinical features

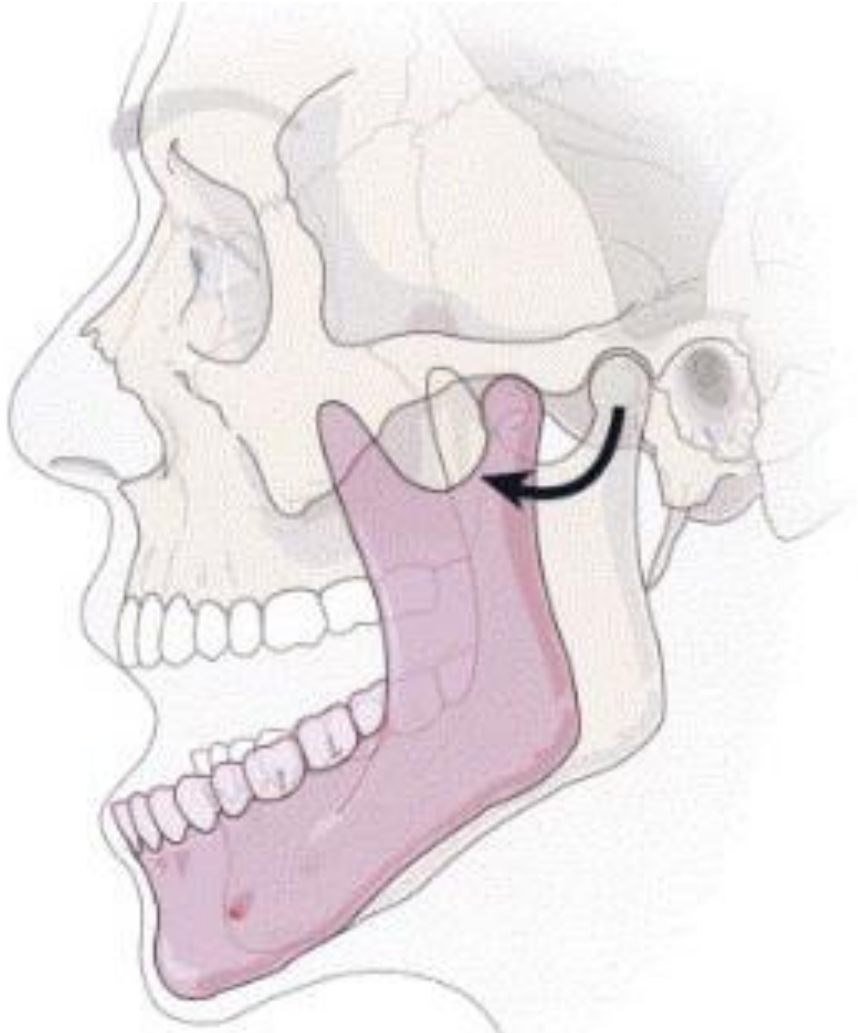
- Facial symmetry present but mandible is micrognathic
- Bird-face deformity
- Inability to open mouth
- Class II malocclusion
- Anterior open bite
- Multiple carious teeth with bad periodontal health
- Severe malocclusion, crowding, impacted teeth

Dislocated jaw first aid



Procedure

SUBLUXATION



TMJ Subluxation

SUBLUXATION is unilateral or bilateral positioning of condyle anterior to articular eminence with self repositioning to achieve normal physiologic activity

CLINICAL FEATURES

- Cracking noise
- Temporary locking of condyle
- Patient describes weakness of the joint while yawning
- On palpation, click on opening

TREATMENT

- Conservative treatment

1. IMF (3-4 weeks)
2. Sclerosing solutions (sodium psylliate, sodium morrhuate)

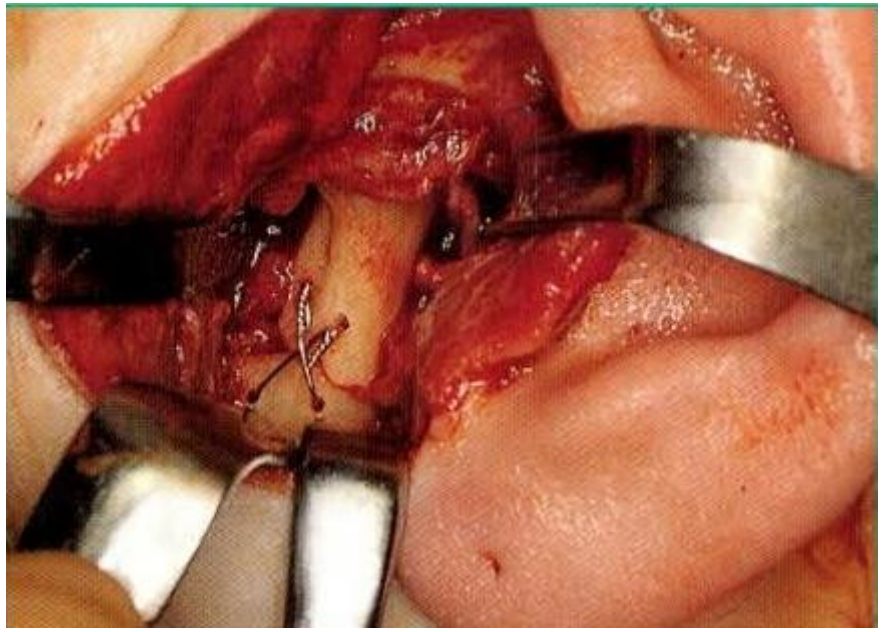
- Surgical treatment

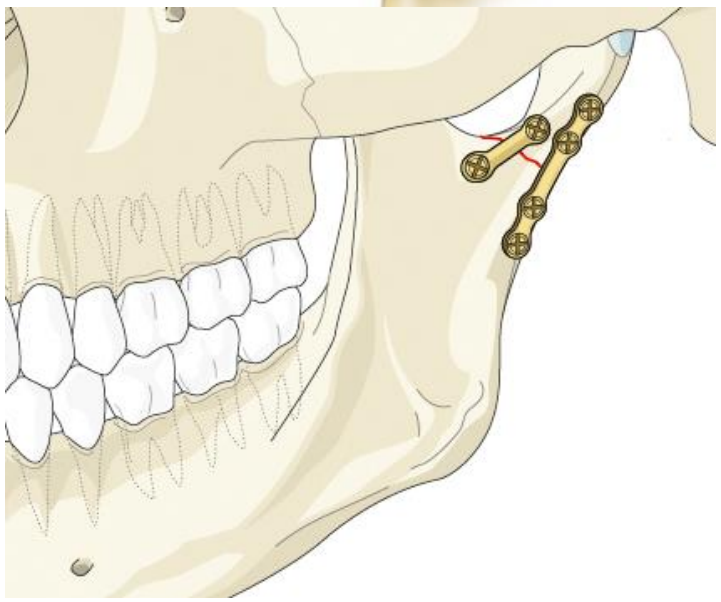
1. Capsule tightening procedures – capsulorhaphy
2. Creation of mechanical obstacles
3. Removal of mechanical obstacles

FRACTURE

Clinical features

- Localised pain and swelling
- Paresthesia of lower lip
- Tenderness over the fracture site
- Blood in external auditory canal
- Limited mouth opening
- Deviation on opening on involved side
- Posterior open bite on contralateral side
- Anterior open bite with bilateral fracture





INTERNAL DERANGEMENT OF THE TMJ

- Definition – It is defined as the disruption of the internal aspects of the TMJ in which an abnormal relationship exists between the disk and the condyle, fossa and articular eminence.

- Symptoms:

  Pain during function

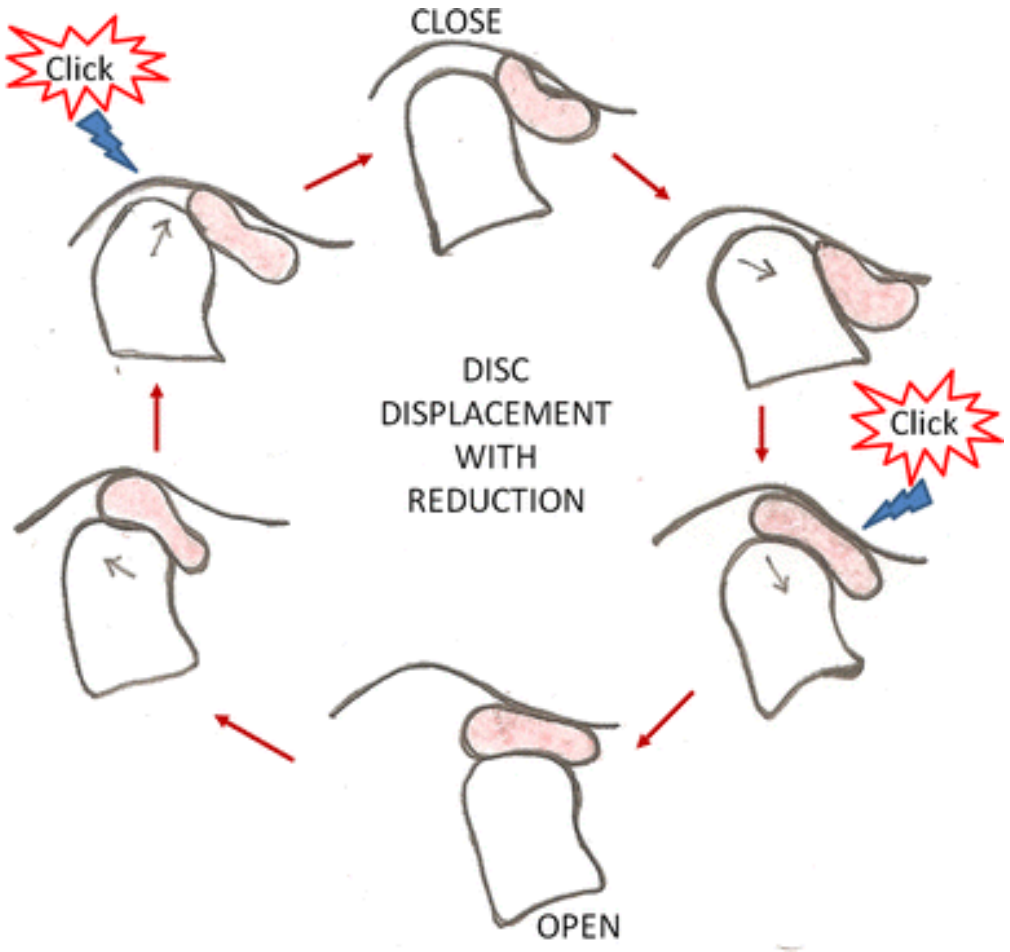
  Limited oral opening

- Types

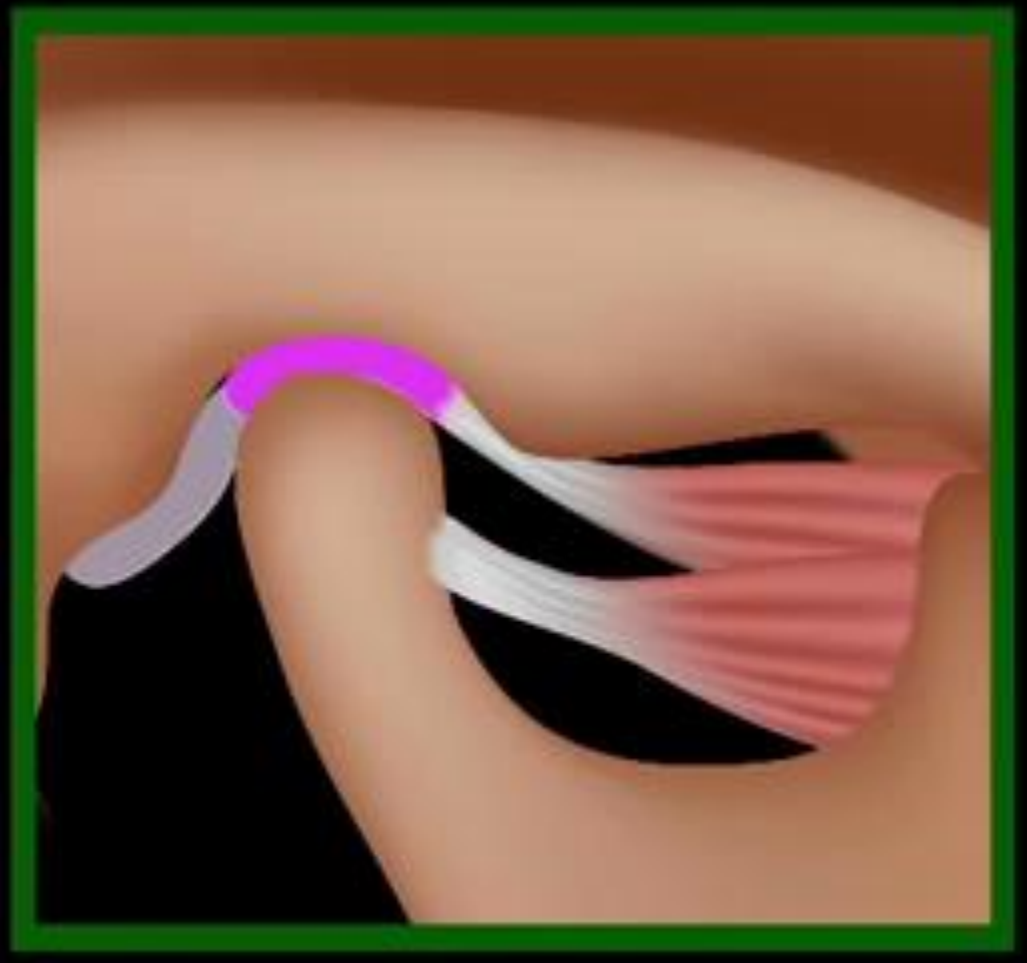
  Disk displacement with reduction

  Disk displacement without reduction

DISC DISPLACEMENT WITH REDUCTION



- Disc is dislocated anterior to condylar head
- Pain during translation
- Click on opening and closing

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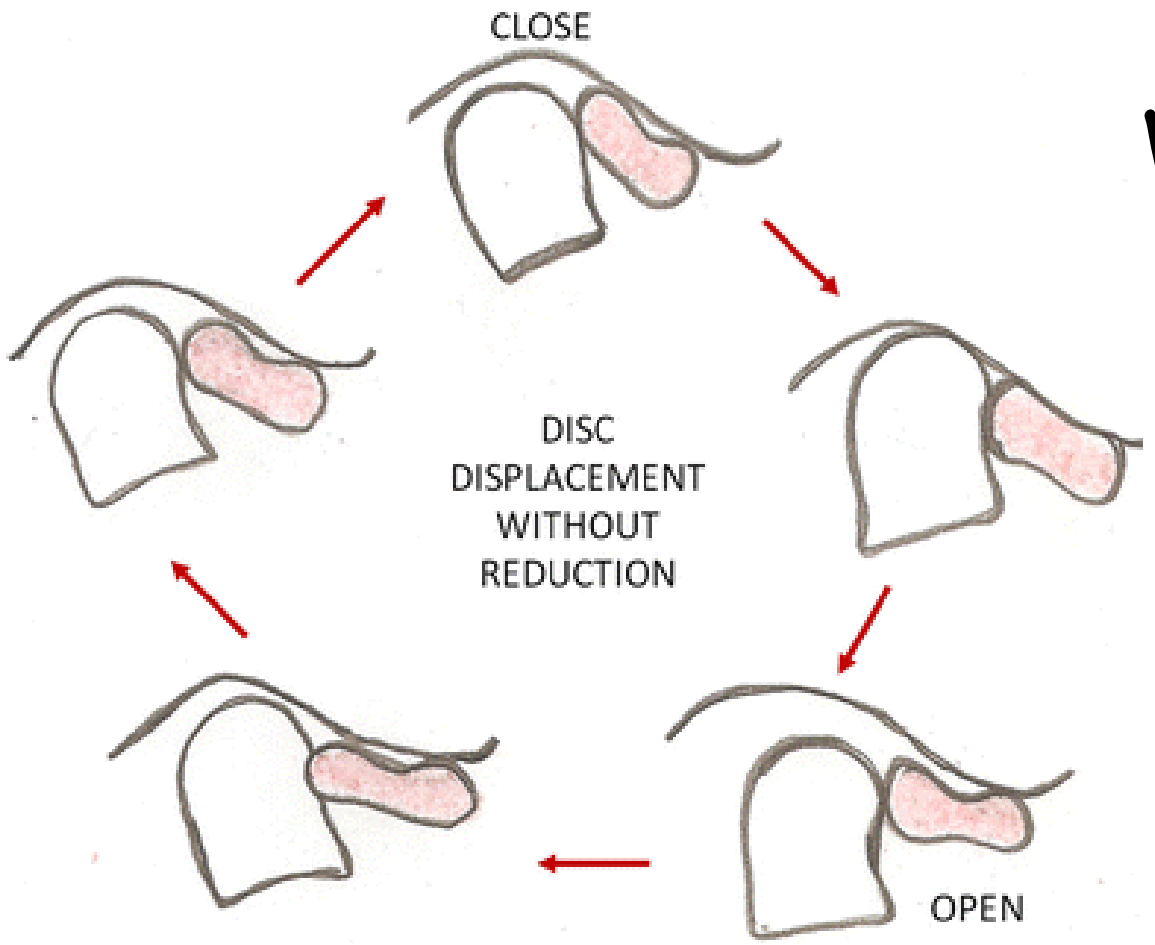
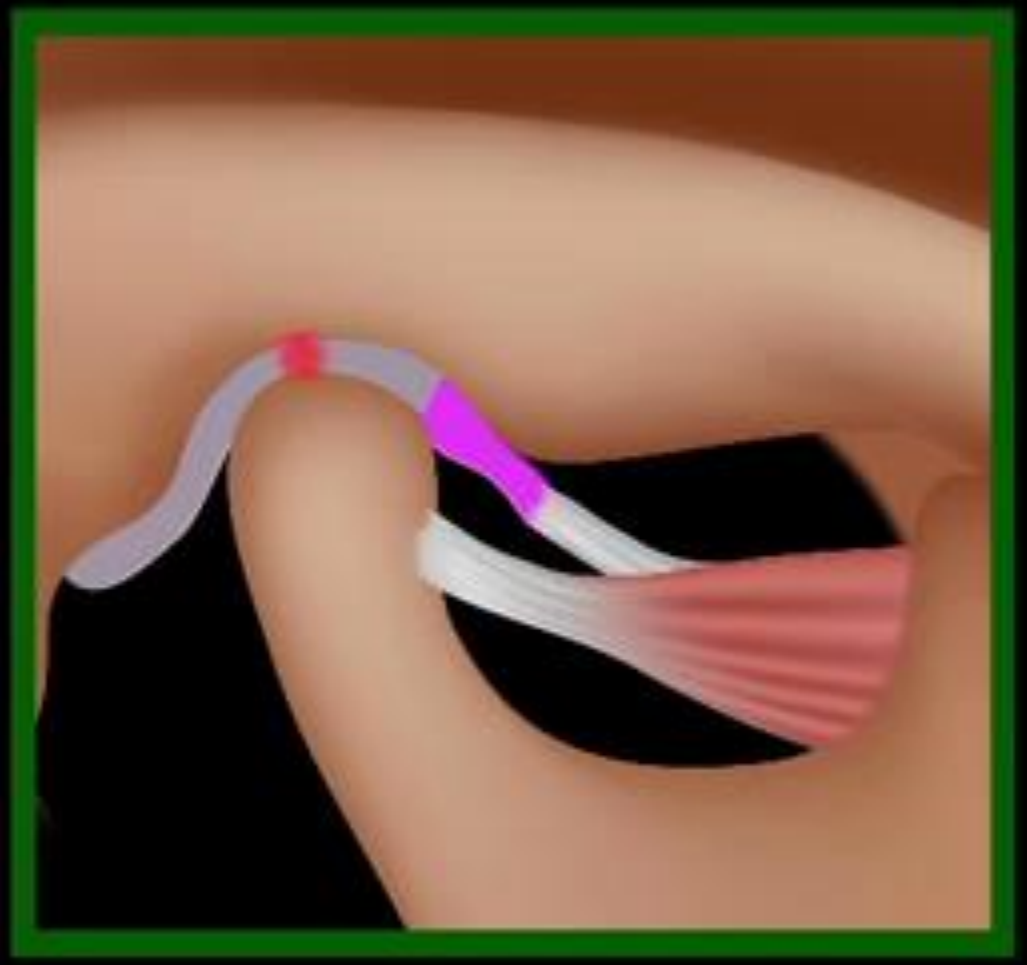
Anterior Disk
Displacement
with Reduction



DISC DISPLACEMENT WITHOUT REDUCTION

- The disc interferes with the condylar translation hence patient will not be able to open the mouth fully
- Pain in the affected joint
- Deviation of the mandible towards the painful side
- No clicks

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ARTHROCENTESIS

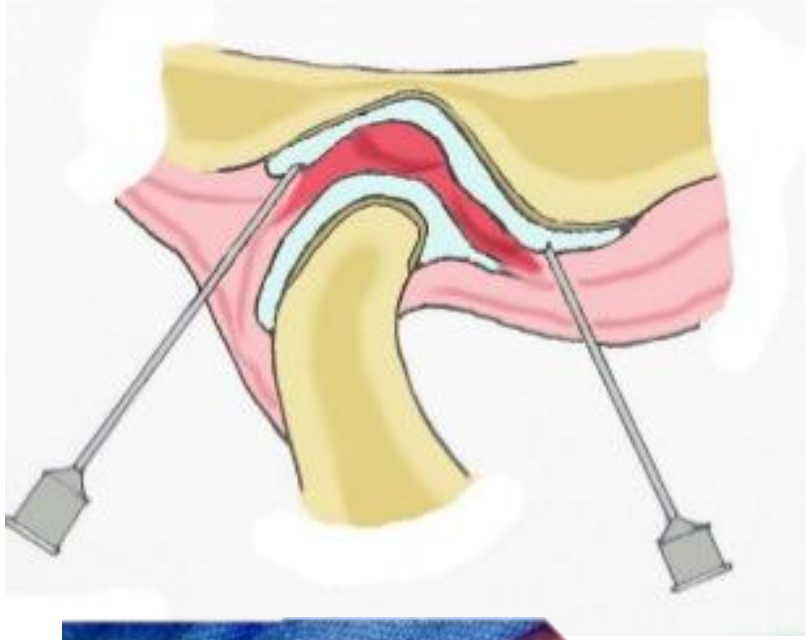
ARTHROCENTESIS

INDICATIONS

- Localized joint pain
- Acute limitation of motion
- Inflammatory conditions
- Refractory to conservative treatments (medication, bite appliance, physiotherapy, manipulation)

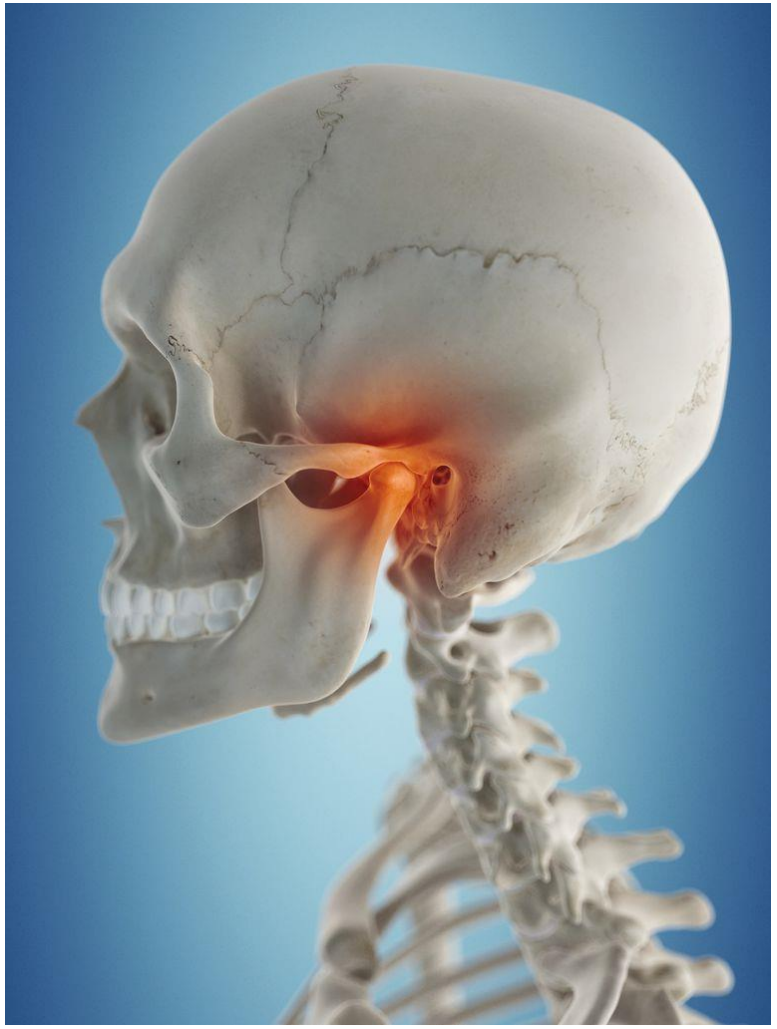
ADVANTAGES

- Reduces joint friction
- Releases adhesions
- Re-establish range of motion
- Evacuation of chemical mediators of pain & inflammation
- Low cost



PROCEDURE - ARTHROCENTESIS

TMJ IN CONSERVATIVE DENTISTRY & ENDODONTICS



- Sensitive or sore teeth are common symptoms of TMJ dysfunction.

Unfortunately, when seeking relief from this tooth pain many patients are misdiagnosed and may even go as far as having root canal treatment done or even having the tooth extracted. The worst part is that these measures may not relieve the pain, and can actually make it worse!

TOOTH PAIN	TMJ DYSFUNCTION
Localization of the pain in a specific tooth.	Pain may radiate beyond just a tooth. Unexpectedly, the pain can migrate from one tooth to another.
Thermal sensitivity, pain on biting and spontaneity of the pain	The pain can be present all the time or come and go
Clinical examination might show dental caries or pain on percussion	Tooth pain is usually accompanied by one or more other TMJ dysfunction symptoms like clicking, facial pain, TMJ headaches, jaw pain, lock jaw, neck and shoulder pain.
Pain intensity may change over a period of time. Pain is generally aggravated on lying down.	The pain may be present from weeks to several years (as time goes by, there is no relief or change in quality or intensity). Pain may be aggravated in the morning or after heavy jaw usage.
Pain disappears on anesthetizing the tooth.	Pain does not disappear when the dental structures are anesthetized..

erentiate TMJ Dysf
pulpal diseases

symptom of TMJD is **sensitivity**

- Temporary stopping can be used for this test.
- Stopping has some advantages in that both vertical and lateral occlusal forces can be analyzed independently.
  - The material is somewhat soft so gives qualitative information relative to the degree of pain.
  - CANNOT BITE on material at all – pulpal pathosis
  - Pain which is relieved on biting - CRACKED TOOTH
  - CAN SLOWLY BITE THROUGH the material - TMJD

- The etiology of TMJD is multifactorial. It is related to trauma and stress and is commonly reported with occlusal factors.
- High abrasion and insufficient restorative procedure done on posterior teeth become risk factors causing occlusal instability leading to TMJD development.
- Distortion in maximum intercuspal position (ICP) results in transient local tooth pain, tooth migration and hence, alterations in chewing patterns. ICP interference might lead to transient disruption of smooth jaw functioning, leading to jaw muscle pain and clicking occasionally.
- Conservative treatment options aimed at treating TMJD are based on the alteration of the vertical dimension of occlusion, reduction in the muscular activity, repositioning and unloading of the TMJ.

- In case of faulty restorations, there is occlusal discrepancy resulting in deviation of the mandible and midline shift. In long term, this can cause damage to the TMJ, leading to TMJD.
- In case a patient has parafunctional habit, it needs to be identified and eliminated as these conditions are not favorable for the retention of restorative material in teeth for a longer period.

INTERFERENCES

- When the teeth are not in harmony with the joints and the mandibular movements, interference is said to exist.

- Interferences are undesirable occlusal contacts that may produce mandibular deviation during closure to maximum intercuspation or may hinder smooth passage to and from the intercuspal position.

4 types of interferences

CENTRIC INTERFERENCE

- Interference occurs between the mesial inclines of maxillary teeth and distal inclines of mandibular teeth.

WORKING INTERFERENCE

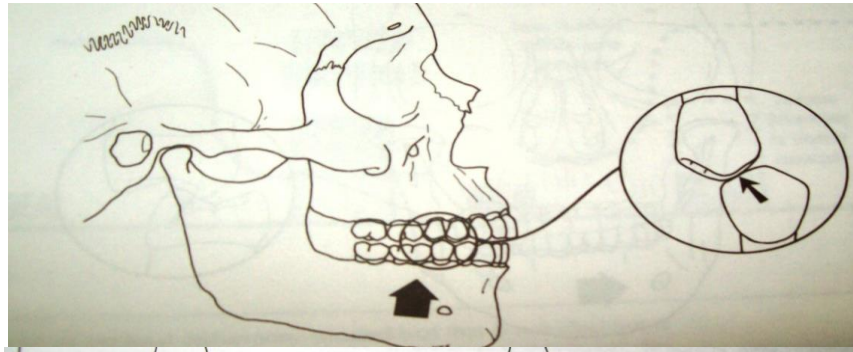
- Occurs when there is contact between the maxillary and mandibular posterior teeth on the same side as the direction in which the mandible has moved and should be heavy enough to disocclude anterior teeth.

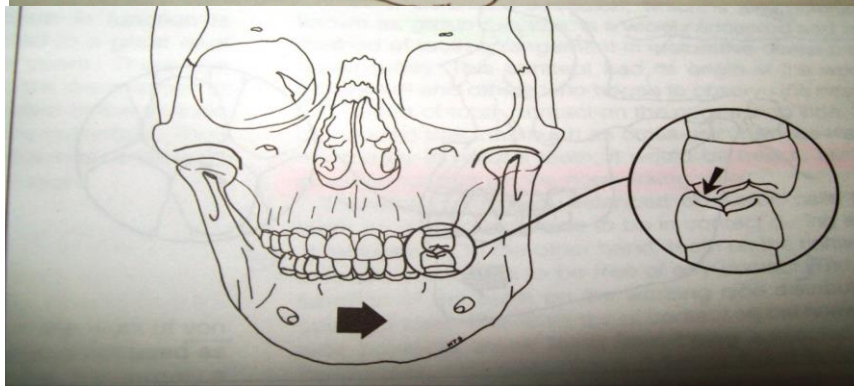
NON-WORKING INTERFERENCE

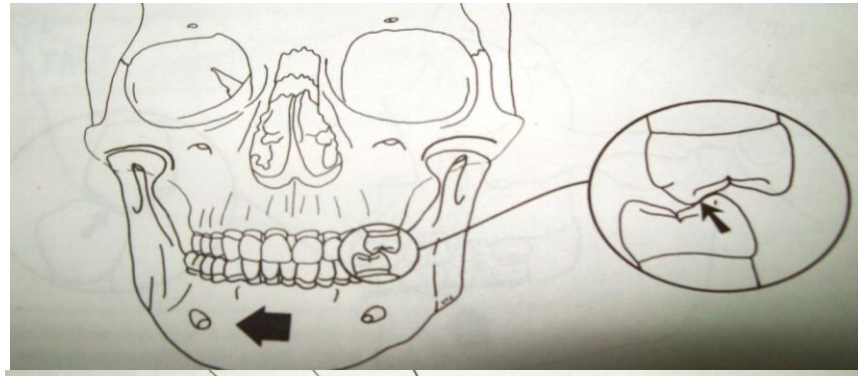
- Is an occlusal contact between maxillary and mandibular teeth on the side of the arches opposite to the direction in which the mandible moves in a lateral excursion.

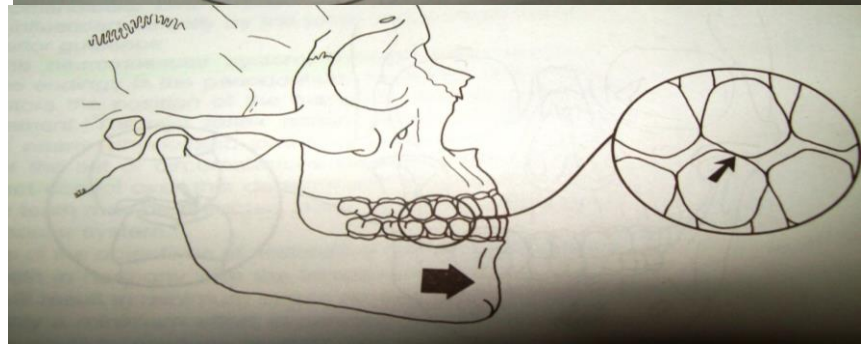
PROTRUSIVE INTERFERENCE

- Occurs when distal facing inclines of maxillary posterior teeth contacts the mesial facing inclines of mandibular posterior teeth during a protrusive movement.









These interferences may lead to pathologic occlusion

PATHOLOGIC OCCLUSION

- A pathologic occlusion is defined as the one in which sufficient disharmony exists between teeth and the TMJ's to result in symptoms that requires intervention.

Signs and Symptoms

i) Teeth

- May exhibit hyper mobility, abnormal wear like fracture or chipping of incisal edges.

ii) Periodontium

- Widened PDL space (radiographically).

iii) Musculature

- Chronic muscle fatigue leading to muscle spasm and pain
- Myositis

iv) TMJ's

- Pain, clicking in the TMJ's

TREATMENT

Includes certain objectives. They are:

- To **direct** the occlusal forces along **the long axes** of the teeth.
- To eliminate any occlusal contact on inclined planes to enhance the **positional stability** of the teeth.

- After identifying the deflective contacts with an articulating paper, grinding is done on the occlusal surface of teeth that appear to have elongated during restorative procedures.
- *Spot grinding* can be done to correct minor discrepancies.

A CASE STUDY

ACTA SCIENTIFIC DENTAL SCIENCES

Volume 1 Issue 2 July 2017

Case Report

A Clinical Approach to Management of Temporomandibular Joint Disorder with Direct Bonding Composites - A Case Report.

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This article reports the case of a temporomandibular joint (TMJ) disorder with symptoms such as hearing loss, pain, deviation of jaw which was treated by recontouring the posterior tooth cuspal morphology by direct bonding of composites, to obtain proper occlusal contacts.

- The patient was diagnosed with a TMJ disorder and partial loss of hearing.
- A temporary acrylic stabilization splint was made to observe if the patient is able to tolerate the increase in vertical dimension.
- After confirmation that no clinical signs of temporomandibular disorder remained, further restorative treatment was planned.
- Permanent occlusal stabilization was done by direct bonding composite technique.
- The occlusion was checked and modified to create even occlusal contact on the left and right side using an articulating paper at the new vertical dimension. Patient was recalled every week to evaluate symptoms and to observe any failure of direct composite resins.
- Thus, a simple occlusal corrective therapy done by direct bonding composite technique eliminated his symptoms and also regained his hearing ability.
- Thus, a thorough history, clinical examination and investigation enables practitioners to render the best possible treatment options.

ACTA SCIENTIFIC DENTAL SCIENCES

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Case Report

A Clinical Approach to Management of Temporomandibular Joint Disorder with Direct Bonding Composites - A Case Report.

Abdullah Ab

[1]*Ras Al Khaima*

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Correspondi

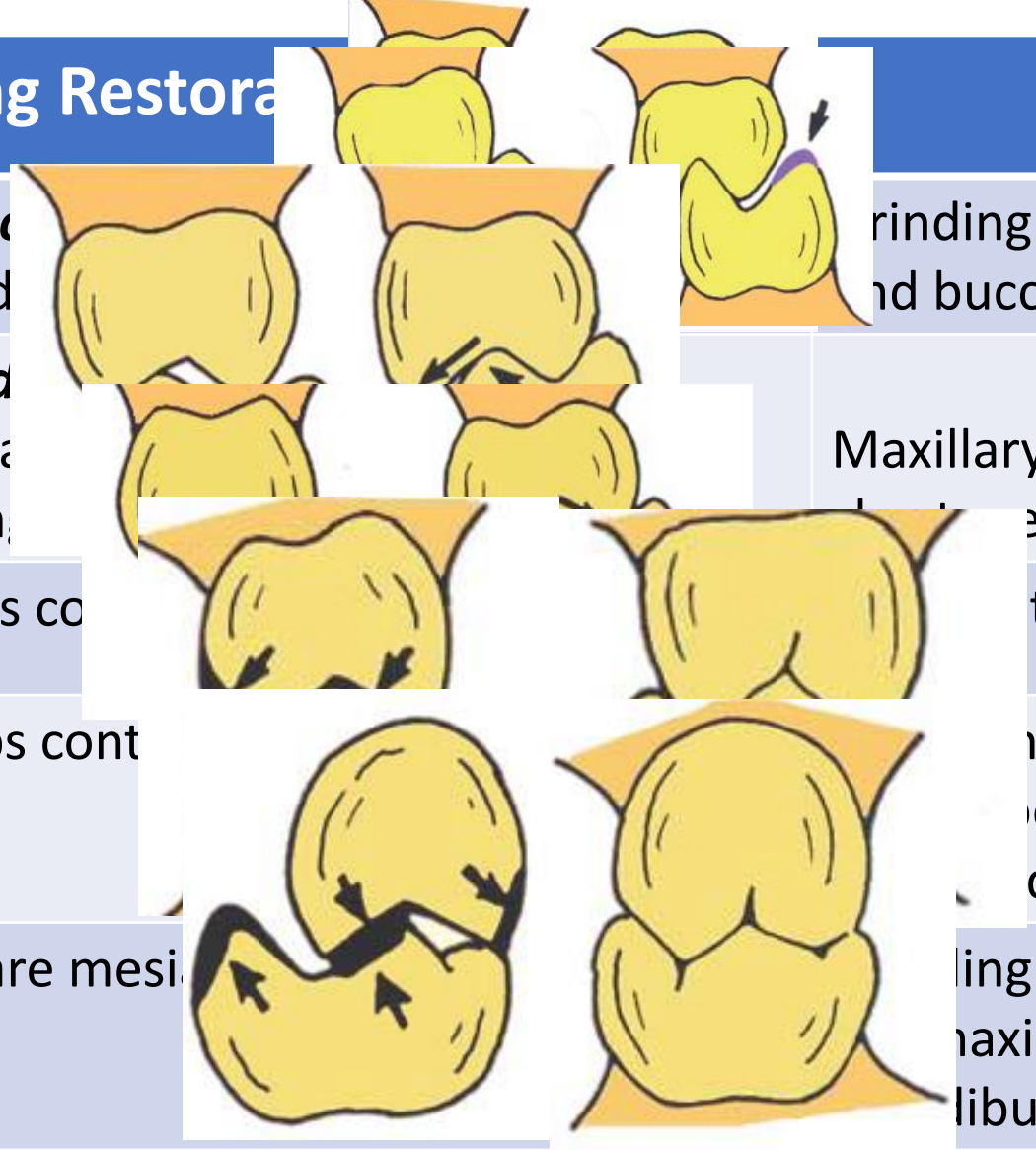
Received: July

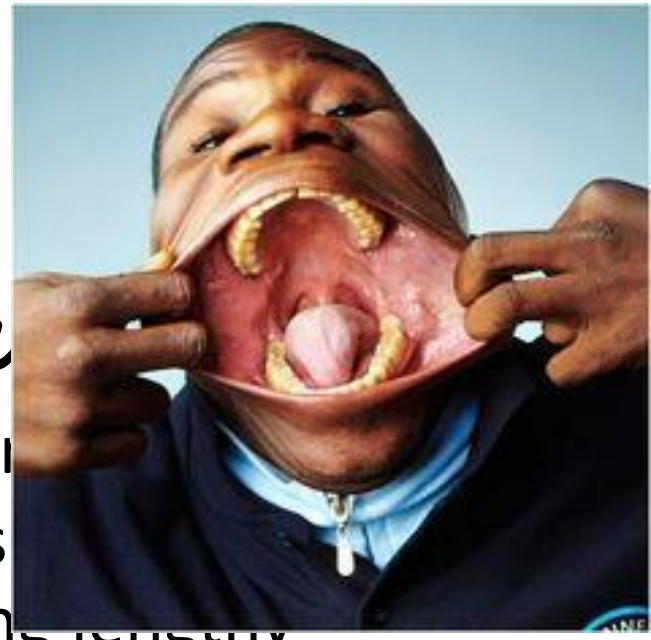
Conclusion

Simple occlusal adjustments can be done by using direct bonding composites which can stabilize the occlusion, remove the cant due to malocclusion and eliminate TMJ disorder symptoms due to occlusal discrepancies.

Compared to invasive procedures as orthodontic correction or permanent crown restorations to permanently correct the occlusal discrepancy direct bonding composites can be used instead.

Errors During Restora	Correction
In centric occlusi Teeth end-to-end	rinding cuspal inclines (lingual inclines of maxilla nd buccal inclines of mandible)
In working side d Maxillary buccal a cusps are too lon	Maxillary buccal and mandibular lingual cusps are ed
Only buccal cusps co	the buccal cusps
Only lingual cusps cont	ncline of the mandibular lingual cusp e d in order to shorten the cusp
Maxillary cusps are mesi position	ing should be done on the mesial inclines of axillary buccal and distal inclines of ibular buccal cusps
Maxillary cusps are distal to the inter-cuspating position	Grinding should be done on the distal inclines of the maxillary buccal and mesial inclines of mandibular buccal cusps





- ***Root canal therapy, especially for mu teeth***, by an inexperienced student is usually a lengthy t presence of rubber dam in the mouth does not let patients mouth during treatment. Wide opening of the mouth durin endodontic treatment sessions (more than 2 hours) can give rise to signs and symptoms associated with TMJD.
- In root canal therapy for posterior teeth, patients need to open their mouth wider and for a longer period of time. In this situation, more force is applied to the muscles and ligaments, resulting in more TMJ pain and dysfunction after treatment.

Dental Research
Dental Clinics
Dental Prospects

J Dent Res Dent Clin Dent Prospect. 2010 Summer; 4(3): 95–97.
Published online 2010 Sep 16. doi: 10.5681/joddd.2010.024

PMCID: PMC3429977
PMID: 22991607

Effect of Lengthy Root Canal Therapy Sessions on Temporomandibular Joint and Masticatory Muscles

Safoora Sahebi,[1] Fariborz Moazami,[2] Masoomeh Afsa,[3,*] and Mohammad Reza Nabavi Zade[1]

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Conclusion

Go to:

Lengthy dental treatments can harm TMJ and masticatory muscles and wide opening of the mouth during such appointments can worsen the situation. Therefore, it is wise to break the appointment into shorter intervals and let the patients rest during treatment to close their mouth to prevent iatrogenic damage to TMJ.

- **CO-RELATION BETWEEN TMJ & CERVICAL SPINE** - An often-overlooked problem when it comes to jav
  proximity of the atlas (C1 vertebra). A misalignment can put press the
  nerves of the face. As a result, TMJ dysfunction can occur. Theref ce to
  look for natural relief if one is dealing with jaw pain.
- Sleeping positions has a major influence on TMJ.

- The **BEST sleep position** is flat on the back. No pressure is put on the jaw & the neck is in a natural position. So one gets a good night's rest without jaw pain being worse in the morning.
- The **WORST sleep position** for TMJ pain is on your stomach. This forces a person to turn his or her head to the side in order to breathe. The jaw is pressed against the pillow, or sometimes the person's arm, which can leave it sore in the morning. Also, having the head turned all night is a strain on the neck, which can actually lead to worse jaw problems.

JBR Journal of Interdisciplinary Medicine and Dental Science

ISSN: 2376-032X

Research Article

Contribution of Cervical Spine in Temporomandibular Joint Disorder

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[2]Department of Oral Surgery, Shorsh Teaching Center of Dentistry, Iraq

Conclusion

There is a significant relationship between TMJ and neck pathologies. Treatment of neck pain should be considered in patients with TMJ symptoms and vice versa. Although the result of this study is significant, but to provide evidence-based criteria for the clinician and for more understand cause and effect relationship, a more stratified, randomized control trail is needed. Approaching the cervical spine by physiotherapy in TMJ disease treatment protocol as complimentary treatment need to be supported.

TMJ Headaches

- TMJ headaches are one of the least understood and most miss-diagnosed of all health problems because :

The symptoms can be almost exactly the same as either the sinus headache, the tension headache, and the migraine headache.

Also, physicians are almost totally untrained regarding diagnosis and treatment of TMJ dysfunction. Their best effort to manage the problem is to use a therapy that is directed solely toward the symptoms, and does absolutely NOTHING TO RESOLVE THE UNDERLYING CAUSE of the problem, e.g. drugs.

How to DIAGNOSE TMJ headaches???

Most common symptoms are :

- migraine-like headaches, which seem to come from behind the eyes or the side of the head
- headaches or neckaches, which occur at the back of the head right where the neck attaches to the skull & pain often radiates down into one or both shoulders

Less frequent, but more severe symptoms include :

- vertigo (dizziness), ringing in the ears, lancing pain in one or both ears, hearing difficulties and poor posture.

More obvious, but less severe TMJ symptoms are :

- Clicking and/or crepitus, tenderness in the jaw joint ; difficulty in chewing ; limitations of the range of motion of the jaw, locking of the jaw in either the open or closed position; clenching the teeth, sensitivity of the teeth; and deviation of the jaw when opening or closing the mouth.

Thus, TMJ headache is treatable, but if a jaw disorder is ignored, then treatment for the headache may not address all of the factors contributing to the headache.

CONCLUSION

- TMJ dysfunction is a multifactorial disease. Between 40% - 60% of patients will improve regardless of treatment. However the other 40% to 60% will require specialist treatment, be it medical, surgical, physiotherapeutic, psychological or dental.
- Therefore, a thorough knowledge of TMJ is essential to diagnose any dysfunction & pathology of the TMJ.
- TMJ being a very vast topic, studies are still going on that will further advance our understanding in the near future.

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THANK YOU