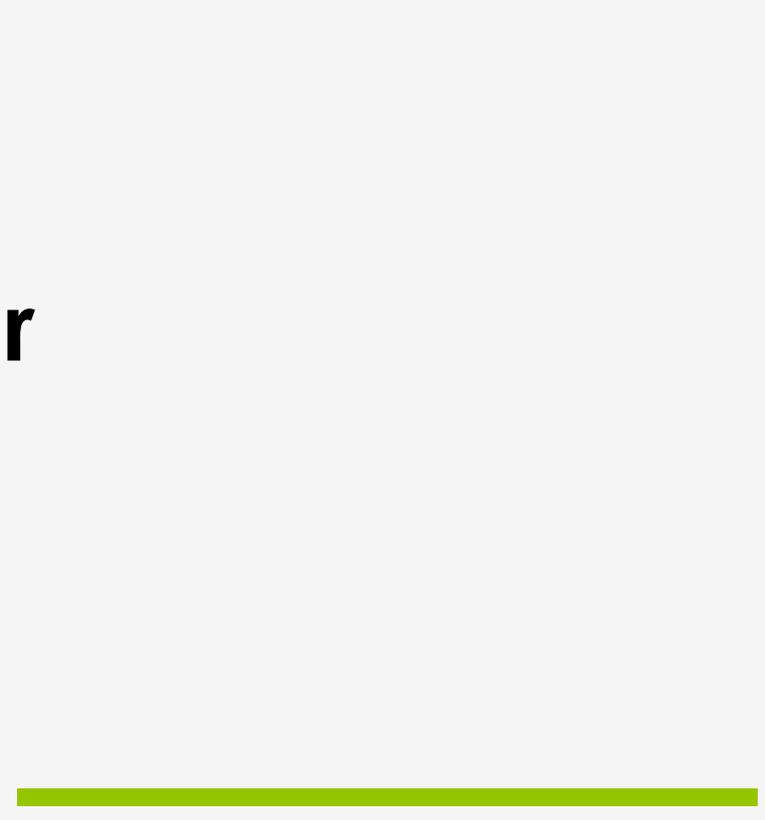


**Physical
examination for
temporomandibular
disorders (TMD)**



Physical examination: TMJs

- ***The full range of vertical and horizontal mandibular movements***
 - Information relevant to joint and muscle function
 - Ask the patient if he is aware of changes from his customary range
- ***The smoothness and overall coordination of active movements***
- ***The deviations from symmetric trajectories***

Active movements

Active opening of the mouth

- Because it is difficult to measure the range of motion of the TMJ in degrees, the interincisal distance at maximum opening is used.
- It is about **36–38 mm** in adults but may vary between 30 and 67 mm, depending on sex and age.
- A practical and quick way of checking range of motion is to ask the patient to insert the knuckles in between the front teeth.

Active movements

Active closing of the mouth

- The patient is asked to close the mouth

Active deviation of the mandible to the left and right

- When the mandible deviates to the side it rotates around a vertical axis through the ipsilateral mandibular ramus.
- The contralateral mandibular head moves anteriorly at the same time.

Active movements

Active forward protrusion of the chin

- This is performed by the lateral and medial pterygoid, masseter, geniohyoid and digastric muscle.
- When it is disturbed, this is usually the consequence of an inert problem.

- Note the influence of all five active movements on
 - pain
 - range of movement
 - deviation
 - abnormal sounds
 - crepitus

Physical examination: TMJs

- When there is limited or uncomfortable active movement, the mandible should be manipulated passively
 - to determine true limits
 - to assess the degree of rigidity or resistance at end points

Ex:

- muscle trismus: a very rigid resistance felt at the end point of opening
- disc displacement without reduction: the end point is not very firm

Physical examination: TMJs

○ *Joint palpation*

- Lateral palpation with the jaw closed and also as the mandible moves through its range (with the finger tip over the lateral aspect of the condyle)
- The joint is palpated during active opening and closing and during active deviation to the left and right.

Physical examination: TMJs

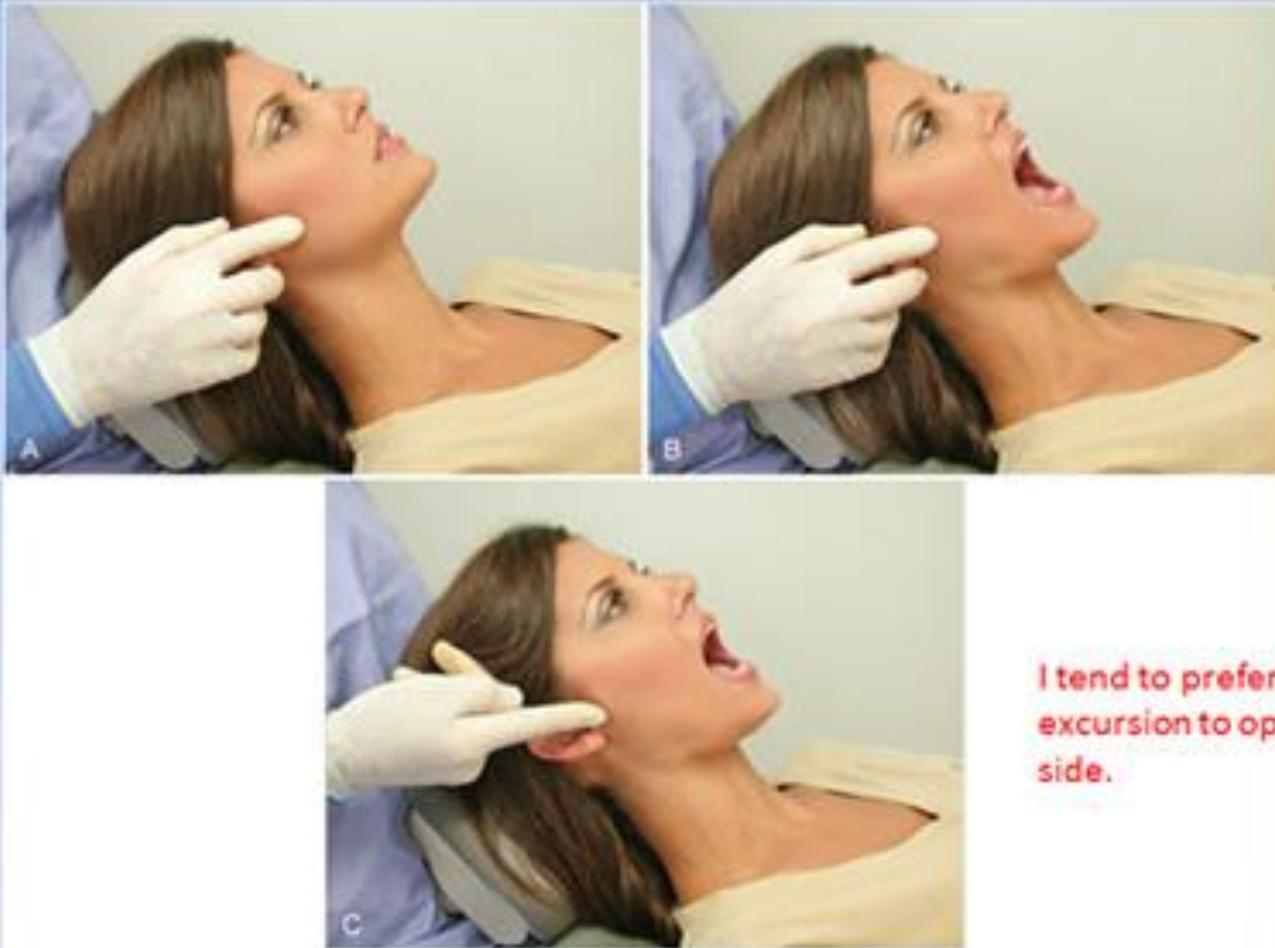
○ *Joint palpation*

On opening, the TMJ is palpated with the finger below the zygomatic bone just anterior to the condyle.

For closing with the tip of the finger placed

- just anterior to the tragus behind the condyle or
- in the external auditory meatus, exerting some anterior directed pressure against the posterior aspect of the joint.

The examiner normally feels a depression on opening.



I tend to prefer lateral excursion to opposite side.

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Palpation of the TMJ. **A**, Lateral aspect of the joint with the mouth closed. **B**, Lateral aspect of the joint during opening and closing. **C**, With the patient's mouth fully open, the clinician moves a finger behind the condyle to palpate the posterior aspect of the joint.

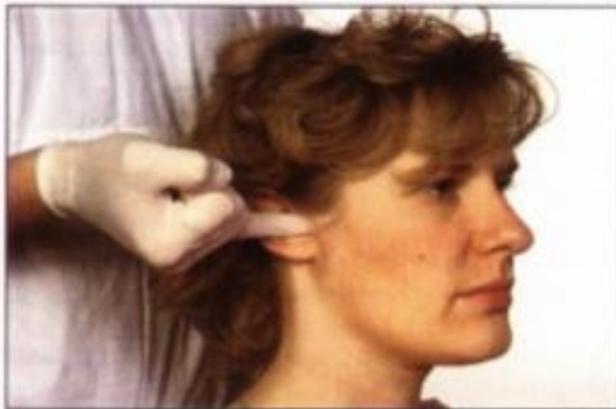
TMJ palpation



Stereo stethoscope in use on a patient



Lateral palpation of TMJ



Intra-auricular palpation of TMJ

TMJ Auscultation



Mouth opening



nue49

Physical examination: TMJs

- ***Stethoscopic auscultation of the joint***
 - To detect sounds that might indicate joint abnormalities

Masticatory muscles

- ***Palpation of the muscles:***

- Masseter
- Temporalis
- Digastric

- Palpation during

- contraction
- rest
- stretched (in case of tenderness)

Masticatory muscles

- Palpation should cover as much of the muscle as possible, because tenderness is often focal, particularly when trigger points are present.
- To assess for active trigger points, sustained pressure over the tender area is often necessary to provoke pain in the reference zone.

Occlusion

- Jaw size discrepancies
- Tooth misalignment
- Crowded, missing or worn teeth

- Evaluation of both static and functional dental relationships

Occlusion

- The relaxed mandible should be manually guided to closure in the “centric relation” position and initial tooth contacts noted.
- The direction and magnitude of subsequent mandibular slide required to reach the maximum intercuspation position (IP) should be recorded.

Occlusion

- In the IP position, horizontal and vertical overbites should be measured.
- The patient is instructed to slide the mandible to each side and forward, keeping the guiding teeth touching during movements, to detect functional contacts.

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