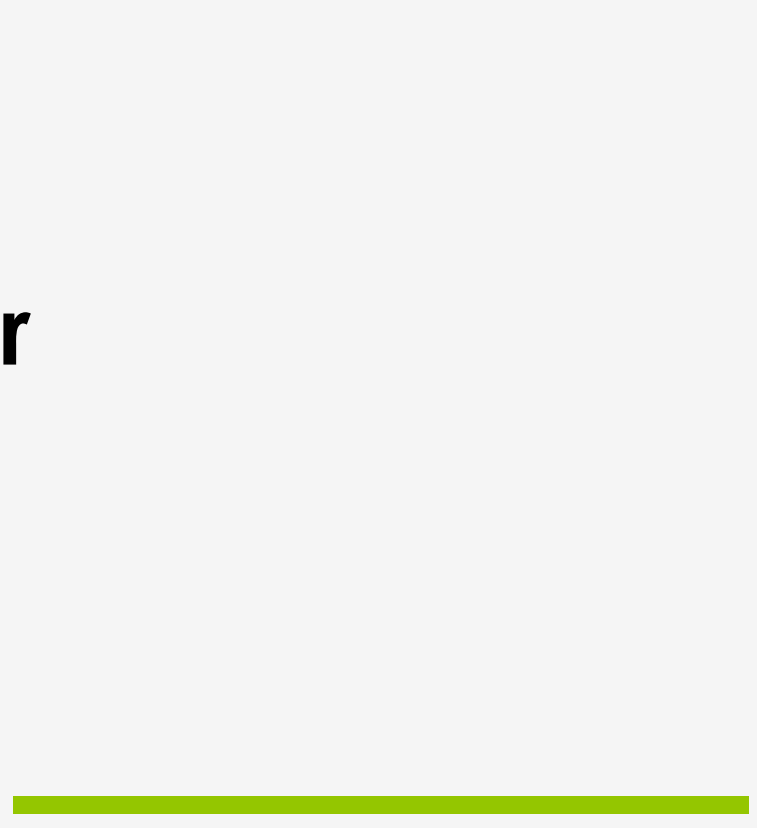


Physical examination for temporomandibular disorders (TMD)



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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