

[4] Kaiser

Examination

Extra-oral Examination

Should include Temporomandibular Joints (TMJs) [4,5], regional lymph nodes, muscles of mastication and cervical muscles, salivary glands and face and eyes for any autonomic signs, such as flushing, tearing, posies or sweating. Cranial nerves examination may be required in some cases and, in primary care at least, a gross examination of the facial and trigeminal nerves would be expected to assess any motor or sensory abnormalities

- Examination of the muscles of mastication: On physical examination, the masseter muscles, as well as the temporal and preauricular areas, should be palpated; the masseter is palpated with one finger intraorally and the other on the cheek, while the temporalis can be examined with the patient clenching.

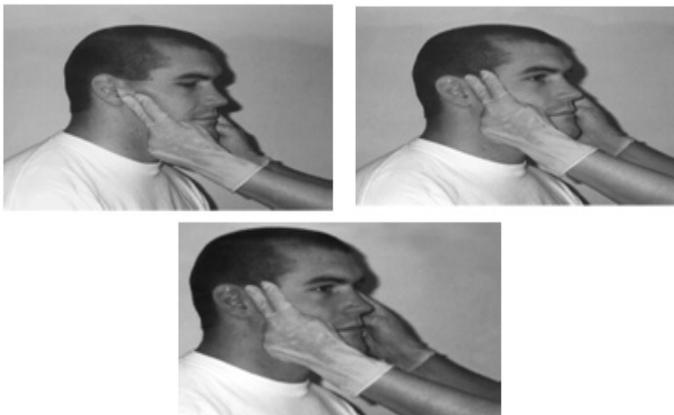


Figure 1: Photographs of the physical examination of a Patient with a Temporomandibular disorder.

- Palpation of masseter muscle.
- Palpation of the temporal and preauricular areas.
- Checking for joint sounds while the patient opens and closes the mouth [1].

While the examiner's hands are on the preauricular area, the patient should be asked to repeatedly open and Close the mouth. The presence of joint sounds should be noted, as well as whether these sounds are associated with joint pain and a stethoscope can be used. With the patient opening the mouth as wide as possible, the clinician should measure the distance between the anterior maxillary and anterior mandibular teeth; any distance less than 40 mm is considered to be a restricted mouth opening.

- The opening pattern of the jaw should be observed, and the physician should note whether the pattern is straight, deviated, or deviated with correction.
- Limitation of mouth opening and/or deviation of the mandible on opening, TMJ tenderness,
- Occlusion should be examined in relation to centric occlusion and centric jaw relation, if the patient shows pains in centric relation this can be due to disk derangement.

Intra-oral Examination

Should include a comprehensive oral examination, including:

- Assessing the teeth: the teeth should be examined for unusual wear pattern which may include bruxism
- Occlusion; lateral movement and horizontal jaw relation, measuring the opening incisal edge to incisal edge and the vertical overlap of central incisor, a shim stock can be of good use [6].
- Salivary glands;
- Oral mucosae;
- Oropharyngeal region



Figure 2: Radiographic and Imaging Test MRI, CT and athography.

Differential Diagnosis

- TMD (Temporomandibular disorder) which include (Myofascial pain dysfunction syndrome, Internal derangement, Osteoarthritis Dislocation, Rheumatoid arthritis, Psoriatic arthritis, Development defects, Ankylosis, Infection, Neoplasia).
- Tension type headache.
- Bruxism.
- Pulp infection.
- Acute pericoronitis.
- Trauma (e.g. sports related injuries; whiplash from any automobile accident; accidental injuries from any source to one's chin to cause ones chin to move in an upward/backward direction.

- Mal-alignment of the occlusal surfaces of the teeth due to genetics, defective crowns, restorative procedures, lack of cooperation during orthodontic treatment.
- Exaggerated opening of mouth, when eating large sized foods, excessive opening during yawning/sneezing.
- Otitis media.
- Gout.

Management of TMD

Therapy must not start without a working diagnosis.

A-Reassurance advice and physiotherapy-Non-pharmacological Therapy

1. Patient education is the key factor in this type of treatment.
2. The patient should be told that the condition is common.
3. The effect of buxism habits should be explained in order to eliminate it.
4. Patients should follow a soft diet and be counseled to reduce stress.
5. Advices to rest and avoid tough or chewing gums yawning and biting on incisor teeth should be given.
6. Application of warm compression during acute phase once the acute phase is reduced jaw exercises will be helpful; Exercises include mouth opening and closing in a straight line, with the tongue touching the palate, using a mirror for guidance.
7. Intra-oral devices, splints, night-guards, and bite guards are often used. Some studies indicate hard stabilization appliances may be more effective in reducing TMJ pain than soft stabilization appliances.

Occlusal splints: occlusal splints are effective in 70%-90% of the patients they are effective in initial and long term management of TMD [7], soft splint can be used as a start to assess tolerance and response, various types of occlusal splints may be used :



Figure 3: Stabilization splint (Michigan splint).



Figure 4: soft bite guard –polyvinyl.



Figure 5: Anterior positioning splint.



Figure 6: Nociceptive trigeminal inhibition - tension suppression system.



Figure 7: Partial coverage splint. Images from [8-11].

B-Pharmacological therapy

Patients should be followed up after 2 weeks of joint rest. If improvement is not satisfactory, medicine can be started and followed up in another 2 weeks. NSAIDS will be beneficiary when patients have not other contraindication for the use of this treatment, Ibuprofen 400 mgs 3times/day up to one month muscle relaxant also can be used.

Summary and Conclusion:

- Before any treatment plan to be considered, patient main complaint is to be well understood
- A proper history and diagnosis will help in creating an ideal treatment plan
- No treatment should be carried on unless a careful history and a proper intra-oral and extra-oral examination is done
- We should always bear in mind that ear and TMJ pain is most likely to mean a TMD yet other possibilities should always been taken into consideration
- Management include the following: Remedy any obvious iatrogenic, home based (a non therapy phase where instructions and exercises is included with/without the use of splint), soft splint can be used as a start to assess tolerance and response, which can be a good aid in the management, then stabilization splints can be used as its more durable and can provide an ideal occlusion, plus the medicine phase which consist of using anti-inflammatory and pain killers.

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