



Introduction

Temporomandibular joint - Temporomandibular joint is a bilateral synovial joint that is formed by the temporal bone and the condyle of the mandible (Fig. 154.1). The mandibular bone is composed of the body, ramus, coronoid process, and condyloid process. The condyle of the mandibular bone and the cavity of the temporal bone make up each TMJ. A biconcave intraarticular disc divides the temporomandibular joint. Impairment of the joint is termed temporomandibular disorders (TMD). TMD is not a single disorder, but rather a broad term that may involve pain at the joint, pain dealing with the muscles, or difficulties in jaw movement. The etiologies of TMD include trauma, behavioral health, occlusal abnormalities, and joint laxity [1]. TMD can be in origin making it difficult to identify one single factor as the cause. This makes TMD challenging to manage. Roughly 25% of the general population experience TMD; however, a small percentage of patients experiencing TMD usually seek treatment.

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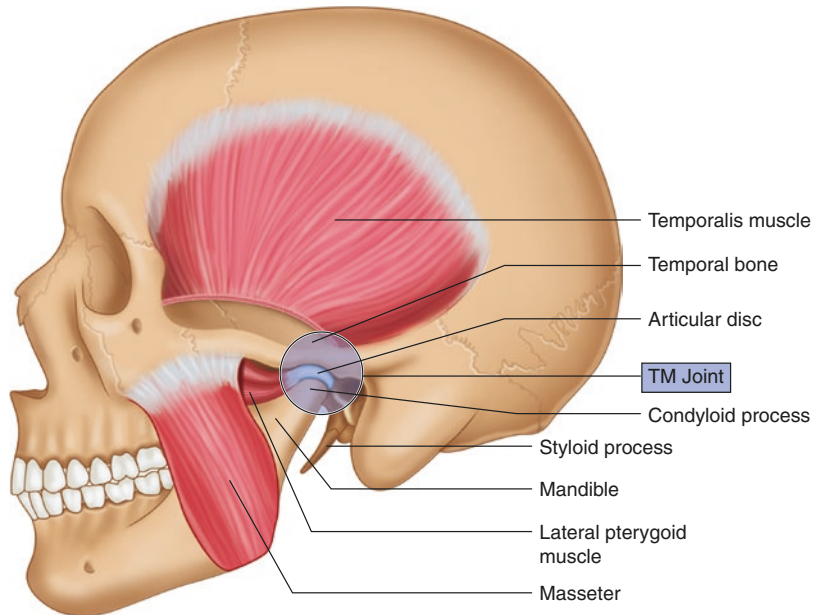
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Clinical Findings Clinically, temporomandibular joint disorders can present in a variety of ways. Symptoms usually include pain at the joint, decreased range of motion, and muscular pain [2]. It is important to examine the mobility of the joint and physical changes to the joint and surrounding areas. Moreover, practitioners should observe for muscles spasms as the muscles of mastication may be involved in the patient's disorder. The diagnosis of TMD is based on physical exam, history, and often imaging. Pain with jaw movement such as chewing, clicking when opening or closing the jaw, decreased range of motion with jaw movement, and muscle tenderness at the TMJ joint are physical exam findings that support the diagnosis of TMD. Crepitus may also be appreciated on physical exam as well as locking of the jaw [2]. It is important to palpate the temporomandibular joint and surrounding structures to help identify TMD.

Diagnostics Research Diagnostic Criteria for Temporomandibular Disorders (RDC/TMD) and the classification of the American Academy of Orofacial Pain are the two most cited classification systems for diagnosing TMD [3]. More recently, Diagnostic Criteria for TMD (DC/TMD) protocol was delineated to help clinicians give personalized care towards patients with TMD. Criteria for diagnosing TMD are broken down into two sections:

Fig. 154.1 TMJ joint

- Axis I: Diagnostic pain screener, symptom questionnaire, demographics, diagnostic tree and diagnostic criteria table [4]. The diagnostic pain screener is a self-assessment that helps assess for TMD, and the symptoms questionnaire is a good way of taking a detailed history of the patient's symptoms.
- Axis II: Oral behaviors checklist and identifying psychosocial distress. Axis II has multiple checklists, questionnaires, and pain scales in order to help identify the psychosocial aspects related to the patients TMD. These are valuable tools as the psychosocial aspect of TMD can play a large part in patient care [4].

Recent articles cite the importance of Computed Tomography and Magnetic Resonance Imaging in evaluating patients with possible TMD for malpositioning, degenerative changes, inflammatory pathology, and effusions [5].

Treatment Non-invasive options should be utilized first when managing TMD. Non-

invasive options include physical therapy, pharmacologic agents, and splints [2]. Physical therapy and transcutaneous electrical nerve stimulation (TENS) are useful modalities in order to improve range of motion of the Temporomandibular joint and reduce inflammation. It is helpful for the patient to also be aware of their stressors that may be worsening the TMD. Occlusal splinting is another non-invasive modality that can help stabilize the temporomandibular joint and aid in the balancing of the joints. Little evidence is established for the use of pharmacologic agents. NSAIDs may be beneficial for anti-inflammatory properties and as an analgesic. Muscle relaxants can also be prescribed for muscle spasms and to reduce pain [2].

Sodium hyaluronate and corticosteroid injections are more invasive procedures that may benefit patients with osteoarthritic issue of the temporomandibular joint. Surgical procedures such as discectomy or total joint displacement may be necessary if all non-surgical options fail.

Differential Diagnosis

- Tension headache.
- Dental Infection.
- Mandibular dislocation.
- Myofascial pain.
- Disc Displacement.
- Osteoarthritis.
- Muscle spasms.

High Yield Points

- Non-invasive modalities should be utilized first before proceeding to more invasive options such as surgery.
- Physical therapy and identifying stressors are important aspects in managing TMD.
- DC/TMD protocol is a useful way for physician to differentiate the multiple forms of TMD and allows for a universal guide amongst physician to diagnose TMD.
- Understanding the DC/TMD protocol is useful, as physicians of all specialties will encounter patient with symptoms of TMD.

Questions

1. A 68-year-old female presents to her primary care physician for increased pain in her jaw after eating. The pain has been worsening over the past few months and states that the pain is worst when chewing. The patient has no history of facial trauma, renal dysfunction, cardiac abnormalities, or prior facial surgeries. Which of the following is the best initial treatment for this patient?
 - A. Non-steroidal anti-inflammatory drugs (NSAIDS)
 - B. Oxycodone
 - C. Corticosteroid injections
 - D. Arthroscopic surgery

Answer: A

2. A 72-year-old female patient endorses that her jaw clicks while chewing. The patient states that there is pain of her jaw but mostly while eating. You believe that the patient's pain is a form of temporomandibular joint disorder. Which tool would be most useful in evaluating a patient with TMD?
 - A. Magnetic Resonance Imaging
 - B. Diagnostic Criteria for TMD (DC/TMD) protocol
 - C. Computerized Tomography
 - D. Complete blood count (CBC)

Answer: B
3. A 67-year-old female presents for increased pain on the left side of her jaw. The patient states that she has taken NSAIDS the past week, which has helped. Recently, the patient has been stressed due to family issues. The patient past medical history is significant for hypertension, atrial fibrillation, and diabetes. Which of the following could be the etiology of the patients jaw pain?
 - A. Tension headache
 - B. Osteoarthritis
 - C. Muscle spasms
 - D. All of the above

Answer: D

References

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