

# Diagnosis and Treatment of Temporomandibular Disorders in Primary Care

*Joseph Knight, PA-C*

**T**emporomandibular disorders (TMDs) affect the temporomandibular joint (TMJ) or the muscles involved with chewing. The most common symptom for which patients with TMDs seek treatment is pain, localized predominantly in the preauricular area. To a lesser extent, the ear, temple, and muscles of the neck are involved.<sup>1</sup> A subset of patients who have TMD do not experience pain, but complain of popping, clicking, and other noises that emanate from the TMJ while the joint is in motion. Symptoms can range from barely noticeable to seriously debilitating. On rare occasions, the TMJ may lock, which allows little or no motion of the mandible. The anatomy involved with TMD is illustrated in **Figure 1**.

## EPIDEMIOLOGY

TMD is a common disorder. The 6-month prevalence of TMD-related pain is estimated to be approximately 12% in the United States population, and the peak prevalence of temporomandibular pain occurs in adults ages 20 to 40 years.<sup>1,2</sup> The persistence of one of the three major clinical indicators of TMD—pain, limitations of jaw opening, and joint noises—is estimated to be present in 5% to 50% of the United States population at any point in time.<sup>1</sup> Approximately 50% of patients with a TMD do not consult a dentist first but instead seek advice from a physician.<sup>3</sup> The primary care provider should be able to diagnose and initiate conservative treatment of TMD; however, clinicians must be aware that generally accepted, scientifically based guidelines for the diagnosis and management of TMD are still unavailable.<sup>2</sup>

## CLINICAL PRESENTATION

Patients with TMD describe pain in the preauricular area, temple, or ear when chewing or opening the mouth. Pain may radiate to the head, face, or eye. Sounds such as crunching, popping, or grinding are

usually described. A few patients may describe a jaw that occasionally locks; the patient may have to wiggle the jaw to unlock it. Behavioral changes associated with TMD include avoiding opening the mouth wide to bite into food such as an apple or a hamburger, cutting food into smaller than usual pieces, and substituting food of a softer texture for other foods.<sup>4</sup>

## ETIOLOGY

Numerous factors may be involved in causing pain associated with TMD. A history of bruxism (teeth grinding), poorly aligned teeth, or ill-fitting dentures may contribute to the pain of TMD.<sup>5</sup> Gross trauma, such as a blow to the chin, can alter the ligamentous structures of the TMJ, which leads to joint sounds.<sup>6-9</sup> TMJ trauma can also be more subtle, such as the stretching, twisting, or compression forces that occur during eating, yawning, or prolonged mouth opening.<sup>10</sup> In addition, psychological factors can enhance pain;<sup>11-13</sup> thus, the clinician must consider factors such as anxiety, depression, somatization, and hypochondriasis in the patient with TMD.<sup>14</sup> Persistent TMJ pain should be managed in the same manner as other types of chronic pain conditions (ie, manage with nonsteroidal anti-inflammatory drugs [NSAIDs], rest, ice or heat application, and/or judicious use of narcotic analgesics).

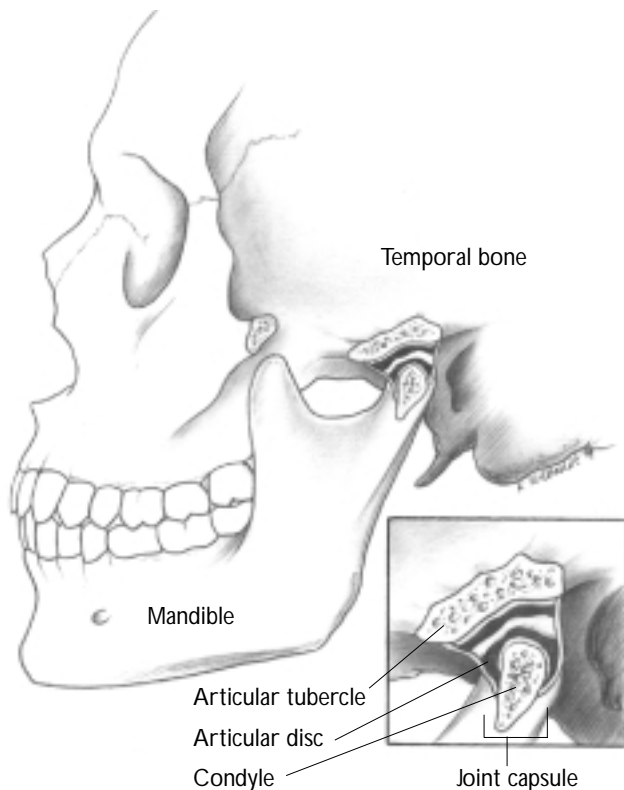
## DIAGNOSIS

### History

The patient should be asked about the presence of TMJ pain, noises that occur with chewing or yawning, a history of being punched in the jaw, and ear pain. The patient should also be asked about any recent motor vehicle accidents; researchers have reported potential injury to the TMJ and related musculature following

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**Figure 1.** The anatomy of the temporomandibular joint. Illustration by Kristen Wienandt.

motor vehicle accidents.<sup>15</sup> Questions regarding the involvement of joints other than the TMJ are also important because this finding can be indicative of osteoarthritis or rheumatoid arthritis. The differential diagnosis of temporomandibular pain is listed in **Table 1**.

### Physical Examination

On physical examination, the masseter muscles, as well as the temporal and preauricular areas, should be palpated (**Figure 2**). 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. 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.<sup>16</sup> The teeth should be examined for unusual wear patterns, which may indicate bruxism. The opening pattern of the jaw should be observed, and the physician should note whether the pattern is straight, deviated, or deviated with correction.<sup>2</sup>

**Table 1.** Differential Diagnosis of Temporomandibular Pain

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Arthritis (rheumatoid arthritis or osteoarthritis)
Arthrosis
Disk displacement
Fracture
Dislocation
Developmental abnormalities
Tooth abscess
Otitis media
Temporal arteritis
Muscle spasm
Neoplasms
Gout

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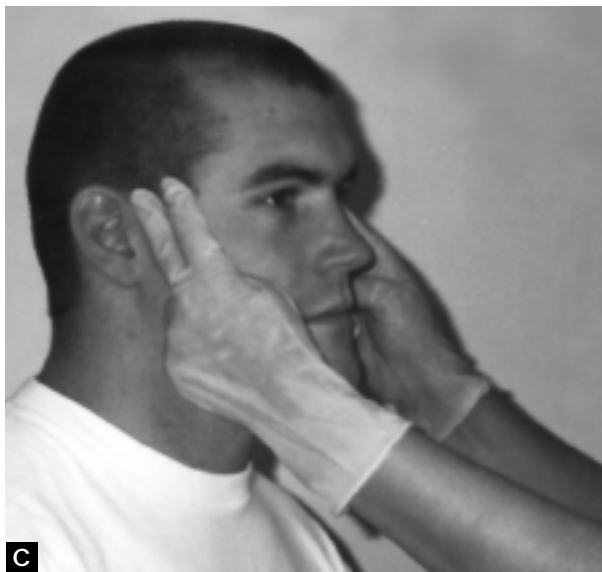
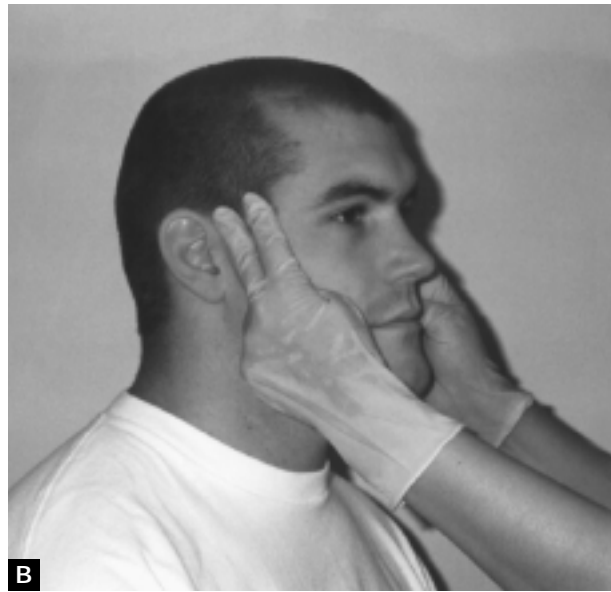
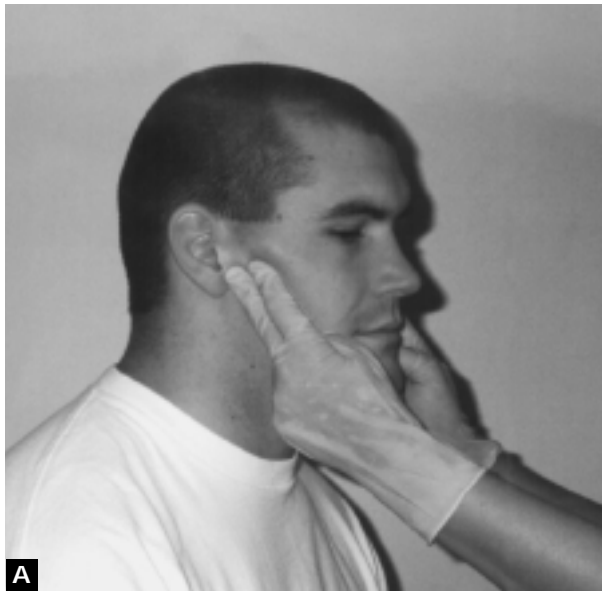
### Imaging Studies

Regular radiographs are not very helpful during the initial stages of TMD. To visualize the bony structures, a tomogram or computed tomography scan is appropriate. (A tomogram is less expensive.) To visualize the soft tissues of the TMJ, such as the disk or ligamentous structures, magnetic resonance imaging is preferred (personal communication, Dr. Steven Hansen, May 1997, Bloss Memorial Hospital [Atwater, CA]).

### TREATMENT

Most patients who have TMD experience a remission of symptoms over time (usually 2 to 4 weeks), and, therefore, these patients can be treated conservatively.<sup>1</sup> TMJ pain caused by stress factors can be treated with antidepressant medication, NSAIDs, and counseling. Acetaminophen with codeine can be used in conjunction with an NSAID. As with any other painful joint, application of ice or heat to the painful TMJ can be very useful. If joint inflammation caused by arthritis is suspected, NSAIDs are first-line therapy. If significant inflammation is suspected, a prednisone taper can be considered.

Although some health care providers recommend the use of a night guard, also called a *stabilization splint*, for patients who have TMD, a dentist should be consulted before any intraoral appliance is prescribed. Stabilization splints are considered to be noninvasive appliances that can create reversible changes in occlusion, and these splints are recommended by many experts for early treatment of patients with TMD. However, it is important that these appliances do not lead to major alteration of occlusion. Repositioning appliances may appear to be noninvasive, but these



**Figure 2.** Photographs of the physical examination of a patient with a temporomandibular disorder. A) Palpation of masseter muscle; B) palpation of the temporal and preauricular areas; and C) checking for joint sounds while the patient opens and closes the mouth.

appliances do have the potential for creating irreversible changes in the occlusion and, consequently, other possible problems.<sup>2</sup> If conservative therapy (ie, drug therapy, counseling, and/or use of a stabilization splint) fails after 2 to 4 weeks, referral to a dental specialist is appropriate.

#### **SUMMARY**

A patient who has temporomandibular pain may seek help from a primary care health care provider before seeking dental evaluation. TMD should be treated like any other musculoskeletal complaint. Conservative therapy is best for a first-line approach to treating the patient.

If a patient's TMJ pain persists or becomes worse, referral to a dental specialist should be considered. **HP**

#### **REFERENCES**

1. Dworkin SF, Truelove E: In *Conn's Current Therapy*. Rakel R, ed. Philadelphia: WB Saunders, 1997:1006-1011.
2. Management of temporomandibular disorders. National Institutes of Health Technology Assessment Conference Statement. *J Am Dent Assoc* 1996;127:1595-1606.
3. De Kanter RJ, Truin GJ, Burgersdijk RC, et al: Prevalence in the Dutch adult population and a meta-analysis of signs and symptoms of temporomandibular disorder. *J Dent Res* 1993;72:1509-1518.

4. Cumarasamy TK: In *Saunders Manual of Medical Practice*. Rakel R, ed. Philadelphia: WB Saunders, 1996:772-773.
5. Berkow R, ed: *The Merck Manual of Medical Practice*, 15th ed. Rahway, NJ: MSD Research Laboratories, 1987:2337-2340.
6. Braun BL, DiGiovanna A, Shiffman E, et al: A cross-sectional study of temporomandibular dysfunction in post-cervical trauma patients. *J Craniomandib Disord* 1992; 6:24.
7. Pullinger AG, Seligman DA: TMJ osteoarthritis: a differentiation of diagnostic subgroups by symptom history and demographics. *J Craniomandib Disord* 1987;1: 251-256.
8. Pullinger AG, Seligman DA: Trauma history in diagnostic groups of temporomandibular disorders. *Oral Surg Oral Med Oral Pathol* 1991;71:529-534.
9. Skolnick J, Iranpour B, Westesson PL, Adair S: Prepubertal trauma and mandibular asymmetry in orthognathic surgery and orthodontic patients. *Am J Orthod Dentofacial Orthop* 1994;105:73-77.
10. Harkins SJ, Marteney JL: Extrinsic trauma: a significant precipitating factor in temporomandibular dysfunction. *J Prosthet Dent* 1985;54:271-272.
11. Bridges KW, Goldberg DP: Somatic presentation of DSM III psychiatric disorders in primary care. *J Psychosom Res* 1985;29:563-569.
12. Lipowski ZJ: Somatization: the concept and its clinical application. *Am J Psychiatry* 1988;145:1358-1368.
13. Morrison J, Herbststein J: Secondary affective disorder in women with somatization disorder. *Compr Psychiatry* 1988; 29:433-440.
14. Okeson JP, de Kanter RJ: Temporomandibular disorder in the medical practice. *J Fam Pract* 1996;43:347-356.
15. Burgess JA, Kolbinson DA, Lee PT, Epstein JB: Motor vehicle accidents and TMDs: assessing the relationship. *J Am Dent Assoc* 1996;127:1767-1772.
16. Okeson J, ed: *Orofacial Pain: Guidelines for Classification, Assessment, and Management*, 3rd ed. Chicago: Quintessence Publishing, 1996.

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