

Ask the Dentist

What is TMD?

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Temporomandibular Joint Disorder (TMD) is a term referring to a number of clinical problems involving the Temporomandibular Joints (TMJs) and associated muscles and structures of the jaw area. Several researchers have found clicking and popping noises in the jaw joints to be present in 40-60% of the general population. Considering that normal, healthy TMJs are completely silent at all times, the 40-60% figure is a rather staggering one to consider. The good news is that TMD symptoms are variable in nature, with most being a mild annoyance. A small percentage of patients with TMD have symptoms which degenerate into crippling chronic pain and limited jaw mobility. A recent National Institute of Health study indicates that over nine million Americans suffer from TMJ pain of some level on a regular basis.

What are the symptoms of TMD?

Common symptoms are:

- Pain about the face, head and neck regions
- Clicking, popping, and or grating noises in the jaw joints
- A limited ability to open the mouth

wide or move it side-to-side

- Frequent headaches, often around the temple area
- Earaches, buzzing, or ringing noises in the ears
- Deep pain the jaw joint itself
- Soreness or pain in the cheek area
- "Sticking," "catching" or "locking up" of the jaw
- A sudden inability to find a comfortable bite position

What are the causes of TMD?

Common causes are one or more of the following:

- Long-term strain on the TMJs caused by a sleep pattern of chronic grinding and/or clenching of the teeth (bruxism). This may lead to permanent damage to the teeth and TMJs themselves.
- Certain types of malocclusion (bad bites) can chronically overstress the TMJs and related structures every time the individual chews. This in turn can lead to TM joint damage.
- Accidents involving direct or indirect trauma to the head, face,



and/or neck may lead to partial or total TMJ disc dislocation, stretched or torn TMJ ligaments, and impaired joint function.

- Extensive dental procedures that have over stressed the muscles, joints, ligaments, nerves, may also lead to TMJ ligament inflammation or damage. This in turn can lead to muscle spasms and/or TMJ disc dislocation.
- General anesthesia intubations which strain weak TM joints or damage healthy TM joints by overextending the joint while the patient is asleep.
- Arthritis may occur in the TMJs, particularly in patients with TM disc dislocations.

- Systemic diseases such as gout, lupus, scleroderma, and fibromyalgia may also contribute to TMJ-like symptoms or problems.
- Growth and/or developmental disturbances of the structures of the face and TM joints may cause malformation of the TM joint structures and thus dysfunction.
- Research shows that substances such as caffeine, nicotine, and sugar can significantly increase muscle tension and impair their performance.
- Studies have also shown a link between emotional stress and the frequency of teeth grinding at night. This chronic and prolonged nightly activity ultimately damages the TM joints or impair the body's ability to heal a damaged joint.
- Some other reasons for TMD are less identifiable and may result from a combination of small events such as lying against a partially strained or damaged (but previously asymptomatic) TMJ while sleeping.

How are TMJ disorders diagnosed?

The first step in the management of TMJ disorders is to determine that the concern is not another type of medical or dental problem behaving as if it were a TMJ problem. A TMJ screening includes the completion of a thorough TMJ history, radiographic imaging of the teeth and jaw joints, and a preliminary clinical examination of the jaw joints, muscle system,

bite, and teeth. I advise patients to seek a concurrent proper medical exam from a medical doctor (ideally an ENT) to rule out the presence of medical problems which may be occurring in combination with or disguising themselves as TMJ problems.

Following this, a preliminary diagnosis can be rendered. If the preliminary diagnosis is TMJ disorder, then further studies and tests will identify the exact nature of the disorder and assist the dentist in developing a treatment strategy for the patient's specific health circumstances.

How are TMJ disorders treated?

Initial treatment for TMJ disorder can range from resting the joints, switching to a soft diet and prescribed medication to stabilization of the joints through the use of a specially designed and custom-adjusted hard acrylic orthotic appliance, also known as a "bite splint," that fits on the top of the teeth. This appliance, when properly designed, redistributes the stresses on the TMJs, and muscle system while specifically guarding and guiding certain joint movements.

Does treatment work?

The vast majority of cases we treat are successfully managed through the use of orthotic appliances and/or a combination of orthotic appliance and physical therapy to reduce symptoms and accelerate healing.

Can I just buy a mouth guard at the store and treat this problem myself?

This is generally not advisable. Self care with these non-adjustable devices can put additional strain on already damaged jaw joints. They may also cause an individual to grind their teeth even more at night and thus worsen the symptoms.

Do dentists need special training to treat TMD?

The diagnosis and treatment of TMJ disorders is best done by dentists who have advanced training in TMD and experience with it. The Pankey Institute offers advanced courses in this area of dentistry, and your Pankey Institute-trained dentist may have taken these courses. ■



Bite splints such as these, produce comfort for patients with TMD. They can be worn day and/or night.

Photo courtesy of Dr. Steve Ratchiff