Talking with Patients

Temporomandibular Disorder

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WHAT IS IT?

Temporomandibular disorder (TMD) is a term widely used to describe any of a number of various conditions resulting in pain and/or abnormal function (dysfunction) of the jaw joint(s) and jaw muscles. Under normal circumstances, there is an orderly relationship between the jaw muscles, jaw joints, and teeth. Changes in the joint(s) may alter how the teeth contact. The interdigitation of the upper and lower teeth may, in turn, influence the joint(s) relationships. Jaw muscles create the various movements necessary for speech and eating. An essential function of the jaw muscles is to move the jaw to allow a maximum number of teeth to simultaneously contact when chewing and swallowing.

Although the term TMD is frequently used, it does not clearly indicate a diagnosis; dental health care providers are responsible for examining and diagnosing the specific condition that an individual patient may be experiencing and for recommending treatment based on that diagnosis.

WHAT ARE THE SYMPTOMS AND SIGNS OF TMDs?

Disorders involving the jaw joint(s) may make it difficult to fully open the mouth or result in a drifting of the lower jaw to one side when opening. Jaw joint disorders also may result in noises and/or pain on the side of the face just in front of one or both ears while moving the jaw. Jaw joint disorders occasionally may cause referred pain to muscles in the back of the neck.

Disorders involving the jaw muscles also may limit the ability to fully open the mouth and may result in headaches, primarily on the lateral sides of the head above and slightly in front of the ears. Deeper muscles that connect between the upper and lower jaw also may develop pain.

The cause of TMDs varies and at times multiple causative factors might be present. When maintenance of coordinated joint and tooth positions requires continual or abnormal muscle activity, muscle fatigue, jaw joint damage, and resultant pain may occur. Jaw joint damage from traumatic facial injuries also may lead to gradual joint deterioration and abnormal joint function.

Some individuals develop parafunctional (not normal) habits that can lead to joint and/or muscle pain. The habits of grinding and clenching the teeth, which frequently occur during periods of sleep, are examples of parafunctional habits that may be associated with TMDs. Unfortunately, some individuals develop pain associated with their jaw joints and/or muscles that cannot be fully explained.

HOW IS A PARTICULAR TMD IDENTIFIED AND TREATED?

A particular TMD is identified through a careful examination process beginning with the exploration of past medical, dental, and psychosocial experience and treatments. This information is then used to help interpret clinical findings, collected through a detailed clinical examination of all jaw structures related to the ability to chew. The jaw muscle(s) with pain will be identified in addition to the amount of time each day that the pain occurs. Pain and/or noise associated with the jaw joint(s)

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will be assessed as well as jaw positions that aggravate the joint condition. It may be necessary to obtain additional imaging of the jaw joints to aid in the identification of abnormalities. Additional examination will assess the relative position of the jaw joints as the teeth come together as well as the resultant jaw muscle response. The teeth and supporting structures will be evaluated for damage, such as excessive wear, multiple fractures, the development of a notch at the gum line, and/or tooth mobility.

When abnormal joint, muscle, and/or teeth conditions are identified, it is often necessary to fabricate a custom plastic device known as a bite splint or bite guard, which attaches to the biting surfaces of the upper or lower teeth. This device, when adjusted carefully, allows for modification of the upper/lower tooth and joint interactions. The device is useful in identifying whether the tooth/joint relationships are contributing to excessive jaw muscle activity and/or excessive pressure on the jaw joints and their role in the particular TMD identified.

Some individuals suffering from a particular TMD may need to develop further understanding/identification of daily, stress creating, personal life events and how they respond. Responses that include clenching or grinding of the teeth may be contributing to TMD, and awareness may allow change in the damaging behavior. The management of TMDs may additionally include the use of prescription medications and/or physical therapy.

TMDs have the potential to be cyclic in nature and frequently can be managed conservatively during flare-ups of discomfort. Surgical management of jaw joint problems is reserved for severe situations that cannot be resolved with conservative noninvasive therapies, and when a clear diagnosis has been established. Reshaping of the biting surfaces of the teeth, to allow for reduction in jaw muscle tension, is also reserved for those situations where a clear cause and effect relationship has been established.

CONCLUSIONS

TMDs require careful examination and specific diagnosis. Individuals vary in their muscle response to teeth and jaw joint interrelationships. The cause of TMD may be directly related to tooth and jaw relationships. Alternatively, TMD may be a secondary result of destructive habits or physical responses to difficult life circumstances. In some cases, both situations may be occurring. Initial conservative management of a particular TMD may involve the use of a bite splint, training in stress reduction and muscle relaxation, prescription medications, and physical therapy. In some cases, modification of the biting surfaces of the teeth may become necessary. Surgical treatment of TMDs involving the jaw joints is reserved for situations where no alternatives remain.

DISCLOSURE

The authors do not have any financial interest in the manufacturers whose materials are discussed in this article.