



# TMJ (Temporomandibular Joint Disease/Disorders)

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To answer a free questionnaire that may help to identify the cause of your jaw pain, go to <https://www.masterdocs.com/tmj/start.php>.

## Temporomandibular Joint Diseases and Disorders

### Basics - Overview

#### The TMJ:

"TMJ" stands for temporomandibular joint, or the jaw joint. The TMJs are the small joints in front of each ear that attach the lower jaw (mandible) to the skull. They allow you to perform such functions as opening and closing your mouth, chewing, speaking, swallowing, etc.

#### TMJ Diseases/Disorders:

TMJ diseases and disorders refer to a complex and poorly understood set of conditions, manifested by pain in the area of the jaw and associated muscles and limitations in the ability to make the normal movements of speech, facial expression, eating, chewing, and swallowing. Conditions that routinely affect other joints in the body, such as arthritis and trauma, also affect the TM joint.

#### Number of TMJ Sufferers:

The National Institute of Dental and Craniofacial Research of the National Institutes of Health indicates that 10.8 million people in the United States suffer from TMJ problems at any given time.

#### Profile of TMJ Sufferers:

Both men and women experience TMJ problems; however, 90 percent of those seeking treatment are women in their childbearing years.

#### Causes:

Medical research has not yet defined all the causes of the various TMJ diseases/disorders. Some patients report having TMJ symptoms following dental procedures, the insertion of a breathing tube prior to surgery, trauma, or oral habits such as clenching or grinding the teeth. Conditions that occur in other joints in the body, such as arthritis, can also precipitate or aggravate TMJ pain and dysfunction.

#### Diagnosis:

Currently, there are no scientifically proven tests available to diagnose TMJ diseases/disorders. The understanding of TMJ disease has not matured to the point where tests such as tissue or blood

samples can establish a diagnosis in all instances. At this time, clinicians note symptoms, take careful patient history, and may use imaging studies. Initially, you may wish to consult a medical doctor to rule out other illnesses as a cause of your symptoms. If your physician does not diagnose a medical condition, and you are referred to a dentist, it is suggested you obtain several independent opinions to confirm your diagnosis prior to committing to any irreversible form of treatment.

**Symptoms:**

TMJ patients experience one or more of the following:

- facial pain
- pain in the jaw joint and surrounding tissues, including the ear
- jaw locking open or closed
- limited opening or inability to open the mouth comfortably
- headaches
- bite that feels uncomfortable, "off", or as if it is continually changing
- neck, shoulder and back pain
- swelling on the side of the face

Pain lasting for a week or less may not require medical/dental attention. Popping and clicking sounds in the joint have been considered symptoms of a TMJ problem; however experts observe that many perfectly healthy joints make noise. Jaw noises unaccompanied by pain or decreased mobility do not mean you have a TMJ problem.

**Treatment:**

Sometimes TMJ problems resolve over time with patients taking mild pain-relieving drugs and using heat, cold or other palliative measures. At present, there are more than 50 treatments in use ranging from very conservative, reversible therapies to more aggressive, invasive approaches. None of the surgical treatments for severe cases have been proven effective in long-term controlled clinical trials.

**Insurance Coverage:**

Varies from state to state. Many insurance companies do not or only partially cover TMJ-related treatment.

**Can TMJ Diseases/Disorders be Prevented?:**

At present there is insufficient evidence to support the prevention of TMJ diseases/disorders through treatment.

## **What To Call It?**

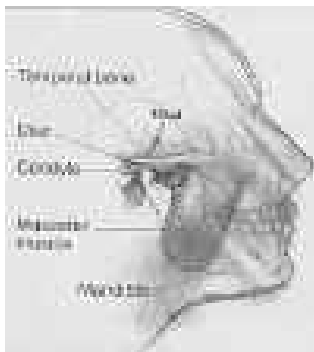
Over the years pain and dysfunction of the jaw joint has been identified by many names. In 1934 an Otolaryngologist, Costen, blamed the loss of vertical dimension for TMJ symptoms and subsequently TMJ became Costen's Syndrome. In the sixties it became the TMJ pain and dysfunction syndrome (TMPD). The seventies added myofascial pain dysfunction syndrome (MPD) to the mix. In the eighties, the dental community introduced the phrase temporomandibular disorders (TMD). This is the term in vogue; however, some believe Craniomandibular Disorders (CMD) best describes the condition, while others suggest the use of Trigeminal Mandibular Disorders.

The 1996 National Institutes of Health Technology Assessment Conference on Management of Temporomandibular Disorders recognized the abundance and confusion of terms used to indicate the same medical condition. A report from that conference states, "even the name TMD is not universally endorsed". In an article entitled A Lifetime of Motion: Temporomandibular Joints, published in the Journal of the American Dental Association (Vol. 127, July 1996), Dr. Harold Slavkin, Director of the National Institute

of Dental and Craniofacial Research used the phrase "Temporomandibular Joint Diseases and Disorders". The TMJ Association supports the use of this term as it is both inclusive and precise. We believe the specification "diseases" appropriately confirms the arthritic etiology present in some patients, and "disorders" acknowledges the numerous other factors in the development of TMJ pain and dysfunction. Though we support the use of this terminology, we will not initiate another set of letters, TMJDD, for a condition patients already know as "TMJ."

We will continue to refer to this condition as TMJ because the public and mass media most readily recognize and understand this designation. Until the scientific community provides a thorough understanding of TMJ problems, we cannot expect to enjoy a single universally accepted identification. We, too, at times will awkwardly trip over diseases/disorders/problems. We trust you all will realize what we are talking about - only too well!

## What are TMJ Diseases/Disorders?



TMJ diseases and disorders refer to a complex and poorly understood set of conditions, manifested by pain in the area of the jaw and associated muscles and limitations in the ability to make the normal movements of speech, facial expression, eating, chewing, and swallowing. Conditions that routinely affect other joints in the body, such as arthritis and trauma, also affect the TM joint. **Many people with TMJ problems get better without treatment. Often the problem goes away on its own in several weeks to months.** The treatment section of this brochure provides some self-help therapy ideas. If your jaw pain gets worse with time, you should seek medical advice and educate yourself as much as possible before beginning any TMJ treatment.

Researchers generally agree that the most common temporomandibular diseases/disorders fall into three main categories. A person may have one or more of these conditions.

- **arthritis**, such as osteoarthritis or rheumatoid arthritis in the jaw joint
- **internal derangement of the joint**, meaning the soft tissue disc which functions as a cushion between the skull and the jaw joint becomes displaced
- **myofascial pain**, discomfort or pain in the muscles that control jaw function and those in the neck and shoulders.

## Who gets TMJ Diseases/Disorders?

The National Institute of Dental and Craniofacial Research of the National Institutes of Health indicates that 10.8 million people in the United States suffer from TMJ problems at any given time. Both men and women experience TMJ problems; however, 90 percent of those seeking treatment are women in their childbearing years.

The greater prevalence of TMJ problems in women during these years suggest a need for research which will examine the influence of gender-specific hormones on temporomandibular joint structure and function. A possible explanation is structural gender differences, as in connective tissues, smooth muscle, or cartilage.

- In baboon studies, estrogen receptors were found in the temporomandibular joints of the female baboons, none were found in the males.

- Recent research has focused attention on the relationship between sex hormones and pain. A study conducted by Dr. Linda LeResche, University of Washington in Seattle, demonstrated that women on hormone replacement therapy were 77% more likely to seek treatment for jaw pain than those not undergoing such treatment. Also, women on oral contraceptive therapy were 19% more likely to seek treatment. Evidence is emerging in support of a biological explanation for why there are more women suffering from TMJ pain.
- A study done by Dr. Peter Waite, University of Alabama at Birmingham "demonstrates a high incidence of TMJ dysfunction among Mitral Valve Prolapse patients and leads to a suspicion of a common connective tissue disorder." In an unrelated survey conducted by the Society for Mitral Valve Prolapse Syndrome, of 240 patients surveyed 51% had also been diagnosed with TMJ.

## Causes

**"We have been taught that pain is a symptom and the way to relieve a symptom is to remove the cause. If no somatic cause can be found, we may give up and abandon the patient. Or we may hypothesize a cause and treat it, either conservatively or less conservatively. If the treatment fails, we may try something else or tell the patient to learn to live with the pain." (5)**

As many of you know from personal experience, there is a great deal of disagreement among professionals about most aspects of temporomandibular joint disorders. For this reason, it is difficult to offer cut-and-dried answers to questions we receive. However, the only way patients can make better informed decisions about treatment is to be armed with knowledge of temporomandibular diseases (TMJ) - even though it may seem that "nobody agrees on anything."

One of the most frequently asked questions is "What causes TMJ?" Most experts agree that there are multiple causes; however, with the exception of trauma and disease, there is still much controversy regarding the extent, if any, to which possible causes may influence outcomes. It is unclear which of the proposed causes are actual causes, which are risk factors, and which are merely coincidental. The more factors involved, the more difficult it is to make this distinction. Consequently, many studies that attempt to identify etiology (cause) are inconclusive and/or unscientific.

### Trauma

Some of the more generally accepted theories of etiology include trauma and disease.

An injury - either directly to the joint or to the head and neck - can trigger a TMJ problem. For example, a heavy blow to the side of the face can cause the bones of the joint to fracture or the disk to be displaced (put into an abnormal position). A whiplash injury sustained during a car accident can stretch or tear tissues and ligaments, displace the disk, or even cause bleeding which leads to the formation of scar tissue, thereby decreasing mobility and causing pain. Some professionals believe, however, that even though "specific traumatic events may seem to precipitate clinical symptoms, they may not always have initiated the disorder." (13)

### Disease

The jaw joints are susceptible to the same diseases and other joints in the body, such as osteoarthritis (progressive degeneration of the joint with bony changes, destruction of the disk, and muscle pain), rheumatoid arthritis, or gout. Although tumors of the jaw joints are rare, sometimes cancer from a nearby structure, such as the parotid gland, may spread to the TMJs, causing pain and compromising function.

The majority of people seeking treatment for TMJ are experiencing myofascial pain dysfunction rather than a problem within the temporomandibular joints. A TMJ patient usually experiences varying degrees of

pain involving the muscles of the head, neck and upper back. Some doctors believe that prolonged recurring muscle activity can exert sufficient pressure on the joints to cause internal derangement.

### **Genetic/Congenital**

Other proposed causal factors include genetic/congenital factors, gender, and aging. Little research has been conducted in these areas.

Science has yet to determine whether TMJ can be inherited. There is great variation of craniofacial structures and a wide range of "normal" TMJs. Scientists have not reached a consensus on an "ideal" condyle/fossa structure or position. They also don't know that certain anatomical structures or positions cause pain or other problems.

### **Gender**

Both males and females can get TMJ diseases/disorders. However, 90% of those seeking treatment for TMJ are women, most between puberty and menopause. Recent research has focused attention on the relationship between sex hormones and pain. A study conducted by Dr. Linda LeResche, University of Washington in Seattle, demonstrated that women on hormone replacement therapy were 77% more likely to seek treatment for jaw pain than those not undergoing such treatment. Also, women on oral contraceptive therapy were 19% more likely to seek treatment. Evidence is emerging in support of a biological explanation for why there are more women suffering from TMJ pain.

A possible explanation is structural differences, as in connective tissues, smooth muscle, or cartilage. Several other studies find an equal distribution of TMD symptoms among men and women, yet claim that females outnumber males eight to one in seeking treatment. There is wide speculation as to why this is true. Some feel women utilize the health care system more than men do; others state that women have a lower tolerance for pain. However, since women most affected by TMD are between the ages of 18 and 40, it stands to reason that detailed scientific studies should be carried out to assess the influencing effect of female sex hormones on the development of the jaw joints and temporomandibular joint disorders. In studies with baboons, estrogen receptors were found in the females' TMJs, but none were found in the males. Scientists are unsure whether the presence or absence of hormones makes a difference in pain, the perception of pain, or function. It is interesting to note that a past scientific study has shown that male and female mice experience pain and can respond to pain differently.

### **Aging**

Approximately one-third of people over the age of fifty have signs of osteoarthritis in their jaw joints. According to Joseph Marbach, DDS, this is a "condition which may result in pain and discomfort that can be confused with [TMD]." (6) It would appear that Dr. Marbach may be suggesting that there is a difference in osteoarthritis that is a normal part of the aging process and affects most joints in the body, and that disease process which affects the temporomandibular joints.

### **Oral Habits**

Several possible risk factors of TMJ, although still unproven, involve situations over which the patient has some control. If other medical problems have been ruled out, such as allergies, migraines, abscessed teeth, temporal arthritis, tumors, etc., there is no harm in trying to eliminate some or all of the following, which may trigger TMJ symptoms or aggravate an existing problem. Sometimes several factors add up and one is "just the last straw." (14)

Some clinicians believe strongly that oral habits such as tongue thrusting, mouth breathing, wide yawning, and nail, lip, or cheek biting, can precipitate a problem. Their argument is that putting the jaw in

an abnormal position may weaken and wear down the structures of the joint in the same way a jogger's knees may eventually be damaged as the result of continuous stress.

### **Work Habits/Posture**

There are many things you do every day, probably without thinking, that may lead to pain and spasm, either in the muscles of the jaw or those of the head, neck, or shoulders. These include cradling a telephone between your ear and shoulder, talking excessively, carrying a heavy shoulder bag, playing a violin or woodwind instrument, singing, or activities that promote a forward head position such as hunching forward to read. Although there is a difference of opinion concerning the part work habits and posture play in the development of TMJ, it makes sense to avoid anything that aggravates a pre-existing condition.

### **Hard Foods/Chewing Gum**

If you have a TMJ disorder, you should avoid biting into an ear of corn, an apple, or a triple-decker sandwich, or doing anything that forces your mouth wide open. In addition, it's probably a good idea to stay away from peanuts, chips, pretzels, and ice - anything that is hard, crunchy, or chewy (including gum).

### **Dental Work**

Professionals should exercise caution when performing various types of dental treatments.

Certain dental procedures appear to cause TMJ symptoms in some people. To avoid causing or exacerbating an existing problem, dentists should not apply too much pressure on the jaw, push the jaw posteriorly (back), or build caps up too thick or fillings too high. Lengthy dental work requiring the patient's mouth to be open very wide for extended periods of time can cause or aggravate a TMJ problem.

We frequently hear from patients who experienced their first symptoms after having their wisdom teeth extracted. Although many doctors remove wisdom teeth in adolescent patients to prevent future problems, according to a prior study, most wisdom teeth do not cause trouble (15). Some patients suffer jaw spasms, along with other surgical complications, after extraction of their third molars.

### **Orthodontics**

It is generally believed that orthodontic treatment has no effect on the prevalence of TMJ. Studies strongly suggest that orthodontics is not a risk factor for TMJ, and there is no greater incidence of TMJ problems in prosthetic patients than in random populations. This disputes the widely believed theory that orthodontics will prevent or decrease the chance of developing TMJ. Additionally, most experts agree that "premolar extractions for orthodontic therapy do not cause posterior displacement of the condyles." (13) Again, as stated previously, many prevalence studies, for various reasons, lack scientific validity. Additionally, we have heard from TMJ patients whose symptoms began subsequent to orthodontic treatment.

### **Intubation**

Intubation during surgical procedures has been known to cause jaw joint disorders. The patient's mouth must be opened quickly, and very widely, to insert the respiration tube, and the jaw may remain fixed in place for a prolonged period of time. TMJ patients contemplating any kind of surgery should inform the anesthesiologist of their condition so that alternative methods of anesthesia can be considered.

### **Malocclusion**

Other etiologic theories include malocclusion, bruxism, and stress. These theories are extremely controversial and, although quite popular, the causal relationship between malocclusion, bruxism, stress, and TMJ disorders has not been scientifically proven.

One of the most common explanations for TMJ is malocclusion, or "bad bite." Proponents of this theory believe that malocclusion puts extra stress on chewing muscles, causing them to go into spasms, which causes pain and more spasm. Some believe that although malocclusion may not cause TMJ, it can exacerbate an existing problem. Attempts to correct this occlusal disharmony include the use of a number of expensive and irreversible procedures, such as restoring damaged teeth and replacing missing ones, grinding selected teeth, and repositioning the jaw with splints, followed by braces to stabilize the new bite.

Recent research disputes the malocclusion theory. People with bad bites are no more prone to TMJ than people with the good bites. The fact is, some people with good occlusions get TMJ and some people who have a severe malocclusion never develop TMJ. In addition, there is a wide variation of normal occlusion.

### **Bruxism/Stress**

Some doctors tell their patients they have TMJ because they grind their teeth and that they grind their teeth because they are stressed. However, approximately one-fourth of the population --with or without TMJ-- grinds their teeth at night. Not all people with TMJ grind their teeth, and not all habitual tooth-grinders have TMJ. Science has yet to prove whether stress is the cause of bruxism and the resulting pain or merely the result of dealing with a chronic pain condition. An important research concern should be the neurochemical factors that may be an influencing cause of bruxism. Another theory of bruxism is that patients with a malocclusion grind their teeth in an attempt "to find their bite."

Perhaps because the overwhelming majority of people seeking treatment for TMJ are women, stress has become one of the most widely accepted (and most harmful) theories for the cause TMJ. Frequently, TMJ patients are labeled as having a psychological disorder if they don't respond to treatment, and are blamed for causing and/or maintaining their pain. With no credible explanation for their pain, it is little wonder that many patients begin to feel depressed and alienated from family, friends, and professional providers. Some eventually doubt their own sanity.

### **Conclusion**

The lack of real explanation for TMJ diseases has set the stage for current etiologic theories. Many professionals utilize treatments which are based on what they perceive the cause to be, as well as their belief in the treatment resulting in "50 percent of patients presenting with an iatrogenic disturbance because of inappropriate surgery, unnecessary coronoplasty [equilibration], unwarranted restorations, orthodontics, and most frequently, incorrect splint therapy"(11). It is imperative that etiologic studies - from the molecular, biomechanical, neuro-endocrine, physiological, and clinical perspectives - be carried out. Discovering the cause(s) of temporomandibular disorder will aid in the development of safe and effective treatments. Furthermore, if we know what causes TMJ problems and are able to identify risk factors for developing TMJ, perhaps it can be prevented.

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## Symptoms

***People say my symptoms are all in my head. My friends and family don't believe me when I describe my pain. I'm worried that I'm going crazy.***

Your symptoms are real. No one should tell you that you are crazy or that you are exaggerating your pain. Only you know what you are feeling. It may be difficult for your family and friends to understand what you are going through, especially if they have never heard of TMJ. Even some health professionals are not familiar with the symptoms of TMJ or the pain it can cause. As a result, many patients go for years without an accurate diagnosis or acknowledgement of their suffering. Remember that you have a medical condition that warrants compassionate understanding.

At this time, no formally established diagnostic criteria exist for TMJ diseases. TMJ symptoms vary widely from patient to patient and may wax and wane within an individual. The most common symptoms experienced by people with TMJ diseases include:

- facial pain
- pain in the jaw joint and surrounding tissues, including the ear
- jaw locking open or closed
- limited opening or inability to open the mouth comfortably
- headaches
- bite that feels uncomfortable, "off", or as if it is continually changing
- neck, shoulder and back pain
- swelling on the side of the face

Those with the symptoms listed above often report additional ones as well, such as ringing in the ears, ear pain, diminished hearing, dizziness or vertigo, and visual disturbances. These symptoms may be a facet of TMJ disease or a different disease process occurring simultaneously.

- People with TMJ implants are a subgroup of patients whose jaw problems led to surgery to replace all or part of the jaw joint. The devices failed in a large number of these patients who then experienced serious complications requiring further treatments and often additional surgeries. These patients have reported a variety of signs, symptoms and other medical problems, which may be related to their jaw implants and some of which may have occurred independently. Note: The TMJ Association lists these symptoms on its website "because TMJ implant patients frequently report them".

## Diagnosis

Currently, there are no scientifically proven tests available to diagnose TMJ diseases and disorders. The [NIH Technology Assessment Conference Statement](#) concludes, "there are significant problems with present diagnostic classifications of TMD, because these classifications appear to be based on signs and symptoms rather than on etiology." They further state that, "...scientifically based guidelines for diagnosis ... are still unavailable." The understanding of TMJ disease has not matured to the point where tests such as tissue or blood samples can establish a diagnosis in all instances. At this time, clinicians note symptoms, take careful patient history, and may use imaging studies. Initially, you may wish to consult a medical doctor to rule out other illnesses as a cause of your symptoms. If your physician does not diagnose a medical condition, and you are referred to a dentist, it is suggested you obtain several independent opinions to confirm your diagnosis prior to committing to any irreversible form of treatment.

### Diagnostic Tools

A variety of imaging techniques are used to aid doctors in the diagnosis of TMD. [G.F. Carrera, MD, "Diagnostic Imaging of the Temporomandibular Joint," *The TMJ Report* 2(2): 4-6, May 1992.] Some of the most common ones are:

- **Conventional Radiography** (plain x-rays, including Panorex) is quick, painless, and relatively inexpensive. However, since they only show the bony structure of the joint, their use is generally limited to ruling out obvious pathological changes and disease processes.
- **Tomography** shows "slices" through the joint. When done properly and interpreted accurately, tomograms give a better view than plain x-rays. The major drawbacks with tomography are cost, time, and like plain x-rays, they show only bone.
- **Computed Tomography (CT or CAT Scan)** provides greater detail of bone in multiple directional planes, with a minimal dose of radiation. They are fairly expensive and provide a somewhat limited view of the disc and soft tissue.
- **Magnetic Resonance Imaging (MRI)** produces brilliantly detailed and accurate images of bone as well as soft tissue, and is widely considered the best single way to study the TMJ. No radiation is used; however, since sophisticated equipment is needed, MRIs are expensive -- sometimes over a \$1,000 for images of both sides.

- **Arthrography** allows the study of the position and function of the joint, including the disc. It involves the injection of contrast dye into the joint, followed by imaging using plain x-rays, tomograms, videotape, or a combination. A skilled examiner is a must, and the procedure can be very uncomfortable, but if done properly, arthrography can be an extremely accurate diagnostic tool.

A variety of other techniques have been developed to diagnose TMJ diseases and disorders including jaw tracking, surface electromyography, sonography, thermography, and silent period durations. The [NIH Technology Assessment Conference](#) included multiple views of these diagnostic methods. Proponents of these devices say they "are clinically useful and objective methods of quantifying physical components of "TMDs" in patients screened for treatment." The opponents claim, "none of the instruments can be said to provide more than ancillary documentation and none have proven diagnostic validity or utility." These tests can cost several thousand dollars.

## Misdiagnosis

It is important to note patients may be misdiagnosed with TMJ diseases/disorders. Trigeminal Neuralgia is one disease which can easily be mistaken for a TMJ problem.

An article in the January 23, 2000 Connecticut Post titled "Woman Finds Relief from Doctor-Stumping Nerve Disorder" described the torment a young woman experienced as the result of a TMJ misdiagnosis. At the age of 22, Michele Davis began suffering from severe pain in her face that caused her to temporarily lose her career, her happy marriage, and, in essence, her entire life. Like many TMJ patients, Davis thought her pain stemmed from a dental problem. Her dentist sent her to an oral surgeon who diagnosed the pain as TMJ. Davis started a course of prescription medications, but she was still in so much pain that she was frequently unable to work at her job as a manager of investor relations at Wall Street firm. Her co-workers thought her Midwestern background left her unprepared for the stressful Wall Street environment, but Davis disagreed, noting the awards she earned for excellence in her career. Davis continued to seek medical advice from other dentists, physicians, and even psychotherapists, but none of their treatments reduced her pain. In fact, the pain became more intense. "I was in such pain. I was not afraid of death anymore," she said.

Davis' husband could see that the treatments were not helping, and that his wife was "drugged out of her mind," on Valium, Prozac, and painkillers. Together, they decided Davis should return to hometown and get off the drugs and find other doctors. Miraculously, a neurologist quickly recognized that Davis has trigeminal neuralgia (TN), not depression, not psychosis, and not TMJ. Davis underwent an operation which separated a blood vessel from a nerve at the base of her brain. The doctors placed a sponge-like material between the vessel and the nerve so that the two would not make contact again. Davis has since made a full recovery.

Davis lost five years of her life to trigeminal neuralgia and a misdiagnosis of TMJ, but she is now pain-free and learning to live again.

### Details that Help Distinguish Trigeminal Neuralgia from Other Conditions:

- **The Nature of the Pain** TN pain is sharp, stabbing, jolting and often has an "electrical" quality to it. Tooth pains, facial-muscle pain and sinus problems are more aching and constant, for example, while migraines and cluster headaches are more throbbing or pulsating.
- **How the Pain Comes On** TN pain is typically triggered by a light touch to the face and then disappears between attacks.
- **Times the Pain Occurs** Some pains, such as hypertension headaches and sinus infections, tend to be worse in the morning. Other pains, such as toothaches and cluster headaches, often are worse at night.
- **Things that Aggravate or Ease Attacks** Daily doings can sometimes be linked to pain and provide a clue to diagnosis.

Source: Striking Back! The Trigeminal Neuralgia Handbook by George Wiegel and Kenneth F. Casey, pg. 35. For additional information on TN visit [the Trigeminal Neuralgia Association's Web site at www.tna-support.org](http://www.tna-support.org).

## Treatment Options

As we learn more about the temporomandibular joint and its associated structures, many in the dental community are reassessing their treatments and the basis upon which they were developed. It is clear that the various temporomandibular disorders are far more complex than was previously believed. To find solutions to these problems, it is essential that there be collaboration within the biomedical science community, moving TMJ research to a new level of research studies involving experts in arthritis; TMJ pathology; bone, joint and muscle physiology; neuroscience, pain management; genetics; endocrinology, immunology; and tissue repair/engineering.

Neither the American Dental Association nor the American Medical Association recognizes treatment of TMJ diseases/disorders as a specialty. As a result, there are no established standard criteria for dental/medical school education. Treatments are based largely on professional beliefs, not scientific evidence. Today there are more than 50 different treatments available, often reflecting the type of provider seen.

### Educate Yourself

If your jaw pain gets worse with time, you should get professional advice. However, first and foremost educate yourself. Find out as much as you can by reading, particularly, the [NIH Technology Assessment Conference Statement](#) of the [National Institutes of Health](#), and by talking with other people who have TMJ. Informed patients are better equipped to talk with professional providers, ask questions, and make decisions. Proceed cautiously and get several independent opinions before embarking on any suggested irreversible treatment. An independent opinion means going outside your doctor's practice or institution and not being referred by that doctor to another. Often TMJ patients are in pain and may also be taking pain medication, which can impair judgement. This is one reason we recommend TMJ patients find a person they can trust to be their advocate to go with them to doctor appointments. Your patient advocate doesn't have to be a family member, but should be someone who isn't afraid to ask questions on your behalf, will ensure your safety as a TMJ patient and can assist you in making your health care decisions. We recommend taking notes during your doctor appointments. We have put together a listing of questions you should ask a physician before consenting to any treatment:

- What is the purpose of the proposed treatment and why is it necessary in my case?
- Is the treatment reversible or is it irreversible?
- Will this treatment reduce my pain?
- What side effects or complications may I experience and what can be done about them?
- Has the proposed treatment been studied in clinical trials for safety and effectiveness?
- What other treatments are available?
- What are the advantages of the proposed treatments over other forms of treatments with respect to benefits and risks?
- What will happen to me if I leave this condition untreated?
- How much will the proposed treatment cost, and how do these costs compare with other forms of treatment?
- How many follow-up treatments will be necessary?
- Will insurance cover the treatment costs?
- Is there a contract or consent form I must sign?

Your health care provider should answer these questions in language you understand. If you don't understand any part of a discussion with your health care professional, it is important to ask him or her to explain it again in more simple terms. If your provider will not answer these questions, find one who will. You must be your own health care advocate.

### **Reversible Treatments**

Reversible treatments do not invade the tissues of the face, jaw, or joint. They do not cause permanent, or irreversible changes in the structure or position of the jaw or teeth. A stabilization splint (also known as a flat plane splint or occlusal appliance), which does not cause any change in your bite, is considered a reversible treatment. Reversible treatments can be useful for relief of TMJ and jaw muscle pain. Experts convened at an NIH Technology Assessment Conference held in 1996 concluded that reversible approaches, along with adequate measures of pain relief, are the treatments of choice.

### **Irreversible Treatments**

Irreversible treatments should be avoided when possible and not rushed into. According to the National Institute of Dental and Craniofacial Research, most irreversible treatments are of little value-and may make the problem worse. These include orthodontics to change the bite, occlusal adjustment, and grinding down teeth to bring the bite into balance. A mandibular repositioning splint (often referred to as an orthotic) is also considered an irreversible treatment. The safety and efficacy of most TMJ treatments, including TMJ surgeries and jaw implants, have not been demonstrated in clinical trials. Scientists strongly recommend using reversible treatments before considering invasive treatments. Even when the TMJ problem has become chronic, most patients still do not need invasive types of treatment.

### **Efficacy of TMJ Treatments**

In 1996, the National Institutes of Health (NIH) held a conference titled "Management of Temporomandibular Disorders". After presentations and evaluation it was concluded that **no treatment for TMJ demonstrated effectiveness and that invasive interventions warranted caution**. Two summaries of the available literature, conducted in 2001 also confirmed the lack of reliable information about TMJ diseases/disorders. They, too, found little scientific information to support the effectiveness and safety of TMJ treatments and in many cases the most commonly prescribed treatments were found to be ineffective or minimally effective. These studies were conducted by the Agency for Healthcare Research and Quality (AHRQ), prepared by The Lewin Group, titled "Study of the Per-Patient Cost and Efficacy of Treatment for Temporomandibular Joint Disorders" [AHRQ pages 1-12](#) , [AHRQpages 13 - 31](#), [AHRQ pages 32 - 52](#) , [AHRQ pages 53 - 72](#) , and by the Emergency Care Research Institute (ECRI), a nonprofit health service research agency, which prepared a Technology Assessment Report titled "Temporomandibular Articular Disorders: Selected Treatments".

Unfortunately, clinical trials, comparing different forms of treatment with respect to their efficacy are lacking for most forms of treatments offered today. On the other hand, keep in mind that efficacy is only one aspect of a given treatment. Treatments that are claimed to be marginally superior over others, may be linked to higher levels of complications which in turn may question their usefulness for many patients.

### **Can TMJ Diseases/Disorders be Prevented?**

At present there is insufficient evidence to support the prevention of TMJ diseases/disorders through treatment.

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