

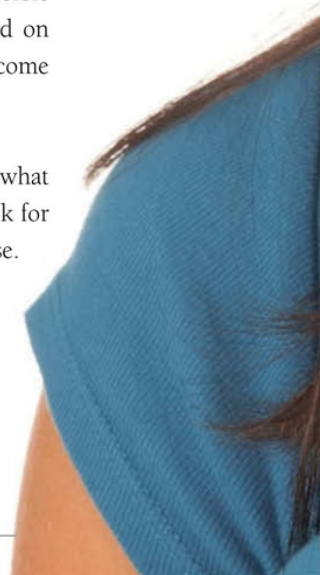
SEEKING RELIEF FROM TMD

What You Should Know About Treatment For Temporomandibular Disorders (TMD)

by Charles S. Greene, DDS

You have probably heard the terms “TMJ” or “TMD” used in various conversations or even in the media. TMJ is an abbreviation for Temporomandibular Joint, which is the formal name for your jaw joint(s). TMD stands for Temporomandibular Disorders, which is a collective term for the muscle and/or joint symptoms that commonly arise when there is TMJ pain and dysfunction. The dental profession is in the midst of a transition regarding TMD treatment. This has stirred up a controversy within the profession over how best to relieve TMJ pain. On one side you have those subscribing to the newer methods of conservative, less invasive approaches; on the other side you have those who are sticking with more traditional and often irreversible treatments. Therefore, what happens to you if you have a TMD problem could depend on whom you consult for diagnosis and treatment. That’s why it’s so important for you to become an educated consumer regarding this particular type of healthcare.

What follows is a summary of what we know about TMD based on the scientific evidence; what you should do if you have TMJ pain or symptoms; what types of dentists you should look for to treat you appropriately; and what issues you should discuss with the dentist you choose.





UNIQUE JOINTS

The temporomandibular joints connect your mandible (**lower jaw**) to your skull on both left and right sides, which makes the lower jaw the only bone in the body with completely symmetrical joints at both ends. There is a ball-and-socket relationship between your jaw and your skull on both sides, but the unique part is the presence of a cushioning disk between the two surfaces in each joint. Each TMJ has a disk between the ball (**condyle**) and socket (**fossa**), and this sometimes ends up being an especially important area when trouble arises.

TMJ PROBLEMS

The formal name for TMJ problems is Temporomandibular Disorders, or TMDs. Using the term TMDs allows us to point out that there are several different kinds of problems. This fact has huge significance when it comes down to what happens when things go wrong, and what can be done about it, since the nature of the problem will often differ greatly from one TMD sufferer to another.

Because there are different approaches to the management of TMD problems, not all of which are based on science, caution is advised when seeking professional help. People may be surprised to find that their personal dentists often do not feel comfortable with diagnosing or treating TMD problems, because it was not a well-covered topic during their dental education. The American Dental Association (ADA) does not recognize a specialty in this area, and therefore your dentist may have difficulty finding a knowledgeable and up-to-date TMD dentist to whom you can be referred for help. The most qualified dental practitioners in this area are those who have completed postgraduate programs in Oral Medicine or Orofacial Pain, but the number of such trained dentists is not very high in the USA currently.

You might think that using the internet to search for the right dentist would be helpful, but one needs to be wary; websites related to TMD usually are either advertisements for a particular dental practice or they contain misinformation, or both. Many of these sites describe an incredible array of so-called “TMJ symptoms” that range

from all sorts of headaches to lower back pain, but most of these problems are not truly related to any temporomandibular disorder. So what should you do?

POTENTIAL TMD SYMPTOMS

Obviously, you don't want to make a TMD diagnosis on yourself without professional counsel, but it is helpful to know the classic symptoms (which a patient notices) and signs (which a dental professional notices) that might suggest a potential TMD problem:

Clicking: The first issue is a clicking sound coming from the TMJ, which usually is due to a shift in the position of the disk inside the joint. This usually can be heard by you, the patient or even by somebody standing nearby, and it can be felt with the fingers placed on your face in front of the ears. However, this can be a good example of an insignificant symptom if you do not also have pain or limited jaw function. Research has shown that over one third of the world's population has one or both TMJs that “click,” so it is pretty clear that clicking alone is not an important abnormality for most people. Most TMJ “clickers” never progress to having significant symptoms, and in many cases the clicking diminishes or goes away entirely. Therefore, asymptomatic clicks (“a” – **without; “symptoms” – pain or discomfort**) do not require treatment. Clicks with pain, on the other hand, are a subtype of TMD, and these are referred to as internal derangements of the TM joint. Other symptoms may include the jaw getting “stuck” in open or closed positions. These conditions require professional attention.

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TMD MUSCLE PAIN CYCLE



Area of
Detail

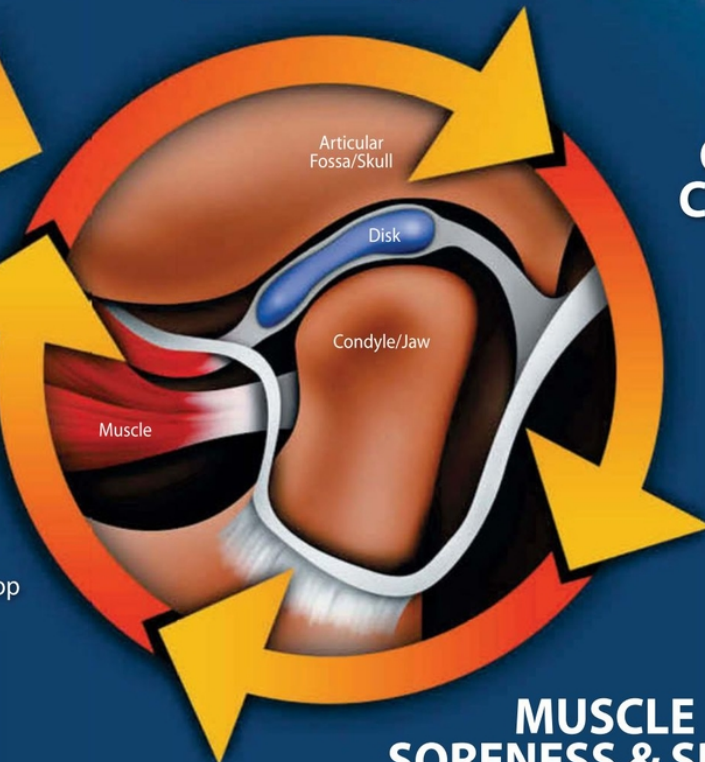
Any traumatic, psychological, metabolic, or mechanical stimulant can cause muscle pain and dysfunction

CONSTRICTED BLOOD SUPPLY

Accumulation of waste products and less oxygen

CHEMICAL CHANGES IN MUSCLE

Inflammatory chemical buildup due to muscle fatigue



Muscle

Articular
Fossa/Skull

Disk

Condyle/Jaw

PAIN

Pain signals to brain to stop muscle movement

MUSCLE SORENESS & SPASM

Abnormal, involuntary muscle contraction

Muscle Pain: The second issue is symptomatic jaw muscle pain, which is usually felt in the cheeks (**masseter muscles**) and temples (**temporalis muscles**), where the two big pairs of jaw-closing muscles are located. The simplest version of jaw muscle pain is soreness and stiffness in the morning. This usually is related to parafunctional nighttime habits (“**para**” – outside; “**function**” – normal range), such as clenching and/or grinding of the teeth. This can usually be easily managed by wearing a customized and properly adjusted oral appliance (**nightguard**). However, there are other jaw muscle conditions that produce painful scenarios that are much more complicated, and the pain may spread (via shared nerves) to nearby head and neck areas. These more complex TMD conditions do not respond well to wearing nightguards, and accordingly more complex treatments administered by experienced and well-trained professionals are usually required.

True Temporomandibular Joint Pain: The third issue is pain actually inside one or both jaw joints, which technically is described as arthritis (“**arth**” – joint; “**itis**” – inflammation) of the TMJ. Interestingly, many people have arthritic-looking TMJs if radiographs (**x-ray pictures**) are taken, but they may have no symptoms of pain or dysfunction; others have pretty significant symptoms of pain and dysfunction, but their radiographs look normal. Since there is no cure for arthritis anywhere in the body, people afflicted with TMJ arthritis should expect fluctuations in their arthritic symptoms. Their pain often can be treated conservatively and/or self-managed with non-steroidal anti-inflammatory medications, rest, soft diet, and physical therapy. Severe cases will require more complex forms of professional care, which in a few cases may include minor procedures inside the joint such as cortisone injections or lavage (**flushing**) of the joint. Major surgeries are rarely necessary for TMD.

The current medical model is based on the proposition that the TMJ is a joint and has much in common with any other joint.

THE OFTEN CONFUSING WORLD OF TMD TREATMENT

So let’s assume that you or somebody you care about has developed a problem of what seems to be jaw pain and dysfunction — what should you do? Of course you should probably start with a visit to your family doctor to rule out medical conditions that cause head and face pain, some of which can mimic a TMD. Next, you should see your family dentist, who will either offer to treat you or to refer you elsewhere. This is where you, as the consumer/patient, will need to be well-informed about the current controversies that exist in the TMD field. Simply stated, the TMD field today is in transition between a traditional dental model and a contemporary medical model, and this has tremendous implications for what will happen to you as you seek a proper diagnosis and treatment.

The (old) dental model was based on theories such as mal-occlusions (“**mal**” – bad; “**occlusion**” – bite) causing jaw muscle pain, or missing teeth causing jaw dysfunction, or some kind of jaw mal-alignment causing disks to slip out of place and produce pain in the joints. These concepts inevitably led to a “need” for mechanical corrections to be made, which would be accomplished by orthodontics (**braces**), crowning teeth, or making bite adjustments by grinding (**reshaping**) the teeth. These procedures are irreversible, and so in many ways they are similar to surgical treatments. However, research from around the world in the last 25-30 years has shown that these mechanistic concepts about TMD treatment are largely unfounded, and therefore these kinds of irreversible treatments are generally not necessary.

The current medical model is based on the proposition that the TMJ is a joint and has much in common with any other joint. Therefore, it can be subject to all sorts of typical orthopedic problems — sore muscles, inflamed joints, strained tendons and ligaments, and of course disk problems. Almost all of these problems are capable of being treated without permanently changing or altering the joint structure/s. Obviously, in this model the “alignment” of teeth and jaws is neither analyzed nor changed because those factors have been proven to be mostly irrelevant to

TMD Therapy

The current medical model of care is based on research creating a sequence of therapies ranging from conservative (reversible) procedures escalating to more aggressive (irreversible) procedures, if needed.

CONSERVATIVE	TMD Education	Your dentist should discuss the findings of your TMD examination; clarify the diagnosis, educate you about your condition and provide you with a treatment strategy.
	Soft Foods	A temporary change to a softer diet can reduce stress on your muscles and jaw joints.
	Ice and/or Heat	Instructions for heat and/or cold temperatures applied to sore muscles will help to reduce inflammation.
	Gentle Stretching	Because your muscle fibers may be inflamed or in spasm, small, gentle movements may provide healing and relief.
	Jaw Exercises	As with physical therapy, retraining, stretching and relaxing your muscles can help you heal.
	Physical Therapy/Massage	Physical therapy and massage can increase circulation and reduce muscle spasm.
	Medications	Non-steroidal anti-inflammatory drugs and muscle relaxants are useful in treating inflamed muscles and jaw joints.
	Bite Appliance Therapy	Wearing a professionally made custom bite guard at night decreases forces on teeth from clenching and grinding habits, allowing the muscles to relax and decreasing pressure on the jaw joints.
AGGRESSIVE	Evaluation	Your dentist will assess the effectiveness of your TMD therapy and make additional recommendations if necessary.
	Bite Adjustment	These are all irreversible modes of treatment and are not commonly needed to treat TMD. They do not offer a guarantee of relief from symptoms. It is advisable to get a second opinion before having any form of irreversible treatment.
	Orthodontics	
	Crowns/Bridgework	
	Surgery	

what is causing the TMD symptoms. Thus, the medical model is also more conservative, and patients treated within this framework can be spared the more invasive and expensive dental procedures of the past. Additionally, TMDs are now known to be influenced by genes, gender, and age, as well as a host of environmental and behavioral triggers such as stress and anxiety. For many patients, jaw pain may be a manifestation of a larger medical malady, including other widespread pain-inducing conditions such as fibromyalgia (“fibro” – connective tissues; “myo” – muscle; “algia” – pain). These new discoveries make it even more important to deal with TMDs within a medical framework.

The American Association of Dental Research (AADR) regarding Temporomandibular Disorders (TMDs) concludes: “It is strongly recommended that, unless there are specific and justifiable indications to the contrary, treatment of TMD patients initially should be based on the use of conservative, reversible and evidence-based therapeutic modalities. Studies of the natural history of many TMDs suggest that they tend to improve or resolve over time. While no specific therapies have been proven to be uniformly effective, many of the conservative modalities have proven to be at least as effective in providing symptomatic relief as most forms of invasive treatment. Because those modalities do not produce irreversible changes, they present much less risk of being harmful. Professional treatment should be augmented with a home care program, in which patients are taught about their disorder and how to manage their symptoms.”

I hope this information about temporomandibular disorders will prove to be helpful to you or somebody you care about. Importantly, for individuals who continue to have TMD problems even after good conservative treatment has been provided for at least several weeks, or if the symptoms are progressively getting worse, further diagnosis and treatment should be sought at a dental college or hospital which has an Orofacial Pain clinic. Should a TMD problem arise, the resources listed below can be helpful.

Resources For Further Information On TMD

1) The National Institute of Dental and Craniofacial Research (an agency of the National Institutes of Health) is an authoritative source of information about TMDs.

Visit <http://www.nidcr.nih.gov>

2) The American Association of Dental Research has posted its recently updated Science Information Statement on TMDs on its website.

Visit <http://www.aadronline.org>

3) The TMJ Association is a national patient advocacy organization that serves as a resource for the collection and dissemination of information on advances in TMJ/TMD research and treatment.

Visit <http://www.tmj.org>

ABOUT THE AUTHOR



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Dr. Charles S. Greene graduated from University of Illinois at Chicago College of Dentistry in 1963. He has been involved for many years in clinical research and teaching in the area of temporomandibular disorders and orofacial pain. From 1965-1984 he worked in the College of Dentistry's TMJ and Facial Pain Research Center. From 1986 to 1995 he was co-director of Northwestern University Dental School's TMD Clinic. Since returning to UIC in 1995, Dr. Greene has served as Director of Orofacial Pain Studies. He currently is a clinical professor in the Department of Orthodontics at UIC. He has published over 130 articles, book chapters, and abstracts, and recently was co-editor of a multi-author book about temporomandibular disorders (Quintessence, 2006).

The editorial content in this magazine is a forum for you and your family's dental concerns and is not influenced by commercial interests. No action should be taken based upon the contents of this magazine; instead please consult with your dental professional.

Questions To Ask Your Dentist

The burden of being a smart patient/consumer is not unique to TMD; after all, many patients have to decide between conservative and more aggressive treatments for various medical conditions, so it is enormously helpful to educate yourself and ask the right questions. It's important to know the general TMD treatment philosophy of the dentist from whom you are seeking treatment. Here are a few questions to ask your dentist (along with answers that would inspire the most confidence) as you navigate through the process of getting a proper diagnosis and appropriate care:

1 What are the best tried and tested methods of treating TMD?

Obviously, your dentist's treatment recommendations will depend on his or her findings in your specific case. However, there are certain conservative remedies that should be tried as a first course of action and given enough time to work.

2 How would you describe your general approach to TMD problems?

Initially a modern medical perspective is needed for managing TMD patients — one that favors conservative, reversible treatments as a first course of action without a second phase of bite-changing or jaw realignment.

3 How will a diagnosis be established?

The first necessary step is for a dentist to take a detailed medical and dental history including all medication you are taking, followed by a careful physical exam of your head and neck including jaw muscles and joints. If you have other problems causing pain it is important to describe them as well.

4 What radiographs (x-ray pictures), if any, will be used?

A relatively simple, inexpensive panoramic screening radiograph (x-ray picture) may be recommended initially to screen the teeth and jaws including the TMJs, to rule out other serious problems. More sophisticated (and expensive) radiographs such as MRIs or CT scans are generally not indicated at the outset.

5 Will any other testing be needed?

Once again, since most TMDs respond to conservative and reversible treatment procedures, complicated diagnostic equipment to measure activity of your muscles and joints should not be needed.

Dentists have many sophisticated (and expensive) diagnostic tools they can use to evaluate your condition, but they may be of questionable value. Using them is not always appropriate, especially if it is still early in the diagnostic process.

6 How will you treat my pain initially?

All of the following are highly desirable components of a modern TMD treatment plan:

- Medication to relieve pain, decrease inflammation, and relax sore jaw muscles
- Home-care procedures to follow in order to help recovery
- Physical therapy treatment

7 Will I have to wear an oral appliance? If so, how often and what will its purpose be?

It may be recommended that you wear an oral appliance, generally a hard occlusal (bite) guard. The main goal of any appliance used will be to relax your jaw muscles and lighten the load on your joints. In almost all cases, you should only be required to wear it at night — not all day, every day. Many oral appliances, especially if worn continually, can change your bite. An oral appliance should not be used to realign your jaw relationship, which could require major dental procedures afterward to correct it.