

Pain and the TMJ

What is the TMJ?

You may not have ever heard of it, but you use it hundreds of times every day. It is the Temporo-Mandibular Joint, the joint where the mandible (the lower jaw) joins the temporal bone of the skull, immediately in front of the ear on each side of the head. Each time you chew you move it. But you also move it every time you talk and every time you swallow (every three minutes or so). It is, therefore, one of the most frequently used of all the joints of the body.

You can locate that joint by putting your finger on the triangular structure in front of your ear. Then move your finger just slightly forward and press firmly while you open your jaw all the way open and shut. The motion you feel is in the TMJ. You can also feel the joint motion if you put your little finger down into your ear canal with the fingernail backwards. Then press forward as you open and close your jaw again.

These maneuvers can cause considerable discomfort to a patient who is having TMJ trouble, and physicians do this to patients for diagnosis.

How Does the TMJ Work?

When you bite down forcefully, you not only put force on the object between your teeth, but also on the joint. In terms of physics, the jaw is the lever and the TMJ is the fulcrum. Actually, more force is applied (per square inch) to the joint surface than to whatever is between your teeth. To accommodate for such forces, and to prevent too much wear and tear from occurring in one spot within the joint space, the joint was designed to be a sliding joint, rather than the usual ball-and-socket type joint, (such as the hip and shoulder, for example).

Therefore, the forces of chewing can be distributed over a wider surface in the joint space, which dissipates the wear and tear and allows healing to rapidly occur in between chewing times.

Joints are lined with cartilage ("gristle") which is a rubbery, slippery material that allows for smooth motion.

How Can Things Go Wrong With the TMJ?

If you habitually clench or grit or grind your teeth, you increase the wear on the cartilage lining of the joint. Many persons grind their teeth and they do not know it unless an observant roommate tells them so. If you habitually chew gum much of the day, again, you increase the wear and tear on the joint and you give it little opportunity to recover between meals as it ought to have. If you chew habitually only on one side of your mouth, you concentrate all the pressure on one side rather than equally on both sides, and too much wear occurs on the joint of that side. This often occurs if you have a tooth problem on one side, or recent dental work, that causes you to favor one side over the other.

Teeth that do not fit together properly are often at fault. This is called an improper "bite." imagine how much extra pressure the TMJ must endure during each chew when teeth on one side come together before those on the opposite side do.

In each of the above circumstances, a faulty chewing pattern takes place that creates one focus of wear in the cartilage lining of the joint space. When that spot wears down to the nerve endings, pain occurs. A form of arthritis occurs (traumatic type) which is called TMJ dysfunction. (Dysfunction means faulty or painful function.)

How Does TMJ Dysfunction Feel?

The pain may be sharp and searing, occurring each time you swallow, yawn, talk or chew; or it may be dull, constant and boring. The usual focus of pain is over the joint, immediately in front of the ear, but pain can also radiate elsewhere. The pain often causes spasm in the adjacent muscles which are attached to the bones of the skull, face, and jaws. Therefore, pain can be felt at the side of the head (the temple), the cheek, the lower jaw, and the teeth. Some people have attributed migraine, sinus trouble and backaches to the TMJ, but that would be difficult to explain with our present-day knowledge of anatomy and physiology.

A very common focus of pain is in the ear. Many patients come to the ear specialist quite convinced their pain is from an ear infection. When an earache is not associated with a hearing loss, and the ear drum looks normal, the doctor will consider the possibility that the pain comes from TMJ dysfunction.

There are a few other symptoms besides pain that TMJ dysfunction can cause. In some patients the TMJ make popping, clicking or grinding sounds when the jaws are opened widely. Or they can lock wide open (dislocated), or, at the other extreme, they can prevent the jaws from fully opening up. Some people get ringing in their ears from TMJ trouble, which is an exaggeration of the ear-ringing that most people can normally produce by clenching their teeth together hard.

What Can Be Done For TMJ Dysfunction?

If yours is a mild case and one that has been detected fairly early, it will probably respond to these simple self-help remedies:

1. Chew evenly, left vs right.
2. Stop clenching, gritting or grinding teeth.
3. Stop chewing gum.
4. Avoid hard chewy foods.
5. Apply heating pad for a half hour at least twice daily.
6. Take aspirin (or buffered aspirin) or other antiinflammatory medicines in a dose your doctor recommends.

Items 1-4 are intended to reduce the amount of wear and injury that the joint suffers. Items 5 and 6 are to encourage the healing processes. Aspirin and other anti-inflammatory medicines are very effective for reducing inflammation in joints, which is why patients use them for arthritis. They are very effective for TMJ dysfunction too. Checking for dental problems and readjusting your bite can help. Stubborn cases of TMJ dysfunction may require further consultation with an oral surgeon or dentist. Your dentist can fit you with a splint to open your bite and decrease bruxism (grinding your teeth while sleeping.)

1993. American Academy of Otolaryngology-Head and Neck Surgery, Inc. This leaflet is published as a public service. The material may be freely used so long as attribution is given to the American Academy of Otolaryngology- Head and Neck Surgery, Inc., Alexandria, VA.