



## TMJ

You may not have heard of it, but you use it hundreds of times every day. It is the Temporomandibular Joint (TMJ), 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 your head. A small disc of cartilage separates the bones, much like in the knee joint, so that the mandible may slide easily; each time you chew you move it. But you also move it every time you talk and each time you swallow (every three minutes or so). It is, therefore, one of the most frequently used of all joints of the body and one of the most complex.

You can locate this 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 and shut it. The motion you feel is the TMJ. You can also feel the joint motion in your ear canal.



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

### How Does TMJ Work?

When you bite down hard, you put force on the object between your teeth and 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 foot) to the joint surface than to whatever is between your teeth. To accommodate such forces and to prevent too much wear and tear, the cartilage between the mandible and skull normally provides a smooth surface, over which the joint can freely slide with minimal friction.

Therefore, the forces of chewing can be distributed over a wider surface in the joint space and minimize the risk of injury. In addition, several muscles contribute to opening and closing the jaw and aid in the function of the TMJ.

Symptoms:

- < Ear pain
- < Sore jaw muscles
- < Temple/cheek pain
- < Jaw popping/clicking
- < Locking of the jaw
- < Difficulty in opening the mouth fully
- < Frequent head/neck aches

### 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 and constant. It hurts over the joint, immediately in front of the ear, but pain can also radiate elsewhere. It often causes spasms in the adjacent muscles that are attached to the bones of the skull, face, and jaws. Then, pain can be felt at the side of the head (the temple), the cheek, the lower jaw, and the teeth.

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 the earache is not associated with a hearing loss and the eardrum looks normal, the doctor will consider the possibility that the pain comes from a TMJ dysfunction.

There are a few other symptoms besides pain that TMJ dysfunction can cause. It can make popping, clicking, or grinding sounds when the jaws are opened widely. Or the jaw locks wide open (dislocated). At the other extreme, TMJ dysfunction can prevent the jaws from fully opening. Some people get ringing in their ears from TMJ trouble.

### How Can Things Go Wrong with TMJ?

In most patients, pain associated with the TMJ is a result of displacement of the cartilage disc that causes pressure and stretching of the associated sensory nerves. The popping or clicking occurs when the disk snaps into place when the jaw moves. In addition, the chewing muscles may spasm, not function efficiently, and cause pain and tenderness.

Both major and minor trauma to the jaw can significantly contribute to the development of TMJ problems. If you habitually clench, grit, or grind your teeth, you increase the wear on the cartilage lining of the joint, and it doesn't have a chance to recover. Many persons are unaware that they grind their teeth, unless someone tells them so.

Chewing gum much of the day can cause similar problems. Stress and other psychological factors have also been implicated as contributory factors to TMJ dysfunction. Other causes include teeth that do not fit together properly (improper bite), malpositioned jaws, and arthritis. In certain cases, chronic malposition of the cartilage disc and persistent wear in the cartilage lining of the joint space can cause further damage.

### What Can Be Done for TMJ?

Because TMJ symptoms often develop in the head and neck, otolaryngologists are appropriately qualified to diagnose TMJ problems. Proper diagnosis of TMJ begins with a detailed history and physical, including careful assessment of the teeth occlusion and function of the jaw joints and muscles. If the doctor diagnoses your case early, it will probably respond to these simple, self-remedies:

- < Rest the muscles and joints by eating soft foods.
- < Do not chew gum.
- < Avoid clenching or tensing.
- < Relax muscles with moist heat (1/2 hour at least twice daily).

In cases of joint injury, ice packs applied soon after the injury can help reduce swelling. Relaxation techniques and stress reduction, patient education, non-steroidal anti-inflammatory drugs, muscle relaxants or other medications may be indicated in a dose your doctor recommends.

Other therapies may include fabrication of an occlusal splint to prevent wear and tear on the joint. Improving the alignment of the upper and lower teeth and surgical options are available for advanced cases. After diagnosis, your otolaryngologist may suggest further consultation with your dentist and oral surgeon to facilitate effective management of TMJ dysfunction.

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