Temporomandibular Joint Disorders

How the TMJ Works

A joint is the connection between two bones that allows movement between those bones. A healthy joint will be able to move smoothly, without pain, through a full range of motion.

The temporomandibular joint (TMJ) is located in front of the ears. It connects the temporal bone of the skull with the mandible (jaw bone), and allows movement between the two bones. The TMJ consists of both soft tissue (disk, ligaments, capsule, and retrodiscal tissue), and bone (condyle and temporal eminence). Both can undergo breakdown. The joint allows you to move your jaw open and close, left and right, and forward and back, so that you may speak, chew and swallow. The TMJ is actually two joints (a left and a right) that must work in harmony with each other and with the muscles to allow these movements. Each joint is capable of three types of movements; rotating, sliding, and pivoting. If you place your finger in front of your ears and open and close your mouth, you can feel the TMJ and the condyle. This is the only joint in the body that rotates, slides, and pivots. If there is any problem with either the joint, disc, ligaments, or bone, then you have a TMJ disorder. Any discomfort when you touch the joint, even slight discomfort, is an indication that something is wrong. The joint is made to operate smoothly and pain free.

A healthy TMJ works in harmony with the muscles of the head and neck, the teeth and the central nervous system (CNS). All four entities are dependent on the others to work properly. Any problems in one area will create problems in others. TMJ disorders are any disharmony of this system. Treatment is aimed at reestablishing harmony between all four areas.

Signs and Symptoms of TMJ Disorders

1. Headaches, especially headaches around the temple and behind the eyes. It has been estimated that up to half of all headaches are TMJ related.
2. Grinding or clenching your teeth, especially at night.
3. Sore muscles of the jaw and neck. Tired muscles after eating. Sore muscles from clenching or grinding your teeth.
4. Pain or tenderness of the TMJ.
5. Any present or past clicking noises from your TMJ.
6. A rough, sand like, gravely sound of the TMJ upon movement.
7. A past history of limited opening. Not being able to open your jaw as far as you could in the past. Not being able to open or close your jaw without moving it sideways.
8. Any signs of excess force on the teeth, including: teeth that are wearing away, chipping or breaking, cracking or splitting, moving, or are loose.
9. Earache, throbbing or ringing.

10. Pain behind the eyes.
11. A change in the bite. The teeth do not feel like they fit together properly.

How Teeth are Affected

Teeth are the hardest substance in the human body. It takes a lot of force to wear teeth down. Normal chewing will not wear teeth down. Normal chewing will not wear teeth excessively, especially with a typical American diet. Worn teeth are a sign that there is excessive force occurring (grinding and clenching). The cause of this force needs to be determined if you do not want to totally destroy your teeth.

A joint that is breaking down will also put excessive force on the teeth. One of the signs that there is a problem in the joint is excessive or abnormal wear of the teeth. This excessive force can also lead to the destruction of the bone surrounding the teeth and loose teeth. Anytime there is unexplained wear or breakdown in the mouth, the health of the TMJ needs to be evaluated.

It is important to know what is causing your grinding in order to direct treatment at the cause. You may have more than one cause of grinding.

1. TMJ Structural Instability (structural damage to the TMJ).
2. Occlusion (how evenly your teeth hit together)
3. CNS stimulated muscular hyperactivity.

Treatment

The most non invasive and successful treatment is a laboratory fabricated splint or "nightguard." This appliance helps coordinate the TMJ, muscles of mastication, and the teeth so they function as a healthy unit.