

TMJ FACTS AND TREATMENT

DEFINITION

The TMJ or temporomandibular joint is the hinge that connects the jaw to the head; it joins the temporal bone of the skull with the mandible bone of the jaw. The relationship of the jaw to the head is determined by the jaw joint, the muscles that open and close the jaw and support the head, and the teeth.

The structures that make it possible to open and close the mouth are very specialized and work together when you chew, speak and swallow. These structures include muscles and ligaments, as well as the bones and discs which make up the TM joints. They also control forward, backward and side-to-side movements of the lower jaw.

Within the TMJ is a thin disc of cartilage that acts as a cushion between two bones. This disc cushions the load while enabling the jaw to open widely and to move in combinations of hinge and gliding movements.

Any problem that prevents this complex system of muscles, ligaments, discs and bones from working together properly may result in a TM disorder. TMJ dysfunction is a misalignment of the jaw to the head leading to a cycle of pain, muscle spasm and joint imbalance where the jaw meets the skull.

SYMPTOMS

Some of the TMJ dysfunction symptoms that may occur include migraines, earaches, ringing in the ears, stuffiness in the ears, pain behind the eyes, shoulder and lower back pain, cervical spine posture abnormalities, head and neck pain, dizziness and fainting, difficulty swallowing, tingling of the fingers and hands, diminishing of mouth opening, tiredness in chewing muscles, toothaches, dental mobility and sensitivity, dental wear, dull aching facial pain, grinding and clenching of your teeth, stiffness muscle spasms, and clicking or popping while opening and closing mouth. These symptoms may appear at any age and in any type of person including children, due to infections, traumas, accidents, systemic diseases or bite problems.

DIAGNOSIS

For correct diagnosis of TMJ dysfunction a variety of special techniques are implemented including the following: **X-rays, Magnetic Resonance Imaging (MRI), BioEMGII, The BioJVA and JT-3D Computerized Jaw Tracking.**

X-rays: Panoramic and Laminographic studies provide the clinician with orientation data concerning the state of the temporomandibular joints through radiographic signs. They help determine anatomic alteration and/or pathologies; these alterations will be in shape or size of hard tissues.

Magnetic Resonance Imaging (MRI): Offers a more detailed and precise visualization of the TMJ in order to achieve a more complete and accurate diagnosis.

BioEMGII: Used for electromyography or muscle testing by recording and measuring how muscles connected to your jaw function when your jaw moves and relaxes. EMG records the electrical activity of the muscles, quantifies the data, and displays it on the computer screen. EMG is a fast, informative and pain free method in which dentists see whether or not your muscles are functioning correctly.

The BioJVA: Performs a joint vibration analysis in which it records audible and sub-audible pops and clicks from your jaw joints as you open and close your mouth allowing the dentist to differentiate between normal joint clicking and abnormal conditions.

JT-3D Computerized Jaw Tracking: Measures and records jaw movements and its functions allowing the dentist to analyze movement patterns on a computer screen.

TREATMENT

If you or anyone around you suffers from any of these progressive TMJ problems, an early detection can avoid damage to your joints. A dentist is the only clinician trained to work with the dental bite and the relationship of the jaw to the head.

The goal of TMJ treatment is to unstress the jaw joint, reduce muscle spasm, and improve body posture while simultaneously repositioning the jaw in a more physiologically correct position in relation to the head. Treatment consists of a variety of therapies such as; physical, relaxation, electromagnetic, hot and cold, and/or bite stabilization that will reduce spasms, trigger muscle areas and correct perpetuating factors that may cause symptoms to return.

Single modalities such as an intraoral appliance called an orthotic or splint are commonly prescribed when it has been determined that a misalignment of the jaw exists. This appliance helps to unwind the jaw and relieve muscle spasm in both head and neck; it is normally worn 24 hours a day.

Other levels of therapy that may be added to treatment as needed include the use of transcutaneous electrical neural stimulation, ultrasound, vapocoolant spray and stretch, trigger point injection with local anesthetic, hot packs, exercise therapy, and posture training. Once pain therapy is completed, the patient is ready for stabilization. This process consists on a single or a combination of dental procedures to maintain the desired jaw position. Some of the dental procedures performed are orthodontics, coronoplasty (slight reshaping of the enamel of the teeth), and fixed or removable prosthetics (crowns and /or bridges).

