

TMJ Dysfunction Phase 1 Therapy

Neuromuscular Therapy is based on establishing a balance between the muscles of the head and neck, the TMJ's and the teeth. Modern Neuromuscular Dentistry utilizes Ultra Low Frequency (ULF) TENS Therapy to relax the muscles of your head and neck and then measures muscle activity, jaw movements and joint sounds with the Myotronics K7 Jaw Tracking Computer. Therapy starts with measuring initial muscle activity and jaw movements, and recording sounds from the temporomandibular joints during movement. These measurements are analyzed and compared to normal readings.

The ULF TENS is used for 45 minutes to an hour to create relaxation of head and neck muscles that are tense and in spasm, a primary cause of TMD pain. There is also a home version of the TENS machine that is often prescribed for patients with severe muscular tension. After relaxation the K7 is used to measure the neuromuscular bite position, which is the ideal relaxed pathway of the mandible. This bite is the key to the first phase of therapy.

Most patients wear an orthotic appliance made to the neuromuscular bite position. Unlike a 'nightguard' which is usually a flat device, the orthotic has a fully shaped biting surface with a clearly defined biting position. It is worn all the time, because it functions to allow the muscles of the jaw to relax into the measured neuromuscular position. The orthotic is adjusted over several weeks by starting with 45 minutes of TENS therapy and then measuring changes in the bite position as the muscles continue to relax. Each visit creates a better muscular balance in the orthotic position. Most patients find their symptoms continue to improve as their muscular relaxation increases.

Based on bite measurements, some patients can achieve a balanced bite by performing precisely measured adjustments to their teeth. These so called occlusal adjustments can be ideally performed by first using the TENS therapy to relax the muscles and using the K7 to identify and verify the ideal neuromuscular bite position. Finely tuned adjustments can be done over a series of visits and may be the definitive treatment for some patients. This first phase of treatment is completed when the symptoms are fully relieved or the measured bite position remains constant from visit to visit.

TMJ Dysfunction Phase 2 Therapy

Most patients find comfort and relief of symptoms during the Phase 1 orthotic therapy. Removable orthotics that are worn 24 hours a day generally are worn and stained after the 4 to 6 months of Phase 1 treatment. Bonded or fixed orthotics usually start to chip and wear within the same period. Neuromuscular Therapy seeks to create a long term solution to occlusal related pain problems as opposed to some courses of treatment where the end result of treatment is transient relief during periods of nightguard wear and worsening of symptoms during the day.

Definitive Phase 2 Therapy falls into 4 categories, depending on the individual problem and dental condition of the patient. The options of treatment are determined by the doctor, so not all options are appropriate for any particular patient.

Occlusal Adjustment, or selective reshaping of the biting surfaces of the teeth, is often an option for patients with healthy teeth or well made crowns. This option is only appropriate for patients whose muscle measurements show that they can tolerate shorter back teeth. Occlusal Adjustment is performed in conjunction with TENS therapy and K7 measurements over a series of several visits. It is occasionally used instead of orthotic therapy for some patients.

Neuromuscular Orthodontics is an increasingly popular option for patients with healthy teeth that present with a bite discrepancy. After final adjustment of the neuromuscular orthotic and relief of symptoms, your teeth can be moved permanently into the measured orthotic position using highly specialized orthodontics. There are only a handful of dentists in Massachusetts trained in Neuromuscular Orthodontics, which has major differences from other methods of trying to improve TMJ symptoms using braces.

Neuromuscular Reconstruction of the teeth is needed for patients with damaged teeth, missing teeth and cosmetically unacceptable teeth. Using a combination of crowns and veneers, your natural teeth can be beautifully restored to the measured neuromuscular occlusion so that the new bite is the same as the bite on the orthotic.

Semi-permanent Orthotic wear is the last and least desirable option. Some patients are not candidates for any of the above 3 definitive treatment options. They also find that without the orthotic in place their symptoms return rapidly. It is possible to prepare a more durable long term removable orthotic to overlay existing teeth. This is generally not a very aesthetic option, but it is functional for patients who cannot complete the other choices.