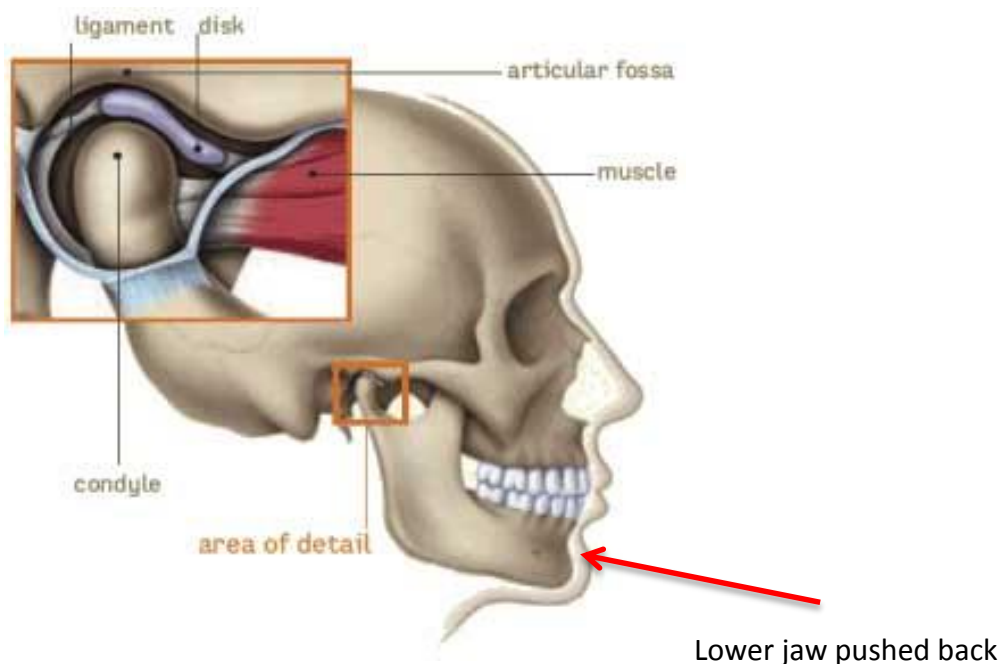


TMJ Dysfunction (TMD)

TMJ pain is often called the great impostor because TMJ symptoms can often radiate far away from the source of the problem. Pain behind the eyes, pain in the forehead, temple, jaws, ears, all can be referred from the TMJ. Other more obvious TMJ dysfunction symptoms include popping and cracking sounds coming from the jaw joint when opening and closing, a restriction in opening and closing, and pain in the joint when chewing.

TMJ pain can be caused by trauma, like a blow to the jaw or even a 'high' dental restoration that hits too hard when biting down.

But the main cause of TMD is malocclusion (bad bite). While the upper and lower teeth may appear to fit together when they meet, but the muscles and the TMJ joints may be stressed due to an underdeveloped upper jaw.



Many people tolerate minor symptoms of jaw clicking, "I've had these clicks for years, they don't bother me." The body is adapting to these apparent inconvenience, but as one ages, the adaptive capacity is reduced and at some point the more serious TMJ signs and symptoms may occur, such as chronic TMJ pain, crepitus (grating sensation of the joints), muscle spasm, locked jaw, etc. The upper jaw is fixed to the skull, whereas the lower jaw is able to move. When the upper jaw is too short, the lower jaw 'follows' the upper jaw, but in the process, the TMJ joints and the surrounding structures such as muscles, tendons, ligaments, nerves and blood vessels are compressed.

As described in another article a narrow upper airway may contribute to the underdeveloped upper jaw. The body clenches the jaws during sleep and often during the day in an attempt to keep the airway space behind the tongue open. This chronic muscle tension in the jaw puts stress on the TMJ. Oral appliances, such as orthotics can quickly open the airway, reduce jaw muscle tightness and allow healing in this traumatized joint.

Management of TMJ Disorder

At our dental practice, we take a holistic approach to the management of TMD:

1. Thorough medical and dental history forms.
2. 3D scans – to identify areas of airway restrictions.
3. Multidisciplinary approach – if appropriate, referrals to ENT Surgeons, Oral Surgeons, Naturopaths, Chiropractors.
4. Sleep study (if appropriate) – check quality and quantity of sleep.
5. TENS/K7 work up (if appropriate) – Fig.1 below
6. Orthotic – to decompress the TMJ joints and allow to heal.

K7 EMG (Electromyograph) work up

The pictures below EMGs of the Temporalis (temple), Masseter (jaw) and Genioglossus (tongue) muscles at rest.

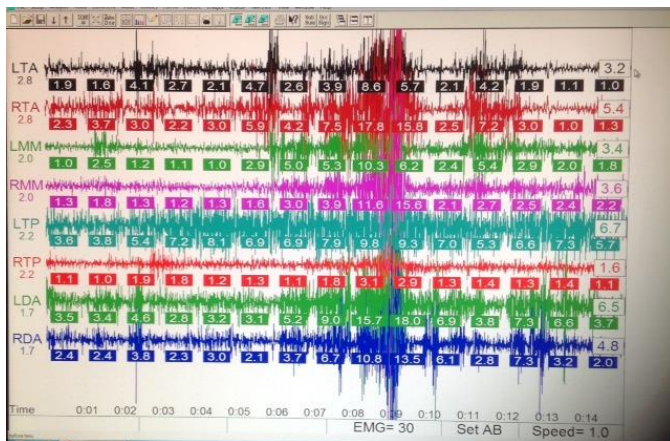


Fig. 1

The EMGs in Fig. 1 above are typical of a patient who has sleep breathing disorders and/or TMD. These patients are fatigued due to their muscles being hyperactive, when they should be resting. One would expect similar EMGs even when the patient is asleep.

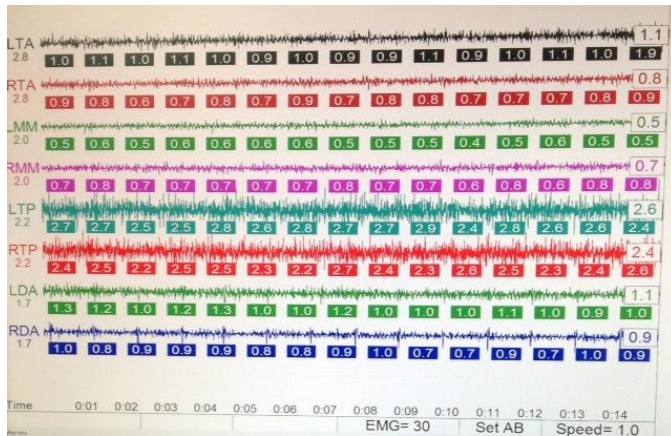


Fig. 2

Fig. 2 above shows the muscles of the same patient after TENSing. The muscles are at rest, which they should be, especially while asleep. When the muscles are relaxed, the lower jaw is usually positioned more anteriorly and the bite is more open. From here, a bite record is taken, and a lower orthotic appliance will be constructed in the 'TENS' bite position, which will at the same time decompress the TMJ joints and open up the airway. We know that in this position, the patient's muscles are in the most relaxed position. All the steps taken to construct the appliance are based on objective data. The use of 'over the counter appliances is not recommended'. The program usually takes 3 months, with regular adjustments, for optimum results.

Nutrition and TMJ

A HEALTHY DIET ENHANCES YOUR BODY'S ABILITY TO HEAL

The diet recommendations outlined below are structured to allow your body to heal with optimum success during your therapy in our office.

These diet restrictions are fundamental healthy eating habits that should be followed during the rehabilitation of the temporomandibular disorder for which you are receiving treatment. Patients who suffer from these disorders or chronic pain or injury have a compromised immune system that creates an acidic blood ph. It is necessary to neutralize the blood ph in order to aid the healing process.

*Green **leafy vegetables** – contain Folic Acid with a co-enzyme to aid in balancing metabolism.

*Fish **proteins-contain** essential fatty acids to assist in digestion *Fresh **fruits** blended into smoothies with protein powder supplements provide an excellent source of vitamin and mineral nutrients. *Vegetables **steamed well** should be eaten daily for an additional source of vitamins.

While Calcium is important, milk and cheese products contain phosphates that acidify your blood and will predispose you to pain. ***Soy products should be substituted*** for dairy products and ***CITRCAL***, an over-the-counter supplement, is the best form of Calcium.

Yeast can also increase the risk of Migraine headaches. Choose ***unleavened bread***, which does not contain yeast.

Butter is preferred over margarine due to the hydrogenated oil that cannot be digested.

Red meat, eggs and poultry contain steroids that reduce our immune systems ability to heal as well as arachidonic acid which is a precursor for prostaglandins that cause inflammation leading to vascular and neuropathic pain. ***Substitute Free Range eggs and poultry.***

Sugar produces an immediate negative effect on our immune system and sugar substitutes such as Equal and Nutri-sweet contain Aspartame known to metabolize to 10% methanol. ***Stevia is a safe sugar substitute.***

DRINK LARGE QUANTITIES OF WATER DAILY!!! Avoid cola and caffeine products because they contribute to the acidic pH of your blood. Herbal teas and postum may be used occasionally.