TMD AND OSA

RELATIONSHIP

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Treating patients suffering from TMD (Temporomandibular Disorder), OSA (Obstructive Sleep Apnea), and/or SDB (Sleep Disordered Breathing) can be a very gratifying and rewarding part of our practice of dentistry. However, to ensure optimal patient care, the education must be complete and emphasize the physiologic health rather than a weekend appliance course. We should keep in mind that there the amount of literature documenting the co-existence of TMD and OSA in our patients is rapidly expanding.

I will focus on OSA and TMD because they share a very similar relationship to one another with respect to the masticatory muscles, soft tissues in the head and neck area, and an altered central nervous system pain processing area. They are both diseases of the cranial facial anatomy or boney box and patient suffering from OSA often have many shared symptoms with that of TMD. Those symptoms will range in varying degrees may include migraine headaches, chronic headaches, TMJ disorders, and facial pain to name just a few. Many times dental practioners will equate a patient's headache or facial pain with a TMD condition, and will be tripped up due to an additional unnoticed and unresolved OSA component. The scope and negative impact of these two conditions are significant. According to a July 10, 2013 report of the National Headache Foundation, an estimated 90% of the population suffers from headache, with migraine suffers losing more that 157 million work and school days a year because of headache pain. More than 29 million Americans suffer from migraines (J Oral Rehabil, 2006; 33:243-261). Additionally, the National Institute of Dental and Craniofacial Research indicate that anywhere from 10 to 45 million Americans suffer from some type of TMJ issue (U.S. News and World Report. Headache, 2006).

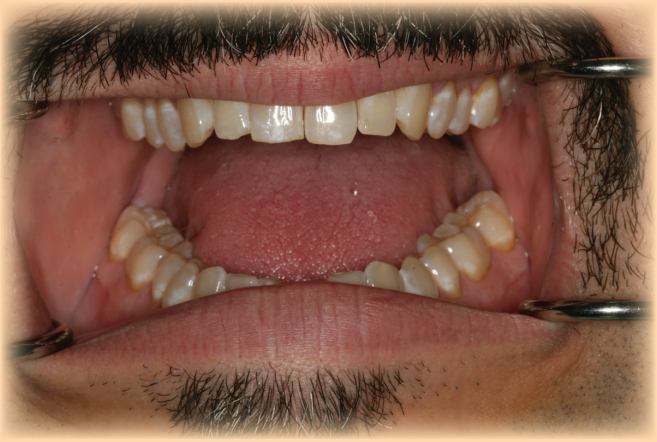
Most practicing Neuromuscular dentists who treat patients suffering from TMD would agree that it is not always as easy as taking a bite registration and inserting an appliance. The same can be said for those of us that are treating patients that present with OSA. While there are "slam dunk" patients when almost anything that you put in their mouth is going

Full Face

to help with their TMD and OSA/SDB; there are others that no matter what you do for them, you can't achieve the results that you and your patient desire. It goes without saying that it is critical for dentists to have a clear understanding of not just muscle mechanics and physiology of TMJ, the muscles of mastication, the head and neck muscles; but also of the body's respiratory mechanisms. The mouth is perhaps more important for breathing than for mastication, and this has important implications for dentists, their team, and the patient that lives with both TMD and OSA.

TMD is a collective term which covers a number of painful conditions in musculoskeletal tissues such as; chewing muscles, facial muscles, ligaments, tendons, and cartilage, which may be accompanied by limitations of jaw movements and clicking or grating noises in the TM joints. When evaluating a patient it is useful to distinguish between three major categories of TMDs, namely; myofascial pain, disc displacements, and issues such as arthralgia, osteoarthrosis and osteoarthritis in the joints.

Due to the diversity of TMD pain conditions, it can often be very difficult to identify one single factor that causes pain for our patients. Generally we view them as multifactorial problems with anatomical, Neuromuscular, occlusal, and psychosocial components. All of which can act as predisposing, precipitating or aggravating factors in an individual patient.



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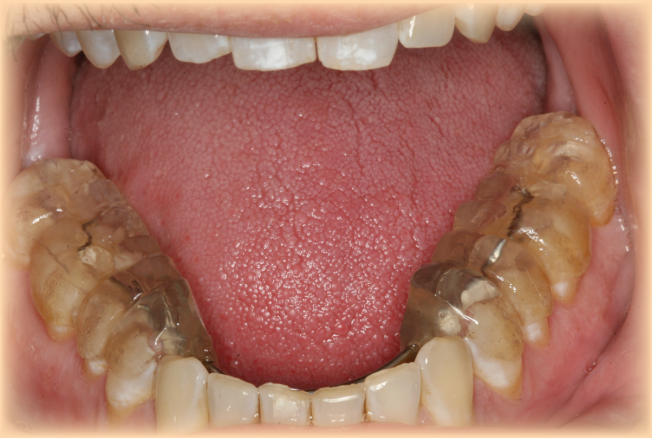
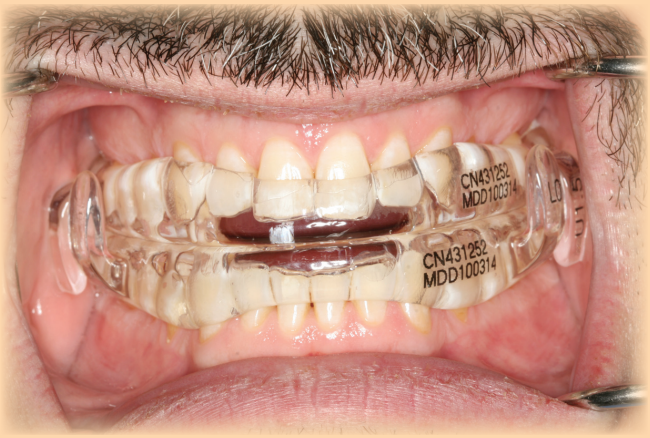


Daytime Orthotic Appliance



Nightime MicrO^2 Appliance

Further, the prevalence of OSA and SDB is high in obese patients. With 1 in 3 Americans being obese and this population continuing to grow, this constitutes quite a large patient group. However, the medical literature identifies two types of persons with OSA: those that are obese and those with craniofacial abnormalities. As dental practitioners, we must be careful not to prejudge because many patients will go unrecognized and under diagnosed because they don't fit the stereotypical criteria of the OSA patient being an overweight male who is a loud snorer. Non-obese patients with OSA tend to have an etiology related to craniofacial and orofacial abnormalities. Several studies have found high apnea indices related to anatomical conditions such as large tongue and soft palate volumes, retrognathic mandibles, anteroposterior discrepancy between the maxilla and mandible, and an open bite tendency between the incisors and not solely a function of weight.

There is evidence now of the co-existence of TMD and OSA in our patients. I see it daily in the patients that I treat for TMD and OSA. Because of these published studies, and what I have seen clinically, I have changed my protocol for my TMD and OSA patient evaluation. I have found that TMD screening and evaluation reveals multifactorial systems of OSA. The converse is also true in that many of my OSA patients present with symptoms of TMD. Due to co-existing TMD and OSA, patients are suffering from a constellation of problems. Therefore, countless Neuromuscular pain patients currently in active treatment are wearing distinct daytime and nighttime appliances.

Asking additional questions about snoring and trouble with sleep often provides valuable insight to this potential relationship. Recognition of OSA is easy when the dental patient is obese; likewise recognition of TMD is easy when the patient is in pain. The key for a proper diagnosis is where the education and experience gained through the course work taught at LVI is invaluable. The courses offered at LVI for the treatment of OSA and TMD (advanced occlusion) are world class, cutting edge and second to none.

Get your practice involved quickly because there are some terrific opportunities coming our way as dentistry stands at the forefront of screening for OSA (Obstructive Sleep Apnea) and SDB (Sleep Disordered Breathing). We as a profession are moving toward a very bright future as dental sleep medicine becomes more accepted in the broader medical community and better known by an educated public. Here are a few facts that should be promising for the initiation of oral appliance therapy for SDB, for our patients: Commercial pilots have to have PSG's to keep their pilot's license. There is a huge push for long haul truckers to have mandated testing for OSA or SDB in order to secure insurance and possibly retain their licensure. There are 14,000,000 truck drivers in the United States, and the numbers of drivers with OSA are absolutely amazing. Even if the number of truck drivers with OSA was only 20 to 30 percent of the total, there are not enough well trained dentists to treat all of these patients. Upon watching our local evening news, one could surmise that drowsy drivers, both commercial and leisure, with OSA who fall asleep at the wheel may be causing more accidents on the highway than drunk drivers.

I want to encourage you to get started as soon as possible. There is a terrific window of opportunity to help so many people who go day to day with undiagnosed TMD and OSA/SDB improve the quality of their sleep as well as the quality of their lives. A well trained dentist who is able to provide excellent service, treatment protocols, and Oral Appliance Therapy (referred to as OAT) will literally have people phoning their offices asking and begging to have treatment, which is why getting involved is so important. Our patients need to know that we, as dentists, are part of a medical team trained to help them with the specialized appliances that we design for both daytime and nighttime therapy.

The main thing that we can do to improve our patient's quality of life is to continue to expand our knowledge base, perform clinical excellence, and to partner with reliable laboratories to fabricate our quality appliances to provide NM/TMD and dental sleep medicine services.

Upcoming Physiologic Approach to Treating OSA Course

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