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What Is Neuromuscular Dentistry?

As we think about dentistry, the most common topics we think about include the usual terms, crown, root canal, fillings, whitening, etc. Neuromuscular dentistry, on the other hand, concerns itself with how a proper, aligned bite affects not only the head, jaw, and neck, but the patient's health as a whole. Recent scientific discoveries have shown that a misaligned bite is implicated in many of the aches and pains we associate with living in a hectic, modern world. *Occlusion*, or how a person's bite aligns at rest, is not often discussed in terms of how it can dramatically effect—good or bad—the health of the whole person. The collapse of a proper, aligned bite through tooth loss, or the altered growth and development of face and jaws because of an improper bite, often create *hypertonicity*, or an increased tension of the muscles which hamper the proper movement of the head, neck and jaw and cause upper airway problems. Neuromuscular dentistry takes a physiologic approach (opposed to mechanical) to establish an occlusal (bite) position from which we start treatment. If we think in terms of a chewing system, this is composed of three parts: the teeth, muscles/nerves which move the jaw, and the Temporomandibular Joint (TMJ). The most dominant part of this system is the teeth, regardless of the accommodative capacity of the muscles involved with the TMJ. Every human being must bring his or her teeth together several thousand times a day—often at the expense of one or more parts of the system—to swallow, chew and speak. The occlusion of teeth, or bite, and the cervical spine are two very significant links in the postural chain. The TMJ, which is influenced by both, is stuck between the proverbial “rock and a hard spot”. Pathological conditions (pain and/or noise) in the joint occur because the joint must accommodate both occlusion and cervical dysfunctions, which cause joint derangements. Even more frequently (~80% of the time) muscles of the neck, face, and jaws are implicated as the source of the pain, either directly or via myofascial trigger points. Many headache researchers have failed to acknowledge that there is a myofascial trigger point to tension and most migraine headaches. We can learn a lot by looking at the head, which weighs an astonishing 15 lbs. in an adult, to see whether it is centered correctly over the body when viewing from the front or the side.

With a poor unbalanced occlusion (bite), we often see a thrust forward in the head position, where the ears are forward of the center of the shoulders, increasing the “felt weight” of the head to approx 30 lbs. We often hear people say, “I carry my stress in my shoulders”; by this analysis, you can clearly understand why. Neuromuscular dentists have found that a misaligned bite sets up a cascade of alterations in posture at the parallel planes (shoulders/hips/feet) to keep the head in a position where the horizontal gaze of the eyes is parallel to the horizon. Conversely, we can also alter the bite by addressing unequal bone lengths in one leg relative to the other. Symptoms of a misaligned bite can be far-reaching, including headaches, dizziness, ear ringing, neck pain, lower back pain, tingling in the fingers, plugged ears, tiredness in the face, neck, and throat, depression, anxiety, high blood pressure, or worn/chipped front teeth. With the help of sophisticated sensors and instrumentation, neuromuscular dentistry seeks to properly align the bite. Then, with the help of other complementary health professionals, we work to restore alignment and balance to the body. Of course, injuries, age, and existing conditions may limit correct posture, but we can still optimize the current condition and set a patient off on a new direction in overall health and well-being.

Resources

1. Travell J, Myofacial Pain and Dysfunction 2nd ed.
2. Jankelson R, Neuromuscular Dental Diagnosis.
3. Garry J, Upper Airway Compromise and Musculoskeletal Dysfunction of the Head and Neck.
4. Thomas N, Neuromuscular Occlusion, Aurum News Vol 18, issue 3.
5. Bakris G, Journal of Human Hypertension (2007) Atlas vertebra realignment and Achievement of arterial pressure goal in hypertensive patients.

