

Dental Solutions

An informative newsletter by Dr. Brad Durham & Dr. Rod Strickland, to educate and expand your knowledge

Welcome to Our Premier Issue!

Thank you for reading this issue of our newsletter. I am sure part of your initial reaction might be, "Why?" Our goal is to provide useful information to



health care providers and others interested in helping people with TMD, the condition with many labels such as TMJ, CMD, MPDS, etc. We would also like to introduce our practice, and neuromuscular dentistry, to you.

is to offer solutions and stimulate thoughts in the reader that would lead to easing a patient's pain and suffering.

We have been studying Neuromuscular Dentistry & Functional Orthodontic concepts and treating people with TMD very successfully now for a combined 25 years. This has evolved into us placing a focus in our practice on TMD treatment (facial pain and severe wear), Aesthetics, Complex restorative care and Neuromuscular functional dentures.

We have been a referral destination for physicians and chiropractors for evaluation & treatment or evaluation & recommendation for their patients with TMD symptoms. Recently we have become the referral destination for several dental offices who are looking for additional methods to help their patients with various symptoms such as TMJ/TMD, chronic headaches, ear problems, back and neck problems among others. The patients have benefited greatly from our services and returned to the referring offices for continued general dental care and maintenance. We invite you to explore how our services can help your patients.

Brought to you by:



If you have a patient that you do not wish to treat at your office, please consider us. Send us your problem patients, even that stubborn denture patient who never seems to be satisfied. Perhaps, we can help.

We enjoy helping others and are generous with the information we have learned. Our observation is that many dentists have been able to treat more complex cases once they have had a few questions answered. Please know that we will be happy to help you in any way that we can.

We have hosted several study club type meetings. If you would be interested in learning more about our practice, increasing your knowledge of neuromuscular dentistry or finding another referral source for your tough patrons; please give us a call or email.

You may e-mail us at office@braddurhamdmd.com or call the office at 912-341-6969. You will get a prompt response. We look forward to hearing from you and will help in any way that we can.

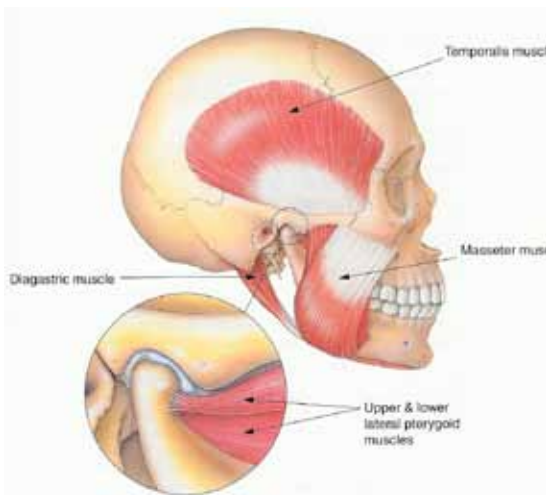
*Brad Durham, DMD
Rod Strickland, DDS*

TMJ - Temporo Mandibular Joint Syndrome, CMD - Cranio Mandibular Dysfunction, MPDS - Myofascial Pain Dysfunction Syndrome

Many approaches to TMD (Temporo Mandibular Dysfunction) treatment have been practiced over the years. Some are based on no more than anecdotal evidence. The NMD approach is four decades old and is based on the sciences of physiology and bio-electronic instrumentation. The father of Neuro Muscular Dentistry, Dr. Bernard Jankelson said, If it has been measured, it is a fact; if it has not been measured, it is an opinion.

So what is Neuro Muscular Dentistry (NMD)? How could NMD help transform the lives of your patients?

The principles of physiology inform us that nerve impulses activate the muscles. The muscles, in turn, contract and move the bones to which they are attached. Let us consider the operation of the jaw. The nerve impulses are carried through the Trigeminal Nerve. These impulses travel to the muscles of mastication which then contract in response and move the lower jaw.



The Muscles of Mastication

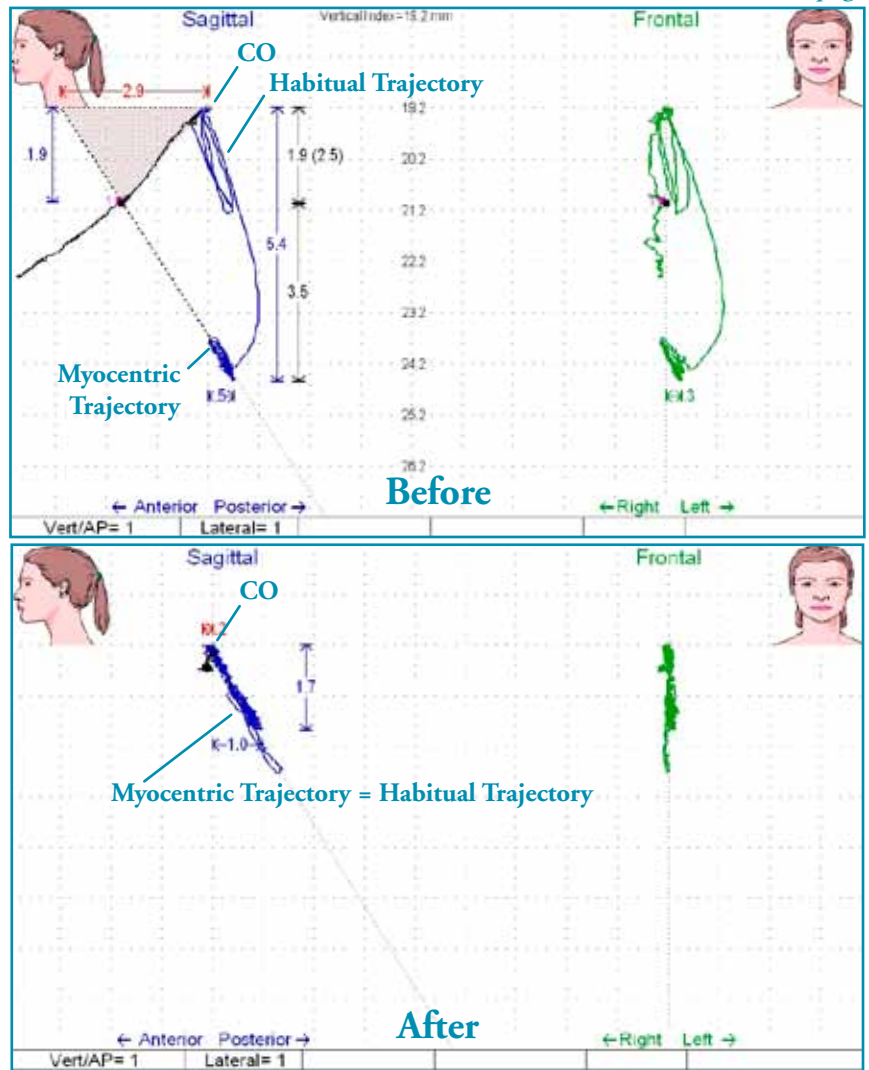
The mandible “hangs” in a sling of muscles in the same way that a string-puppet hangs from its strings. When all eight primary muscles of mastication are at their physiologic resting length (neither stretched nor contracted), the mandible lies in an unstrained position. This position of the mandible, in space, is called the Myocentric position. The position of the mandible where the teeth mesh

together best is often called Centric Occlusion (CO). If CO coincides with the Myocentric position, then there is neuromuscular harmony.

When the Centric Occlusion position lies outside of the Myocentric position, there has to be some accommodation of the system. This accommodation is usually in favor of the tooth position. In other words, the muscles and the joint will accommodate so that the teeth can “fit” together. This means that some muscles will be in constant contraction, or strain, in order to torque and hold the mandible into the position where the teeth can mesh.

Constant activation of muscles to maintain this accommodated jaw position leads to many consequences. Muscles fatigue, spasm, there is impaired

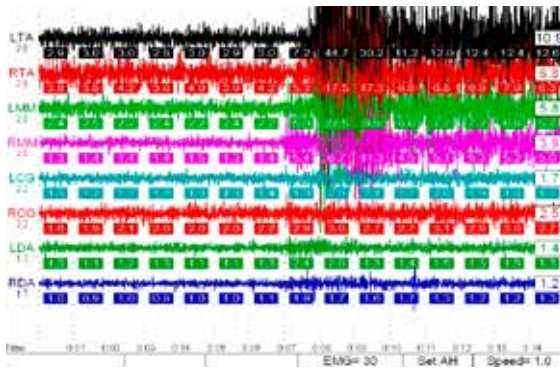
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*In the top image the CO ≠ Myocentric position.
In the lower diagram, the CO = Myocentric position.*



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This image shows EMGs of jaw muscle activity when patient lightly occludes in CO. There is much muscle tension just for for patient to lightly occlude.

circulation, buildup of lactic acid ensues, which then leads to pain. Chronic nodes of spasms- or trigger points may also refer pain symptoms to distant areas.

Once the muscles accommodate in favor of the teeth, the third component of the Stomatognathic triad, the TM Joint is affected. This leads to various joint problems, such as internal derangements and bone degeneration.

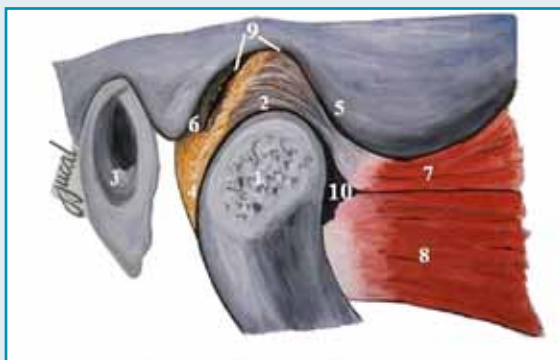
The goal of neuromuscular dental treatment is first to find the Myocentric position utilizing objective scientific instrumentation. Then once this position is determined, it is “proven” by the use of an Orthotic. This Orthotic (splint) that the patient wears 24 hours per day allows the patient to gain subjective confirmation that the new “bite” feels good. After this new bite is “proven”, the patient can consider a permanent bite change by porcelain reconstruction, orthodontics or a combination of both. We will explore these Phase II permanent bite change options in our next issue. •

TENS, EMG, JAW TRACKING and COMPUTER ANALYSIS



TENS Transcutaneous Electrical Nerve Stimulation

The Myo-monitor transcutaneously stimulates the motor branches of the Vth and VIIth cranial nerves and relaxes the associated musculature. By relaxing the muscles before records, diagnosis, and treatment, you eliminate “building in” bad muscle pathology and dysfunction In your treatment. In a sense, the mandible “hangs” in a sling of muscles. To find the correct mandibular posture, one must first relax that sling of muscles.



Normal Anatomy of the TMJ

- | | |
|---------------------------------|---------------------------------------|
| 1. Condyle | 6. Retrodiscal Tissue |
| 2. Articular Disk | 7. Superior Head of Lateral Pterygoid |
| 3. External Auditory Meatus | 8. Inferior Head of Lateral Pterygoid |
| 4. Posterior Articular Ligament | 9. Superior Joint Space |
| 5. Articular Eminence | 10. Inferior Joint Space |

EMG– Measurement and Analysis of Muscles

Everyone agrees improper muscle function will destroy natural teeth as well as our dentistry, but wouldn't it be nice to measure it? You can actually measure the muscle health and function through EMG recordings. These measurements allow you to precisely find the optimal, physiologic position of the mandible at occlusion. This provides key information for TMJ/pain/ and occlusal treatment.



Jaw Tracking

Mandibular Movement, Tracking and Analysis through the use of precise magnetic sensors, you can view jaw movement in all 3 dimensions. This provides information about the collective health of the joints, muscles, and teeth. Information provided is used to determine the ideal position at occlusion. We can now predictably find the proper bite and then change it if necessary.

Computerized Analysis–

We use K7 software from Myotronics, the pioneer in research and development of neuromuscular techniques. This software allows us to analyze jaw movements simultaneously while measuring muscle action. It also utilizes sonography of the joint, analyzes muscle fatigue, and can even measure the precise timing of muscle firing at first tooth contact, giving us a much higher degree of precision when adjusting the bite. It is through this precise, objective data that allows us to bring a much more predictable and successful treatment for TMJ/TMD, as compared to traditional TMJ treatment.

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In future issues:

- Phase II Permanent Bite Change—
Exploring Porcelain and Orthodontics
- Case of the Month—
A patient's testimonial

If you would like to see some other related question addressed in a future issue, please let us know by e-mail, letter or phone.

Lunch & Learn

Want to learn more? We offer presentations at your office or at ours and bring lunch too!

Call us at 912-341-6969 to arrange a Lunch & Learn program.



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