

Fall 2010

Dear Colleague:

As always, we wish to thank you for your trust and the wonderful patients referred to our office.

This quarters newsletter covers the following topics...

1. Comparison of Mandibular Advancement Splint and Tongue Stabilizing Device in Obstructive Sleep Apnea
2. Signs of Temporomandibular Disorders in Migraine Patients
3. Analysis of the Influence of a Mandibular Advancement Device on Sleep and Sleep Bruxism
4. Self-reports of Pain-related Awakenings in Persistent Orofacial Pain Patients

Regards,

Dr. James Metz



James E. Metz, D.D.S.

female), recruited from a tertiary hospital sleep clinic. The apnea-hypopnea index (AHI) was reduced with MAS (11.68) and TSD (13.15) compared with baseline (26.96). The arousal index decreased for MAS (21.09) and TSD (21.9) compared with baseline (33.23). Sixty-eight percent of patients achieved a complete or partial response with MAS, compared with 45% with TSD. The Epworth Sleepiness Scale (ESS) score was decreased with MAS and TSD.

Subjective improvements in snoring and quality of sleep were reported, with a better response for MAS than TSD. Compliance was poorer for TSD, and the side effect profiles of the 2 modalities were different. All patients were satisfied with MAS compared to TSD, and 91% of patients preferred the MAS. *Objective testing showed the MAS and TSD had similar efficacy in terms of AHI reduction. Patients reported improvements with both devices; however, better compliance and a clear preference for MAS was apparent when both devices were offered. Longer term studies are needed to clarify the role of TSD.*

Signs of Temporomandibular Disorders in Migraine Patients

Stuginski-Barbosa J, Macedo HR, et al.
Clin J Pain. 2010 Jun;26(5):418-21

Comparison of Mandibular Advancement Splint and Tongue Stabilizing Device in Obstructive Sleep Apnea

Deane SA, Cistulli P, et al.
Sleep. 2009 May 1;32(5):648-53.

The purpose of this study was to compare the efficacy of a mandibular advancement splint (MAS) and a novel tongue stabilizing device (TSD) in the treatment of obstructive sleep apnea (OSA). A randomized crossover design was used and included twenty-seven patients (20 male, 7

The purpose of this study was to identify signs of temporomandibular disorders and cervical pain in individuals with episodic and chronic (transformed) migraine (CM), relative to controls without headaches. In this prospective, controlled, double-blind study, the authors examined 93 individuals divided in 3 groups: episodic migraine EM, (n=31), CM chronic migraine (n=34), and controls without migraine (n=28). The investigators recorded signs of temporomandibular disorders, and of pain in the neck, using a standard protocol. They calculated the odds ratio (OR) and confidence intervals (CI) of symptoms as a function of headache status. Data from all groups were paired and compared using appropriate statistical analysis.

Migraine...continued

Results showed that relative to controls, participants with EM and CM were significantly more likely to have tenderness in the masticatory muscles (controls=28%, migraine=54%, CM=73%), and in the temporomandibular joint (controls=25%, migraine=61%, CM=61%). They were numerically (but nonsignificantly) more likely to have limited lateral jaw movements (CM=34%; EM=26%; NP=18%), joint sounds (CM=44%; EM=29%; NP=28%), and tenderness in neck muscles (CM=64%; EM=51%; NP=35%). *The authors concluded from the results of this study that in a tertiary care population, individuals with EM and CM are more likely to have tenderness at the temporomandibular joint and on the masticatory muscles, relative to controls. Studies are needed to investigate whether treatment of one disorder will improve the other.*

Analysis of the Influence of a Mandibular Advancement Device on Sleep and Sleep Bruxism

Saueressig AC, Mainieri VC, et al.
Int J Prosthodont. 2010 May-Jun;23(3):204-13

A before-and-after experimental clinical study was carried out with the objective of evaluating the effect of a mandibular advancement device (MAD; 75% advancement), made of a thermoplastic material, on sleep bruxism (SB) and sleep scores. After a habituation period of 1 week, SB scores were taken at baseline and after use of the MAD for 30 days. Scores were compared using the newly developed BiteStrip, which registers the number of contractions of the unilateral masseter muscle after a 5-hour period, giving a severity score from 0 to 3 after the registrations. To assess sleep, the Sleep Assessment Questionnaire (SAQ), a screening tool with scores ranging from 0 to 68, was used before and after use of the MAD. Twenty-eight subjects (13 women, 15 men; mean age: 42.9) with a clinical history of SB and no spontaneous temporomandibular disorder (TMD) pain were selected. The clinical diagnosis of either moderate or severe SB was further confirmed through use of the BiteStrip (scores 2 or 3) at baseline. A 30-day follow-up period was used for evaluation. Both methods were validated against polysomnography. In addition, common signs and symptoms of TMD based on

the Research Diagnostic Criteria for Temporomandibular Disorders were also evaluated before and after use to assess the side effects of the MAD.

There was a statistically significant improvement in both SB and sleep scores based on the BiteStrip and the SAQ. In the signs and symptoms of TMD, there was a significant reduction in temporomandibular joint sounds as well as in masseter and temporalis tenderness to palpation. None of the SB subjects experienced any breakage of the MAD. *The authors concluded that MAD had a positive effect on SB and sleep scores, measured by the BiteStrip and the SAQ, respectively, and did not increase any traditional signs and symptoms of TMD in a 30-day evaluation period.*

Self-reports of Pain-related Awakenings in Persistent Orofacial Pain Patients

Benoliel R, Eliav E, et al.
J Orofac Pain. 2009 Fall;23(4):300-1

The purpose of this study was to assess whether pain-related awakenings occur with persistent orofacial pain conditions and whether it is related to pain severity. Reports of pain-related awakening were prospectively collected by the authors at the initial interview, prior to treatment, during a 24-month period from 328 patients with orofacial pain. The pain conditions were diagnosed according to the International Headache Society, the American Academy of Orofacial Pain, and the Research Diagnostic Criteria for Temporomandibular Disorders.

In analyzing the data the investigators found that pain-related awakening was significantly correlated to pain intensity, the total muscle tenderness score, and the presence of lacrimation, but not to the clinical diagnosis. Two groups of patients were specifically examined; patients with masticatory myofascial pain (MMP) and patients with classical trigeminal neuralgia (CTN). Twenty-eight of the 120 MMP patients (23.3%) reported pain-related awakening and this was associated with a high muscle tenderness score and unilaterality of pain. Seven of the 31 patients with CTN (22.6%) reported pain-related awakenings. *Continuous background pain was the most significant parameter associated with awakening.*