Dear Colleague,

Each year we continue to make advances in treating patients with TMJ & Sleep breathing disorders as a part of our dental practice. Through our quarterly newsletters, we strive to educate our colleagues on the changes that are taking place in this ever-evolving field of dentistry. For example, we now know that adult patients suffering from sleep apnea, or insufficient craniofacial development can be corrected without the use of surgery or painful alternatives for long-term resolution.

If we can provide any further information, or if you would like to see an article on a particular subject, please do not hesitate to call. We appreciate the trust you place in us by allowing us to participate in the care of your patients.

Dr. Paul K. Piontkowski

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Characteristics of 511 Patients with Temporomandibular Disorders Referred for Physical Therapy

Kraus SL

The purpose of this study was (1) to identify the diagnostic subsets of a patient population with temporomandibular disorders (TMD) referred from dental professionals to a physical therapist (PT) in an outpatient physical therapy practice and (2) to use the characteristics of this TMD population to assist clinical decision making in the management of TMD. This was an institutional review board-approved, retrospective study of 511 patients referred to a PT. The PT followed the diagnostic guidelines of axis I of the Research Diagnostic Criteria for Temporomandibular Disorders (RDC/TMD).

All 8 diagnostic subsets of the RDC/TMD were diagnosed among the 511 patients. Concurrent diagnostic subsets, cervical spine involvement, and oral appliance use were described. PTs in an outpatient practice should be proficient in the use of the RDC/TMD. Characteristics identified with this patient population suggest that dentists should involve the services of PTs early in the management of patients with TMD and cervical symptoms.

Oral Appliance Treatment Response and Polysomnographic Phenotypes of Obstructive Sleep Apnea

Sutherland K, Takaya H, et al.
J Clin Sleep Med. 2015 Aug 15;11(8):861-8

Mandibular advancement splints (MAS) are an effective treatment for obstructive sleep apnea (OSA); however, therapeutic response is variable. Younger age, female gender, less obesity, and milder and supine-dependent OSA have variably been associated with treatment success in relatively small samples. The authors' objective was to utilize a large cohort of MAS treated patients (1) to compare efficacy across patients with different phenotypes of OSA and (2) to assess demographic, anthropometric, and polysomnography variables as treatment response predictors. All studies used equivalent customized two-piece MAS devices and treatment protocols. Treatment response was defined as (1) apnea-hypopnea index (AHI) < 5/h, (2) AHI < 10/h and ≥ 50% reduction, and (3) ≥ 50% AHI reduction.

A total of 425 patients (109 female) were included (age 51.2 years, BMI 29.2 kg/m(2)). MAS reduced AHI by 50.3% across the group. Supine-predominant OSA patients had
Can Palpation-Induced Muscle Pain Pattern Contribute to the Differential Diagnosis Among Temporomandibular Disorders, Primary Headaches Phenotypes and Possible Bruxism

Costa YM, Porporatti AL, et al.

The evaluation of possible differences in the distribution or characteristics of palpation-induced pain in the masticatory muscles could be valuable in terms of diagnostic assessment. The purpose of this study was to evaluate the impact of different combinations of anterior temporalis (AT) and masseter palpation-induced pain in the diagnostic of temporomandibular disorder (TMD), primary headaches and bruxism. A total of 1200 dental records of orofacial pain adult patients were analyzed. The outcomes were dichotomously classified (presence/absence) as following: a) AT and/or masseter palpation-induced pain; b) myogenous TMD; c) temporomandibular joint (TMJ) arthralgia (arthrogenous TMD); d) migraine; e) tension-type headache (TTH); f) self-reported bruxism.

Mean age (SD) were 35.7 years (13.4) for 635 included dental records (83% females). Myogenous and arthrogenous TMD, migraine, TTH and bruxism were mainly associated with, respectively, masseter palpation-induced pain, AT or masseter palpation-induced pain, bilateral AT palpation-induced pain, masseter and AT palpation-induced pain and bilateral masseter palpation-induced pain. Palpation-induced pain in the masticatory muscles may play a role in the differential diagnosis among painful TMD, primary headaches and bruxism.

Meta-analysis of Randomized Controlled Trials of Oral Mandibular Advancement Devices and Continuous Positive Airway Pressure for Obstructive Sleep Apnea-hypopnea

Sharples LD, Clutterbuck-James AL, et al.
Sleep Med Rev. 2015 May 30

Obstructive sleep apnea-hypopnea (OSAH) causes excessive daytime sleepiness, impairs quality-of-life, and increases cardiovascular disease and road traffic accident risks. Continuous positive airway pressure (CPAP) treatment and mandibular advancement devices (MAD) have been shown to be effective in individual trials but their effectiveness particularly relative to disease severity is unclear. A MEDLINE, Embase and Science Citation Index search updating two systematic reviews to August 2013 identified 77 RCTs in adult OSAH patients comparing: MAD with conservative management (CM); MAD with CPAP; or CPAP with CM. Overall MAD and CPAP significantly improved apnea-hypopnea index (AHI) (MAD -9.3/hr, CPAP -25.4).

In direct comparisons mean AHI and Epworth sleepiness scale score were lower (7.0/hr and 0.67 respectively for CPAP. There were no CPAP vs. MAD trials in mild OSAH but in comparisons with CM, MAD and CPAP reduced ESS similarly (MAD 2.01; CPAP 1.23. Both MAD and CPAP are clinically effective in the treatment of OSAH. Although CPAP has a greater treatment effect, MAD is an appropriate treatment for patients who are intolerant of CPAP and may be comparable to CPAP in mild disease.