Special Consideration Regarding the Assessment and Management of Patients Being Treated with Mandibular Advancement Oral Appliance Therapy for Snoring and Obstructive Sleep Apnea

American Academy of Craniofacial Pain (AACP) Task Force on Mandibular Advancement Oral Appliance Therapy for Snoring and Obstructive Sleep Apnea:

ABSTRACT: This white paper, as developed by a Task Force of the American Academy of Craniofacial Pain on Mandibular Advancement Oral Appliance Therapy for Snoring and Obstructive Sleep Apnea, contains recommendations for dentists engaged in the management of patients with snoring and obstructive sleep apnea utilizing mandibular advancement oral appliances. The recommendations are supported by current scientific evidence, published standards and guidelines, and expert panel consensus. Snoring and obstructive sleep apnea (OSA) affects millions of people. Oral appliance therapy (OAT) is recognized as an effective therapy for many with primary snoring and mild to moderate OSA, as well as those with more severe OSA who cannot tolerate positive airway pressure (PAP) therapies. Dentists are playing a much larger role in the screening and management of patients with snoring and OSA as part of a multi-disciplinary team. It is also recognized that OAT has the potential to cause untoward side effects, including temporomandibular joint (TMJ) pain and dysfunction. The present paper highlights the need for dentists who manage patients using mandibular advancement OAT to be competent in the assessment, diagnosis and management of temporomandibular disorders (TMDs) and craniofacial pain disorders. The authors of this article are all clinically engaged in the management of patients with snoring and OSA, and reached consensus based on their review of the current evidence, published guidelines and clinical experience. It is the opinion of the authors that dentists experienced and knowledgeable in the assessment, diagnosis and management of TMD craniofacial pain applying this knowledge to the management of patients with snoring and OSA using OAT will provide their patients with the best prognosis and most successful treatment outcomes.

Oral appliance therapy (OAT) for the management of obstructive sleep apnea (OSA) and snoring has become widely accepted. Many different mandibular advancement oral appliances have been approved by the Food and Drug Administration (FDA) of the United States of America to be marketed and used in the management of snoring and OSA. Most insurance companies and government payors in the United States provide benefits for OAT based on similar criteria to their coverage for Continuous Positive Airway Pressure therapy. OAT for the management of snoring and OSA is gaining acceptance in large part due to the significant increase in scientific evidence being published regarding OAT over the past 20 years and the positive clinical experience of healthcare providers and their patients.

The purpose of this paper is to state the position of the American Academy of Craniofacial Pain Task Force on Mandibular Advancement Oral Appliance Therapy for Snoring and Obstructive Sleep Apnea and make recommendations related to the education and experience of dentists engaged in, or who wish to engage in, the assessment and management of patients with snoring and OSA using mandibular advancement oral appliances.

It is well recognized that temporomandibular disorders (TMDs) (including disorders directly related to the temporomandibular joints, muscles of mastication and associated structures) and the broader term of craniofacial pain (including various intraoral and extraoral pains, related neuralgias, certain headache disorders, etc.) are common in the general population, and appear to be even more common in patients with OSA. Current research and observations in clinical practice indicate that there is significant co-morbidity of OSA and TMDs/craniofacial pain. The marketing of oral appliances used for the management of snoring and OSA is regulated by the Dental Division of the FDA under special controls. Currently, there are no appliances approved by the FDA for snoring and sleep apnea that are for “over the counter” distribution, as all approved appliances are prescription only. The FDA requires that manufacturers of oral appliances marketed for the management of snoring and OSA provide product labeling warning patients that OAT may result in “pain or soreness to the temporomandibular joint,” as well as precautions stating that OAT should not be
utilized by patients with “active TMJ disorder.”

The American Academy of Sleep Medicine (AASM) in their “Practice Parameters for the Management of Snoring and Obstructive Sleep Apnea with Oral Appliances: An Update for 2005,” state that “Oral appliances should be fitted by qualified dental personnel who are trained and experienced in the overall care of oral health, the temporomandibular joint, dental occlusion and associated oral structures.” The AASM practice parameters also state that: “Oral appliances may aggravate temporomandibular joint disease and may cause dental misalignment and discomfort that are unique to each device.”

The authors support the FDA’s and AASM’s cautionary statements regarding TMDs and their guidance to dental and medical professionals, as well as to manufacturers of oral appliances. We confirm that a temporomandibular joint related examination should be performed on all patients who are candidates for OAT and that it is the dentist’s responsibility to acquire the necessary education and experience in order to accurately perform such an examination and make a diagnosis. It is furthermore the treating dentist’s responsibility to inform the patient of potential TMDs arising from OAT or asymptomatic TMDs becoming symptomatic.

At this time, principles of temporomandibular/craniofacial pain assessment, diagnosis and management are not required in dental school curricula in the United States. However, many schools have included such material and practice voluntarily in their curricula, with some schools spending more time than others. It is clear that many dentists are uncomfortable with assessment, diagnosis and management of TMDs and craniofacial pain disorders because of their lack of formal education and clinical experience. Additionally, the exposure to dental students in regards to the scope of sleep disorders still appears insufficient in most dental school curricula, particularly in screening for sleep-related breathing disorders, or even sufficient foundation for future involvement in management.

Recognizing this lack of education, many dentists choose to further their education and clinical experience in this area after dental school through university-based and other continuing education offerings.

It is the position of the authors that dentists providing mandibular advancement OAT for snoring and OSA would provide better care if they were properly trained and experienced in the assessment, diagnosis and management of TMDs and craniofacial pain. We further posit that the management of snoring and OSA with oral appliances falls under the broad category of craniofacial disorders, and practitioners intending to manage snoring and OSA with oral appliances would provide better care if they were competent in the assessment, diagnosis and management of TMDs and craniofacial pain in order to provide the patient with the best prognosis of successful therapy and minimize untoward side effects.

The American Dental Association (ADA) Commission on Dental Accreditation (CODA) states in its Accreditation Standards for Advanced General Dental Education Programs in Orofacial Pain that “formal instruction must (emphasis not added) be provided in . . . sleep physiology and dysfunction.” The standards also state that programs “must (emphasis not added) provide instruction and clinical training in multidisciplinary pain management for the orofacial pain patient to ensure that upon completion of the program the student/resident is able to: Have primary responsibility for the management of a broad spectrum of orofacial pain patients in a multidisciplinary orofacial pain clinic setting, or interdisciplinary associated services. Responsibilities should include: Sleep-related breathing disorder intraoral appliances.”

The authors support the ADA CODA standards that OAT for sleep-related breathing disorders is an important aspect of the study and practice of craniofacial/orofacial pain, and as such, “dental sleep medicine” would logically fall as a “subspecialty” of craniofacial/orofacial pain. However, as the discipline of craniofacial/orofacial pain is not currently recognized as a specialty in dentistry by the ADA, we state the position that mandibular advancement OAT for snoring and OSA fall within the scope of practice of a dentist who is competent in the assessment, diagnosis and management of TMDs and craniofacial pain.

The AASM guidelines state that one of the main reasons for non-compliance or termination of OAT for the management of snoring and OSA is development of TMDs. The authors believe that greater compliance and better outcomes may be achieved through better assessment and diagnosis of underlying TMDs prior to initiation of OAT for OSA. We further believe that greater compliance and better outcomes may be achieved through proper management of TMDs and craniofacial pain disorders that may develop or become symptomatic during OAT.

The majority of patients with sleep apnea are not cured of their sleep apnea but require lifelong multi-disciplinary therapy and expert follow up. The authors believe that dentists performing OAT for snoring and OSA must keep their education in TMDs/craniofacial pain, as well as their education in sleep-related
disciplines, current to provide the patient with the best possible long-term care. The AACP strives to lead the field in continuing education and support of research in these areas to help dentists improve their management outcomes.

A group of Canadian dental sleep medicine professionals recently published a position paper regarding the management of snoring and OSA with oral appliances. In the paper, they state the importance and role of the dental professional in assessing, diagnosing and managing orofacial pain, and also in proposing various oral appliances, including “occlusal splints,” to the patient. This position assumes that the dental practitioner is properly educated and experienced in the assessment, diagnosis and management of TMDs and craniofacial pain, and in the use of not only oral appliances for sleep apnea, but also in the use of oral appliances for TMDs and bruxism (“occlusal splints”).

Certifying boards have been formed in craniofacial/orofacial pain, such as the American Board of Craniofacial Pain and the American Board of Orofacial Pain. The American Board of Craniofacial Pain specifically requires demonstration of competency in intraoral appliance therapy (including stabilization appliances, as well as mandibular advancement appliances) through written and oral examination, case presentations, educational requirements, and documentation of clinical experience as part of proving overall competency in the assessment, diagnosis and management of TMDs and craniofacial pain. University-based and private continuing education programs exist, which may provide the dentist with the minimum necessary clinical skills and experience; however, it is more difficult to objectively measure the dentist’s competency without independent board certification.

The ADA has published parameters of care for temporomandibular disorders. Complete and thorough standards for the history, examination, diagnosis and management of TMDs were published by the American Academy of Craniofacial Pain in 1990, and were revised and updated for publication in the form of the guidelines book, Craniofacial Pain: A Handbook for Assessment, Diagnosis and Management, which includes chapters on assessment, diagnosis, and management of TMDs and craniofacial pain, therapeutic approaches, including use of anterior repositioning appliances, sleep-related disorders, OAT for snoring and OSA, and the connections between TMDs and sleep apnea.

Sleep is a critical physiological function. There is a growing body of evidence that OSA is a serious disorder with significant medical and dental comorbidities with a high prevalence throughout the world. The management of snoring and OSA using OAT is proven and accepted with a high rate of efficacy. OAT may result in exacerbation of previously asymptomatic TMDs and craniofacial pain, or lead to the development of such pain and dysfunction. The selection and fitting of an oral appliance for OSA is straightforward, requiring minimal dental skills. Medical doctors with no formal dental background have been known to fit patients with “boil and bite” oral appliances, or even suggest that their patients buy an appliance as advertised on television or from the Internet to fit themselves. However, the assessment, diagnosis and management of existing TMDs and craniofacial disorders, as well as those that develop in patients using OAT to treat their OSA, require serious study and ongoing continuing education. The ease of fitting an appliance, and the often-positive, immediate subjective feedback from the patient, belies the complexities and potentially permanent and significant side effects, which may occur with long-term OSA oral appliance use, or which may result in the patient abandoning this medically necessary therapy.

While all licensed dentists are legally permitted to provide any dental therapy within the scope of their license and within the laws of their state’s dental practice act, standards of care require that dentists be properly trained before treating the public. There is an expectation by the public and by prescribing physicians that a dentist who offers mandibular advancement OAT for snoring and OSA has received proper training and is competent to do so. It is the position of the authors that dental practitioners who wish to engage in the management of patients suffering with snoring and OSA using mandibular advancement oral appliances should strive to achieve competence in the assessment, diagnosis and management of TMDs and craniofacial pain. Only then will patients receive the best possible long-term positive outcomes and avoid often unnecessary, and sometimes permanent, side effects.

References
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