The Role of Dentists in the Diagnosis and Treatment of Obstructive Sleep Apnea: Consensus and Controversy

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Obstructive sleep apnea (OSA) is recognized by the medical community and the general public as an important chronic medical condition that can have serious medical consequences, reduce lifespans and impair quality of life. [1] Positive airway pressure (PAP) is the most efficacious therapy, but not all patients are able to tolerate PAP or are willing to use it on a long-term basis. [2] For many patients, oral appliance therapy (OAT) can be an effective alternative. [3] Fabrication of an OAT device and its implementation are specialized skills that should be done by a qualified dentist, as advocated by the professional societies of both sleep medicine and dental sleep practitioners. [4]

Dentists have been involved in the collaborative evaluation and treatment of OSA patients with oral appliances since initial descriptions of their effectiveness in the 1980's with the first practice parameters for their use published in 1995. [5,6] Controversy regarding the role of the dentist in the care of OSA patients came soon after. Initially, it centered on whether the practice of dentistry included independent treatment of snoring patients as well as whether physicians could employ OAT without an input from a dentist. [7] Although these issues have been generally resolved, some conflict between the disciplines remains. Recently the role of a dentist in the evaluation and treatment of a potential patient with OSA has been delineated by joint policy and practice guidelines published by the American Academy of Sleep Medicine (AASM) and the American Academy of Dental Sleep Medicine (AADSM) as well as by a treatment protocol published by the AADSM. [4,8,9] These state that patients with symptoms of OSA must have a face-to-face evaluation by a Sleep Medicine physician to diagnose OSA[4,8] and that dentists, even those certified by the American Board of Dental Sleep Medicine (ABDSM) are NOT qualified to diagnose OSA [8,10] Furthermore, they explicitly indicate that interpretation of polysomnograms or home sleep studies is not in the purview of dentists. [10]

Dentists have an important role in identifying patients with OSA. As part of routine dental examinations, dentists can recognize a small upper airway and other anatomic risk factors for OSA, and use the opportunity to identify potential patients through use of simple screening questions and/or questionnaires. [11] This can help reduce the problem of under-diagnosis of OSA. [12] The diagnosis of OSA, however, should be reserved for physicians, especially sleep specialists, whose training prepares them to explore the interaction of OSA with other medical diagnoses. This restriction should include the performance and interpretation of diagnostic tests for reasons of training and expertise.

Importantly, dentists play a crucial role in evaluating OSA patients for the suitability of OAT, choosing the proper OAT appliance, adjusting the OAT appliance and assessing the patient for adverse effects.[7,8] To accomplish these tasks, it is essential that dentists work collaboratively with the referring Sleep Medicine physician. When this occurs, patients will have the best opportunity for effective treatment of their OSA.

There has been movement within the dental community to expand their role in the diagnosis and treatment of OSA beyond published guidelines and protocols. [13] Evidence for this exists in the form of anecdotal case reports and promotional websites, [14] as well as attempts to change scope of practice regulations. In Texas after considerable discussion, the rules and regulations of the State Board of Dental Examiners of Texas now explicitly state that a dentist cannot independently diagnose OSA and that a dentist can prescribe OAT only in collaboration with a physician. [15] However, over the objections of the Texas Medical Association, [16] these rules are silent regarding other sleep disorders, interpretation of sleep studies or dispensing of sleep diagnostic equipment. Recently the Colorado Dentistry Board is having policy discussions regarding the role of dentists in the diagnosis and treatment of OSA. [17]

Given these events, it is important to reemphasize the rationale that limits the diagnosis and treatment of OSA to qualified physicians, preferably Sleep Medicine specialists. The primary reason is that OSA is a medical condition with a multifaceted pathophysiology that is not limited only to maxillofacial structural abnormalities and dysfunction. [18] It also can be co-morbid with other medical conditions such as heart failure and asthma, and other sleep disorders such as insomnia, parasomnias and periodic limb movements.[19-21] Also, the diagnosis of OSA is more than a test number, i.e. AHI more than 5; the diagnosis of OSA requires consideration of symptoms and the complete clinical condition, as with other medical diagnoses. Sleep Medicine specialists, but not dentists, are qualified and trained to perform this process. The same arguments apply to the performance and interpretation of sleep tests of any kind. Certification in Sleep Medicine requires a one year fellowship in addition to basic residency training during which trainees are exposed and provide care for patients with the broad spectrum of sleep disorders. [22] By comparison, even dentists who are certified by the ABDSM receive relatively little training in the evaluation, diagnosis and treatment of sleep disorders other than OSA. [23] Therefore, if a patient has other issues with their sleep or complex co-morbidities, or does not respond to OAT, a dentist is not qualified to provide alternative recommendations or therapy.

Although practice guidelines emphasize that the diagnosis of OSA is the purview of the physician, [4,8] it has been suggested that dentists should be allowed to order and interpret HSAT as a tool to titrate and evaluate OAT effectiveness. [13] Proponents attempt to exploit the nonspecific language in the AADSM guidelines which states

"the dentist may obtain objective data during an initial trial period to verify that the oral appliance effectively improves upper airway patency during sleep by enlarging the upper airway and/or decreasing upper airway collapsibility". [9] Draft regulations being considered by the Colorado Dental Board would allow dentists to dispense HSAT devices and use "interim" results for OAT titration. [17] This should be strongly discouraged. The 2015 clinical practice guideline published jointly by the AASM and AADSM states "We suggest that *sleep physicians* (emphasis added) conduct follow-up sleep testing to improve or confirm treatment efficacy, rather than conduct follow-up without testing, for patients fitted with oral appliances." In their position paper on Dental Sleep Medicine and Portable Monitoring, the AADSM affirms that "While the membership of the ADSM and Diplomates of the ABDSM have been exposed to polysomnography…full interpretation of a polysomnogram or other sleep study is the role of qualified practitioner (preferably a Diplomate of the American Board of Sleep Medicine…)".[10] Perhaps most importantly, the results of diagnostic testing such as HSAT, PSG or pulse oximetry cannot be used to make treatment decisions in isolation from *medical* expertise. For example, is it proper to make a treatment decision when the apnea hypopnea index is 7.5 /hour in the absence of any other clinical information? Our answer would be "no", and we predict that there would be a similar response from virtually all other sleep specialists as well.

Both sleep physicians and qualified dentists have essential roles in the treatment of OSA with OAT.[4,8,9] The sleep physician must confirm the diagnosis and may recommend OAT. The dentist will confirm that OAT is appropriate and initiate therapy. Follow up should be performed by dentist and physician, each contributing their special expertise. It is important that a collaborative relationship be established between a qualified dentist and the referring sleep physician so that patients will receive the most effective care for their OSA.

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