

The Role of Dentistry in the Treatment of Sleep Related Breathing Disorders

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Sleep related breathing disorders (SRBD) are disorders characterized by disruptions in normal breathing patterns. SRBDs are potentially serious medical conditions caused by anatomical airway collapse and altered respiratory control mechanisms. Common SRBDs include snoring, upper airway resistance syndrome (UARS) and obstructive sleep apnea (OSA). OSA has been associated with metabolic, cardiovascular, respiratory, dental and other diseases. In children, undiagnosed and/or untreated OSA can be associated with cardiovascular problems, impaired growth as well as learning and behavioral problems.

Dentists can and do play an essential role in the multidisciplinary care of patients with certain sleep related breathing disorders and are well positioned to identify patients at greater risk of SRBD. SRBD can be caused by a number of multifactorial medical issues and are therefore best treated through a collaborative model. Working in conjunction with our colleagues in medicine, dentists have various methods of mitigating these disorders. In children, the dentist's recognition of suboptimal early craniofacial growth and development or other risk factors may lead to medical referral or orthodontic/orthopedic intervention to treat and/or prevent SRBD. Various surgical modalities exist to treat SRBD. Oral appliances, specifically custom-made, titratable devices can improve SRBD in adult patients compared to no therapy or placebo devices. Oral appliance therapy (OAT) can improve OSA in adult patients, especially those who are intolerant of continuous positive airway pressure (CPAP). Dentists are the only health care provider with the knowledge and expertise to provide OAT.

The dentist's role in the treatment of SRBD includes the following:

- Dentists are encouraged to screen patients for SRBD as part of a comprehensive medical and dental history to recognize symptoms such as daytime sleepiness, choking, snoring or witnessed apneas and an evaluation for risk factors such as obesity, retrognathia, or hypertension. If risk for SRBD is determined, these patients should be referred, as needed, to the appropriate physicians for proper diagnosis.
- In children, screening through history and clinical examination may identify signs and symptoms of deficient growth and development, or other risk factors that may lead to airway issues. If risk for SRBD is determined, intervention through medical/dental referral or evidenced based treatment may be appropriate to help treat the SRBD and/or develop an optimal physiologic airway and breathing pattern.
- Oral appliance therapy is an appropriate treatment for mild and moderate sleep apnea, and for severe sleep apnea when a CPAP is not tolerated by the patient.
- When oral appliance therapy is prescribed by a physician through written or electronic order for an adult patient with obstructive sleep apnea, a dentist should evaluate the patient for the appropriateness of fabricating a suitable oral appliance. If deemed appropriate, a dentist should fabricate an oral appliance.
- Dentists should obtain appropriate patient consent for treatment that reviews the proposed treatment plan, all available options and any potential side effects of using OAT and expected appliance longevity.
- Dentists treating SRBD with OAT should be capable of recognizing and managing the potential side effects through treatment or proper referral.

- Dentists who provide OAT to patients should monitor and adjust the Oral Appliance (OA) for treatment efficacy as needed, or at least annually. As titration of OAs has been shown to affect the final treatment outcome and overall OA success, the use of unattended cardiorespiratory (Type 3) or (Type 4) portable monitors may be used by the dentist to help define the optimal target position of the mandible. A dentist trained in the use of these portable monitoring devices may assess the objective interim results for the purposes of OA titration.
- Surgical procedures may be considered as a secondary treatment for OSA when CPAP or OAT is inadequate or not tolerated. In selected cases, such as patients with concomitant dentofacial deformities, surgical intervention may be considered as a primary treatment.
- Dentists treating SRBD should continually update their knowledge and training of dental sleep medicine with related continuing education.
- Dentists should maintain regular communications with the patient's referring physician and other healthcare providers to the patient's treatment progress and any recommended follow-up treatment.
- Follow-up sleep testing by a physician should be conducted to evaluate the improvement or confirm treatment efficacy for the OSA, especially if the patient develops recurring OSA relevant symptoms or comorbidities.