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Winter 2009/2010 ~ A Quarterly Update

Dear Colleague:

We continue to make advances in treating patients with sleep related breathing disorders as part of our dental practice. Through this quarterly newsletter, we wish to share with you some of the factors that make this possible, as well as open communication with your office.

Please let us know if you would like to see a specific topic covered in our next issue. We appreciate the trust you place in us by allowing us to participate in the care of your patients.

Regards,

Dr. Hasken

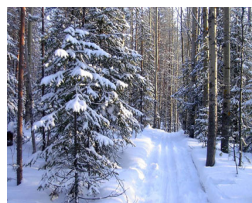
effect of device design on efficacy and patient compliance, the role of different modalities for assessing the upper airway in the prediction of treatment outcome, the assessment of the impact of treatment on a range of health outcomes and the evaluation of long-term adverse effects.

There is robust evidence of the efficacy of oral appliances for improving polysomnographic indices and modifying the health risk associated with OSA. The current evidence suggests a similar impact on health outcomes as CPAP. Further research should address a number of issues, including the influence of device design, titration procedures, prediction of treatment outcome and the clinical effectiveness of oral appliances for modifying the adverse health consequences of OSA.

Oral Appliance Treatment of Obstructive Sleep Apnea

Chan AS, Cistulli PA.
Curr Opin Pulm Med. 2009 Aug 25

Oral appliances are an alternative to continuous positive airway pressure (CPAP) for the treatment of obstructive sleep apnea (OSA). Although CPAP is a highly efficacious treatment, there is a need for other treatment options because the clinical effectiveness of CPAP is often limited by poor patient acceptance and tolerance, and suboptimal compliance. There has been an expansion of the research evidence to support the use of oral appliances in clinical practice. Recent work has focused on the following clinically relevant areas: the



Effects on Blood Pressure after Treatment of Obstructive Sleep Apnea with a Mandibular Advancement Appliance

Andrén A, Sjöquist M, et al.
J Oral Rehabil. 2009 Oct;36(10):719-25

Obstructive sleep apnea (OSA) is a highly prevalent sleep disorder; it affects 4% of males and 2% of females. Hypertension has been shown to occur in 28-57% of OSA patients. There is a steady increase in evidence linking OSA to long-term cardiovascular morbidity including hypertension. The purpose of this study was to investigate whether mandibular advancement oral appliance (OA) treatment of OSA affects the patient's blood pressure (BP) in a 3-month and a 3-year perspective. Twenty-nine consecutive patients, with

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Blood Pressure...continued

verified OSA defined as apnea index (AI) >5 per hour and/or apnea/hypopnea index (AHI) > or =10 per hour, received an OA as treatment. BP was measured on three occasions; before treatment, after 3 months of treatment, and after 3 years of treatment. BP was measured with an electronic blood pressure monitor.

The treatment effect of OA was measured after 3 months by repeated somnographic registration while the patient was wearing the OA. A treatment response was defined as AHI < 10; this was achieved in 25 of 29 patients (86%) at the 3-month evaluation. Significant reductions in blood pressure were attained between baseline and the 3-month evaluation and these changes remained at the 3-year follow-up in both systolic BP of -15.4 +/- 18.7 mm Hg and diastolic BP of -10.3 +/- 10.0 mm Hg. *The authors concluded from the results of this study that OA therapy significantly reduced blood pressure in both a 3-month and a 3-year perspective in patients with OSA.*

Mandibular Advancement for Obstructive Sleep Apnea: Dose Effect on Apnea, Long-term Use and Tolerance

Respiration. 2009;76(4):386-92
Gindre L, Gagnadoux F, et al.

Previous studies have documented an effect of mandibular advancement (MA) on pharyngeal airway size and collapsibility. The investigators in this study aimed to describe the course of the apnea-hypopnea index (AHI) and the snoring index (SI) during progressive MA and to evaluate the long-term efficacy, tolerance and usage of MA therapy after progressive MA titration in sleep apnea patients. Sixty-six patients with obstructive sleep apnea syndrome underwent sequential sleep recordings during progressive MA titration. Long-term effectiveness, compliance and side effects of oral appliance (OA) in the titrated position were evaluated by questionnaires.

OA therapy was started at 80% of the maximum MA. Seventy percent of the patients had only one increment in MA with a marked decrease in mean AHI from 36 to 10. In the

remaining cases, further increments in MA were associated with a progressive reduction in AHI and an increase in the number of patients responding to treatment. OA in the titrated position resulted in a 70% decrease in AHI, with 54% of patients showing complete responses, 29% partial responses and 17% no response. Daytime sleepiness and quality of life improved, too. Seventeen months after the start of treatment, 82% of the patients declared that they were still using OA almost all nights. Reported side effects including subjective occlusal changes were frequent but mild. *The authors concluded that improvement in AHI during OA is dependent on the amount of MA. Sequential sleep recordings facilitate MA titration. Long-term MA therapy in the titrated position is effective and well tolerated.*

Why Screen for Sleep Apnea?

- Despite the risks associated with OSA, up to 90% of sufferers go undiagnosed
- Drowsy drivers cause more fatalities per accident than drunk drivers
- Untreated sleep apnea can reduce average lifespan by 18 years
- Sleep apnea exacerbates Diabetes, High Blood Pressure and stress on the heart by repeated apneas throughout the night
- Sleep apnea causes the hormone leptin (fullness) to fall and ghrelin (hunger) to rise, affecting a patient's ability to control weight
- Hypertensive patients on multiple medications for their condition have an 80% or greater chance of testing positive for sleep apnea
- Sleep deprivation elevates Cortisol

