

## **Relevant articles and abstracts:**

### **Practice Parameters for the Treatment of Snoring and Obstructive Sleep Apnea with Oral Appliances: An Update for 2005**

**An American Academy of Sleep Medicine Report**

Clete A. Kushida, MD, PhD; Timothy I. Morgenthaler, MD; Michael R. Littner, MD; Cathy A. Alessi, MD; Dennis Bailey, DDS; Jack Coleman, Jr., MD; Leah Friedman, PhD; Max Hirshkowitz, PhD; Sheldon Kapen, MD; Milton Kramer, MD; Teofilo Lee-Chiong, MD; Judith Owens, MD; Jeffrey P. Pancer, DDS

**Summary:** These practice parameters are an update of the previously published recommendations regarding use of oral appliances in the treatment of snoring and Obstructive Sleep Apnea (OSA). Oral appliances (OAs) are indicated for use in patients with mild to moderate OSA who prefer them to continuous positive airway pressure (CPAP) therapy, or who do not respond to, are not appropriate candidates for, or who fail treatment attempts with CPAP. Until there is higher quality evidence to suggest efficacy, CPAP is indicated whenever possible for patients with severe OSA before considering OAs. 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. Follow-up polysomnography or an attended cardiorespiratory (Type 3) sleep study is needed to verify efficacy, and may be needed when symptoms of OSA worsen or recur. Patients with OSA who are treated with oral appliances should return for follow-up office visits with the dental specialist at regular intervals to monitor patient adherence, evaluate device deterioration or maladjustment, and to evaluate the health of the oral structures and integrity of the occlusion. Regular follow up is also needed to assess the patient for signs and symptoms of worsening OSA. Research to define patient characteristics more clearly for OA acceptance, success, and adherence is needed.

**Citation:** Kushida CA; Morgenthaler TI; Littner MR et al. Practice parameters for the treatment of snoring and obstructive sleep apnea with oral appliances: An Update for 2005.

*SLEEP* 2006; 29(2): 240-243.

[http://www.aasmnet.org/resources/practiceparameters/pp\\_update\\_oralappliance.pdf](http://www.aasmnet.org/resources/practiceparameters/pp_update_oralappliance.pdf)

---

### **Dental Appliance Treatment for Obstructive Sleep Apnea \***

Although less efficacious than CPAP for improving the polysomnographic indexes of OSA, oral appliances are generally preferred by patients. This has the potential to translate to better patient adherence and may provide an equivalent health outcome.

DOI 10.1378/chest.06-2038

*Chest* 2007; 132:693-699

Andrew S. L. Chan, Richard W. W. Lee and Peter A. Cistulli

<http://www.chestjournal.org/content/132/2/693.full.pdf+html>

---

## **Oral Appliance Therapy for Obstructive Sleep Apnea Finally Evidence You Can Sink Your Teeth Into**

**Kathleen Ferguson**

In the last decade there has been an explosion of interest in using oral appliances to treat obstructive sleep apnea (OSA). Based upon available evidence they generally have been recommended for the treatment of mild OSA or simple snoring. Oral appliances are appealing because they are simple to use, reversible, portable, and appear to be quite safe (although long-term safety data are lacking). Anterior mandibular positioners are the most commonly used appliances and the best studied. Results from this study support the use of this treatment in patients with symptomatic OSA as long as a follow-up sleep evaluation occurs.

University of Western Ontario, London Health Sciences Centre, London, Ontario, Canada

Am. J. Respir. Crit. Care Med., Volume 163, Number 6, May 2001, 1294-1295

<http://ajrccm.atsjournals.org/cgi/content/full/163/6/1294>

---

## **Review of oral appliances for treatment of sleep-disordered breathing**

Oral appliances, although not as effective as CPAP in reducing sleep apnea, snoring, and improving daytime function, have a definite role in the treatment of snoring and sleep apnea.

[Hoffstein V.](#)

Department of Medicine, University of Toronto, St. Michael's Hospital, 30 Bond Street, Toronto, ON, Canada M5B 1W8. victor.hoffstein@utoronto.ca

<http://www.pubmedcentral.nih.gov/picrender.fcgi?artid=1794626&blobtype=pdf>

---

## **Oral Appliance Therapy Reduces Blood Pressure in Obstructive Sleep Apnea: a Randomized, Controlled Trial**

Helen Gotsopoulos, BDS, MPH (Hons)<sup>1</sup>; John J. Kelly, MD, PhD<sup>2</sup>; Peter A. Cistulli, MD, PhD<sup>1</sup>

Oral appliance therapy for obstructive sleep apnea over 4 weeks results in a reduction in blood pressure, similar to that reported with continuous positive airway pressure therapy.

<http://www.journalsleep.org/Articles/270511.pdf>

---

### **Heavy snoring as a cause of carotid artery atherosclerosis**

Heavy snoring significantly increases the risk of carotid atherosclerosis, and the increase is independent of other risk factors, including measures of nocturnal hypoxia and obstructive sleep apnea severity. Considering the high prevalence of snoring in the community, these findings have substantial public health implications for the management of carotid atherosclerosis and the prevention of stroke.

[Lee SA](#), [Amis TC](#), [Byth K](#), [Larcos G](#), [Kairaitis K](#), [Robinson TD](#), [Wheatley JR](#).  
*Sleep*. 2008 September 1; 31(9): 1207–1213.

<http://www.pubmedcentral.nih.gov/articlerender.fcgi?artid=2542975>

---

### **American Heart Month: Untreated OSA Increases Your Risk of Heart Disease**

Detecting and treating obstructive sleep apnea is a key to maintaining a healthy heart.

American Academy of Sleep Medicine  
AASM | 02/18/2008

<http://www.sleepeducation.com/Article.aspx?id=744>

---

### **Heartburn: another danger in the night?**

Nighttime heartburn, when occurring with a frequency of once a week or more, is an important clue to the existence of a malignant form of GER, as well as of the possibility that GER may be causing other symptoms such as cough, sleep disturbance, and the exacerbation of asthmatic symptoms.

Orr WC.

*Chest*. 2005 May; 127(5):1486-8. No abstract available.

PMID: 15888817 [PubMed - indexed for MEDLINE]

<http://www.chestjournal.org/content/127/5/1486.full.pdf>

---



## **Mandibular advancement for obstructive sleep apnea: dose effect on apnea, long-term use and tolerance**

Improvement in AHI during OA is dependent on the amount of Mandibular Advancement (MA). Sequential sleep recordings facilitate MA titration. Long-term MA therapy in the titrated position is effective and well tolerated. Reported side effects are frequent but mild.

[Gindre L](#), [Gagnadoux F](#), [Meslier N](#), [Gustin JM](#), [Racineux JL](#).

Département de Pneumologie, CHU, Angers, France

[Respiration](#). 2008;76(4):386-92. Epub 2008 Sep 17

[http://www.ncbi.nlm.nih.gov/pubmed/18797161?ordinalpos=7&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed\\_ResultsPanel.Pubmed\\_DefaultReportPanel.Pubmed\\_RVDocSum](http://www.ncbi.nlm.nih.gov/pubmed/18797161?ordinalpos=7&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_DefaultReportPanel.Pubmed_RVDocSum)

---

## **Oral appliance therapy for obstructive sleep apnea**

There is a growing evidence base to support the use of oral appliances in the management of OSA.

[Ng A](#), [Gotsopoulos H](#), [Darendeliler AM](#), [Cistulli PA](#).

Department of Respiratory & Sleep Medicine, St George Hospital, Sydney, Australia

[Treat Respir Med](#). 2005;4(6):409-22

[http://www.ncbi.nlm.nih.gov/pubmed/16336026?ordinalpos=1&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed\\_ResultsPanel.Pubmed\\_DiscoveryPanel.Pubmed\\_Discovery\\_RA&linkpos=1&log\\$=relatedreviews&logdbfrom=pubmed](http://www.ncbi.nlm.nih.gov/pubmed/16336026?ordinalpos=1&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_DiscoveryPanel.Pubmed_Discovery_RA&linkpos=1&log$=relatedreviews&logdbfrom=pubmed)

---

## **Obstructive Sleep Apnea Is Associated With Increased Urinary Albumin Excretion**

OSA is significantly associated with increased urine albumin excretion, especially among those with more severe disease. These data provide further evidence supporting endothelial dysfunction as a mediating pathway between cardiovascular disease and OSA.

Michael D. Faulx, MD; Amy Storfer-Isser, MS; H Lester Kirchner, PhD; Nancy S. Jenny, PhD  
Russell P. Tracy, PhD; Susan Redline, MD, MPH

*SLEEP* 2007; 30(7):923-929.

<http://www.pubmedcentral.nih.gov/picrender.fcgi?artid=1978377&blobtype=pdf>

---

## Dental side effects of mandibular advancement appliances - a 2-year follow-up

[J Orofac Orthop.](#) 2008 Nov;69(6):437-47. Epub 2008 Nov 11

[Ghazal A](#), [Jonas IE](#), [Rose EC](#).

Department of Orthodontics, Albert Ludwig University, Freiburg i. Br., Germany

Clinically small but statistically significant dental side effects predominantly affecting the incisors' inclination occur after long-term wear of a TAP appliance. The clinical relevance of these dental changes to the patient can only be judged individually within the scope of an entire assessment.

[http://www.ncbi.nlm.nih.gov/pubmed/19169640?ordinalpos=4&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed\\_ResultsPanel.Pubmed\\_DefaultReportPanel.Pubmed\\_RVDocSum](http://www.ncbi.nlm.nih.gov/pubmed/19169640?ordinalpos=4&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_DefaultReportPanel.Pubmed_RVDocSum)

---

## Nonprescription Treatments of Snoring or Obstructive Sleep Apnea: an Evaluation of Products with Limited Scientific Evidence

Report of the Clinical Practice Review Committee, American Academy of Sleep Medicine

Amy Lynn Meoli, MD; Carol L. Rosen, MD; David Kristo, MD; Michael Kohrman, MD ; Nalaka Gooneratne, MD; Robert Neal Aguiard, MD; Robert Fayle, MD; Robert Troell, MD

Given the paucity and quality of scientific literature regarding the nonpharmacologic treatment of snoring and obstructive sleep apnea, members of the Clinical Practice Review Committee had insufficient information to develop standards of practice recommendations. Nevertheless, substantial publicity regarding such treatments is available to the general public. Very limited data are available to support a beneficial effect of these devices on snoring and minimal evidence is available to support their use in treating obstructive sleep apnea.

[http://www.aasmnet.org/Resources/PracticeReviews/cpr\\_NonprescriptionTreatmentsSnoring.pdf](http://www.aasmnet.org/Resources/PracticeReviews/cpr_NonprescriptionTreatmentsSnoring.pdf)