

Obstructive Sleep Apnea Therapy

A new study shows a relatively more positive effect of oral appliance therapy than those in previous studies.

QuickFacts:

1. Oral appliance therapy is not inferior to CPAP in mild to moderate cases of sleep apnea.
2. Oral appliance therapy is, however, less effective than CPAP in severe cases of sleep apnea
3. Primary oral appliance therapy is supported only for those with less severe sleep apnea.

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In clinical practice, oral appliances are used primarily for obstructive sleep apnea patients who do not respond to continuous positive airway pressure (CPAP) therapy. We hypothesized that an oral appliance is not inferior to CPAP in treating obstructive sleep apnea effectively. We randomly assigned 103 individuals to oral-appliance or CPAP therapy. Polysomnography after 8-12 weeks indicated that treatment was effective for 39 of 51 persons using the oral appliance (76.5%) and for 43 of 52 persons using CPAP (82.7%). For the difference in effectiveness, a 95% two-sided confidence interval was calculated. Non-inferiority of oral-appliance therapy was considered to be established when the lower boundary of this interval exceeded -25%. The lower boundary of the confidence interval was -2.7%, indicating that oral-appliance therapy was not inferior to CPAP for effective treatment of obstructive sleep apnea. However, subgroup analysis revealed that oral appliance therapy was less effective in individuals with severe disease (apnea-hypopnea index > 30). Since these people could be at particular cardiovascular risk, primary oral-appliance therapy appears to be supported only for those with nonsevere apnea.

Courtesy of:

Todd Morgan, DMD, D. ABDSM • 320 Santa Fe Drive • (San Diego Area) • Encinitas, CA 92024
Phone: 760-652-1220 • Fax: (760) 436-9332
Web: <http://toddmorganmd.snoringisntsexy.com> • Email: todd@toddmorgan.com