

Study finds that combination therapy reduces pauses in breathing caused by OSA

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According to new research that will be presented Saturday, June 11, at the 20th Anniversary Meeting of the American Academy of Dental Sleep Medicine (AADSM), the apnea-hypopnea index (AHI) in patients with severe obstructive sleep apnea (OSA) was more improved by a combination treatment of a mandibular advancement splint (MAS) and positive airway pressure (PAP) therapy than by continuous positive airway pressure (CPAP) therapy alone.

Results show that without lowering the pressure substantially, CPAP tolerance can be improved and severe OSA can be effectively treated using a MAS that physically supports and stabilizes the position of nasal pillows (TAP®-PAP).

The study involved data from 10 male and female patients who were first treated for severe OSA. Polysomnogram (PSG) data were obtained from patients' initial diagnostic CPAP titration, and combined MAS-PAP titration studies. The seven patients who completed the study had a mean AHI of 66 breathing pauses per hour of [sleep](#) prior to treatment, 4.4 events per hour with CPAP [therapy](#) alone, and 2.6 events per hour with combined MAS-PAP. Epworth Sleepiness Scale (ESS) scores were also obtained to measure excessive daytime sleepiness. ESS scores decreased from 10.1 to 7.9 to 4.9, respectively.

"The primary finding of the study is that patients with severe OSA who were non-compliant with CPAP and suffered from effects of nightly hypoxia and poor quality of sleep are now compliant with MAS-PAP,"

said lead investigator John White DDS, D. ABDSM.

Home sleep tests (Watch-Pat™) were obtained prior to MAS delivery, after MAS titration, and with combined MAS-PAP. The patients' mean AHI was 54.4 events per hour before MAS delivery, 40.2 events per hour using MAS alone, and 10 events per hour with [combination therapy](#). The amount of sleep time during which oxygen saturation was less than 90 percent decreased from 20.8 percent to 11.5 percent to 3 percent, respectively.

Patients reported reasons for intolerance using a 13-item checklist. With traditional CPAP therapy, each patient reported two to six reasons for intolerance. Most commonly reported reasons were: 'can't keep in place' (85.7 percent), 'unconsciously remove' (57.1 percent); 'mask uncomfortable,' 'mask leaks,' and 'claustrophobia' (42.9 percent each). With combination therapy, only two patients reported a single negative experience: 'unconsciously remove,' 'pull of hose applies force to teeth.'

"These results are important because a patient with severe OSA who is unable to comply with CPAP has no other viable treatment options," said White. "This therapy offers [patients](#) a significant improvement in quality of sleep, which leads to improved moods, performance, and overall outlook on life."

This abstract will receive the Clinical Research Award at the AADSM 20th Anniversary Meeting.

Provided by American Academy of Sleep Medicine

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