

CPAP machine improves weight loss in dieting adults with obesity, sleep apnea

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When trying to lose weight by cutting calories, people who have obstructive sleep apnea (OSA) in addition to obesity can lose more weight if they treat their sleep disorder with an overnight CPAP, or continuous positive airway pressure, machine. This finding of a new study will be presented Saturday at ENDO 2019, the Endocrine Society's annual meeting in New Orleans, La.

"Some people may think if they lost weight, they may not need the CPAP machine," said lead investigator Yuanjie Mao, M.D., Ph.D., an endocrinology fellow physician at the University of Arkansas for Medical Sciences (UAMS), in Little Rock, Ark. "However, our study finds the opposite for people with obesity and OSA who try to lose weight by restricting calories: CPAP treatment can actually result in more [weight loss](#)."

OSA, most often caused by obesity in adults, is a common sleep disturbance in which breathing repeatedly stops and starts during sleep. Wearing a CPAP mask during sleep is the first-line treatment of OSA and is widely recommended with weight loss for [patients](#) with obesity, despite a lack of scientific evidence to support this strategy, Mao said.

To test the effect of CPAP therapy on weight loss, Mao and his co-workers evaluated the medical records of 501 adults, all with obesity, treated in a UAMS weight loss clinic from January 2014 through August 2017. All patients underwent an intensive 16-week program that included eating a very-low-calorie diet of 800 calories a day, as well as exercise programs, weekly individual counseling and cognitive behavioral therapy. Of the 300 patients eligible for the study, the researchers divided them into three groups based on their self-reported OSA symptoms.

A total of 89 patients reported no symptoms of OSA and therefore had no OSA treatment. Another 164 patients had OSA symptoms but did not

receive a CPAP machine, whereas 47 patients had OSA symptoms and received treatment with a CPAP machine. Because not all the patients had a sleep study, the researchers could not determine their OSA severity, said senior investigator Peter Goulden, M.D., F.R.C.P., an endocrinologist at UAMS.

Among patients with self-reported OSA symptoms, those who received concurrent CPAP treatment lost an average of 5.7 pounds more in four months than patients who did not treat their sleep apnea, Mao reported. In total, the CPAP-treated group lost more than 26.7 pounds on average versus almost 21 pounds for patients who did not treat their OSA symptoms using CPAP. The group without OSA symptoms lost approximately 19 pounds over 16 weeks.

When the researchers adjusted their statistical analyses for patients' beginning weight, age and sex, they still found a correlation between CPAP treatment and absolute weight loss, Mao said.

He suggested that sleep quality and underlying neuroendocrine changes might explain their results. CPAP [treatment](#) can enhance sleep quality, and some research shows that good sleep quality may improve [weight](#) control.

Provided by The Endocrine Society

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