

CPAP and OAT: A New Dynamic Duo?

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The *Journal of Clinical Sleep Medicine (JCSM)*¹ just published a paper titled “Long-term health outcomes for patients with obstructive sleep apnea: placing the Agency for Healthcare Research and Quality report in context- a multi-society commentary.” This was a necessary commentary, as the AHRQ report had two major conclusions – insufficient evidence exists to conclude that improvements in AHI are correlated with improvements of long-term health outcomes, and the studies they reviewed did not provide evidence that CPAP prescription affects long-term, clinically important outcomes. The AHRQ report had two major conclusions – neither CPAP nor improving AHI will impact long-term, clinically-significant outcomes. Although focused on CPAP, the AHRQ report indicates there is no evidence supporting that oral appliance therapy (OAT) would improve long-term clinically important outcomes better than CPAP. This report could have tremendous influence on how sleep medicine is meant to be practiced.

Written by a distinguished team of sleep doctors and researchers, the *JCSM* paper comments on the findings and recommendations made in the AHRQ report. The comments focus on shortcomings of the report. The authors also go the distance in suggesting a research agenda that could remedy the uncertainty that the current lack in research data has caused.

To be clear, I am a firm believer in CPAP therapy and am more than happy to recommend CPAP when OAT is not successful as a first line of therapy. I applaud this group for its efforts to combat the AHRQ report; however, as a DSM provider, I was struck by how little attention is paid to CPAP compliance, specifically hours of use per night, when laying out a pathway for future research initiatives to address the shortcomings outlined in the AHRQ report. Despite the many ways the authors suggested to improve research surrounding the impact of CPAP use on cardiovascular performance, I am surprised to see how little attention is brought to the fact that most CPAP users are not using the CPAP long enough each night. You can tweak research protocols as much as you want, but if the therapy is not being used long enough each night to work, the data will reflect the real situation and the results will not be any better.

If the average obstructive sleep apnea (OSA) patient uses their CPAP 3.3 hours a night,² and it has been hypothesized that you need to use it 4 hours a night to

have any benefit,³⁻⁵ is it any wonder that the AHRQ reached the conclusions it did regarding cardiovascular outcomes? I think you either need to change what is considered CPAP “compliance” in the study inclusion criteria or improve the number of hours the average CPAP patient uses the device. Changing the definition of CPAP compliance and removing non-compliant patients from studies would obviously improve numbers in every metric evaluated but could potentially call into question the validity of CPAP as the golden standard - something the AHRQ is actually doing.

As for increasing patient CPAP use, counseling is the main author recommendation, based on two not-so-recent papers.^{6,7} So one could say the future improvements in CPAP compliance, as proposed, are uncertain at best. The problem is not patient motivation, but rather, the cumbersome apparatus itself and the perceived benefits by the patient. An OSA patient who enjoys the benefits of CPAP therapy will usually not have any problem using it. This patient does not need any motivational follow-up. We see patients like this on a regular basis.

The *JCSM* papers then addresses participant engagement and preferences and delivers some hope. Hamoda and colleagues⁸ have demonstrated that when patients have both CPAP and oral appliances and also have the choice of using either or to alternate between treatments, we get a high rate of adherence. We should honor patient preference to foster compliance. Even better, the research showed that the highest rate of normalization scores was obtained with patients using both devices. Improvement in patient centered outcomes was associated with longer nightly hours of use of therapy. Essentially, the longer one is under treatment the better off that person is.

Should the use of both CPAP and OAT be considered to become the new standard of treatment? Probably. Or at least the introduction of hybrid therapy with OAT should become a standard procedure whenever an OSA patient does not wear the CPAP long enough.

Hopefully, as the sleep research world looks to tackle some of the research gaps identified in the AHRQ report, they will consider the importance of treatment compliance and design studies that focus on both CPAP and OAT. Patients would greatly benefit from this, - and everybody would sleep better at night.

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