

LETTERS TO THE EDITOR

Nightly fluctuations in sleep apnea severity and clinical practice guidelines for diagnostic testing

Response to Hunasikatti M. Night-to-night fluctuations in sleep apnea severity: diagnostic and treatment implications and the need to be less prescriptive in guidelines. *J Clin Sleep Med.* 2020;16(9):1623. doi:10.5664/jcsm.8626

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We thank Dr. Hunasikatti for his insightful thoughts on the clinical implications of our recently published work examining night-to-night fluctuations in sleep apnea severity in a large sample of individuals undergoing home sleep apnea testing (HSAT).¹ Dr. Hunasikatti correctly notes the mounting evidence suggesting that nightly fluctuation in sleep apnea severity has the real possibility of resulting in inaccurate diagnosis, whether that be a completely missed diagnosis or underdiagnoses, if clinical decisions are based solely on a single-night study. We further agree with his assertion that “repeat studies may be needed if first-night and second-night tests are negative with high clinical probability.”²

In its clinical guidelines,³ the American Academy of Sleep Medicine also notes the potential negative consequences of misdiagnoses, stating “misdiagnosing patients can lead to significant harm due to lost benefits of therapy in those with OSA.” To reduce the likelihood of harm from a missed diagnosis, the American Academy of Sleep Medicine recommends follow-up testing via polysomnography in the event of a nonpositive HSAT. Dr. Hunasikatti labels this recommendation as restrictive in its prescriptive nature. We concur and question the empirical backing for this recommendation. The only rationale provided against a repeat HSAT in the clinical guidelines is a “higher likelihood that a second test will also be negative, inconclusive or technically inadequate.”³ This statement is not supported by relevant reference to scientific investigation.

The absence of evidence against repeat HSAT coupled with the greater availability and lower costs associated with HSAT suggest that it may be unreasonable to be so prescriptive against follow-up HSAT. Furthermore, the mounting evidence demonstrating a second-night HSAT is diagnostic in a large proportion of initially nondiagnostic cases¹ supports a reversal of this recommendation. Last, the recommendation against a second HSAT in favor of a polysomnogram assumes that the nightly fluctuation in apnea severity is a product of measurement and not a feature of the disorder. If apnea severity truly fluctuates from night to night, multiple nights of assessment are needed regardless of the modality of assessment used.

Although in-laboratory polysomnography is technically superior to HSAT, in the proper clinical context and according to a provider’s medical judgment, a repeat HSAT should be allowed as a tool in the armamentarium to best identify and combat clinically significant sleep-disordered breathing, specifically obstructive sleep apnea. We agree that there are numerous scenarios in which in-laboratory polysomnography is indicated and HSAT should not be used. However, without evidence to the contrary, we see no reason not to recommend follow-up HSAT in the event of an initial nondiagnostic test. The use of HSAT has the potential to increase sleep medicine’s reach and, through appropriate diagnosis and treatment, improve the daily lives of innumerable patients.

CITATION

Dzierzewski JM, Dautovich ND, Taylor SA. Nightly fluctuations in sleep apnea severity and clinical practice guidelines for diagnostic testing. *J Clin Sleep Med.* 2020;16(9):1625–1626.

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