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LETTERS TO THE EDITOR

Hypopnea Scoring Criteria: Time to Move Toward a Single Standardized Definition

Comment on Malhotra et al. Polysomnography for obstructive sleep apnea should include arousal-based scoring: an American Academy of Sleep Medicine position statement. *J Clin Sleep Med*. 2018;14(7):1245–1247.

Mukesh Kapoor, MD

Unity Sleep Disorders Center, Rochester Regional Health, Rochester, New York

The recent position statement from the American Academy of Sleep Medicine (AASM) on the scoring of arousal- based respiratory events is noteworthy.[1] The apnea-hypopnea index (AHI) has been shown to change significantly when hypopneas are scored based on the "recommended" criteria.[2] Hypopneas associated with arousals and/or associated with milder desaturations can have clinically significant effects.[3,4] Patients whose studies have been scored using the "acceptable" criteria alone and based on this have been told that they do not have obstructive sleep apnea (OSA) may actually have OSA were their studies to be scored using the "recommended" criteria. Thus, the use of the "acceptable" criteria alone may be falsely reassuring. These patients who may actually have OSA may not receive the correct diagnosis, be deprived of treatment with positive airway pressure (PAP) therapy, and may possibly undergo a Multiple Sleep Latency Test (MSLT) and potentially receive a diagnosis of hypersomnia and started on stimulants when in reality they may have benefitted from PAP therapy alone. This position statement will hopefully encourage sleep providers and sleep centers to re-review the studies of such patients using the "recommended criteria."

Unfortunately, so far, the Centers for Medicare & Medicaid Services has rejected the use of the "recommended" criteria and only adjudicate treatment coverage based on the "acceptable" criteria. As a prior article pointed out, the scoring of respiratory events seems to have evolved in part to accommodate what health insurances accept.[5] Imagine having a "recommended" and "acceptable" definition for hypertension or coronary artery disease. It may be time for the AASM to educate insurers and other stakeholders about the importance of the "recommended" criteria, the potential risks associated with not treating these patients who have OSA based on the "recommended" criteria but who do not meet the "acceptable" criteria, and to use the "recommended" criteria as the single definition for hypopneas. This may be crucial to not only help our patients but to also continue to keep our field relevant.

On a separate note, much progress needs to be made in the scoring of arousals. As some prior studies have shown, the interscorer reliability for scoring arousals can range from low to moderate.[6–8] The current scoring criteria for arousals also excludes subcortical autonomic arousals, which may be precursors to full EEG arousal and which by themselves have been shown to be clinically relevant.[9,10] Techniques such as analysis of heart rate, respiratory rate, pulse transit time, peripheral arterial tonometry, pulse wave amplitude, chin electromyography, and limb electromyography may help better characterize arousals when an obvious respiratory event is seen but there is no associated desaturation or clearly discernable change on the electroencephalogram.[11–15] One recent paper showed that the AHI determined by peripheral arterial tonometry was higher compared to polysomnography, thus possibly indicating that peripheral arterial tonometry may be better at detecting arousal-based respiratory events.[16] The use of such techniques may also possibly increase the interscorer reliability for scoring arousals.

CITATION

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Address correspondence to: Mukesh Kapoor, MD, 919 Westfall Road, Building A, Suite A100, Rochester, NY 14618; Tel: (585) 442-4141; Fax: (585) 442-6259; Email: mukesh.kapoor@rochesterregional.org

DISCLOSURE STATEMENT

The author reports no conflicts of interest.