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Authors

Das, Aneesa

Chang, Judy

Berneking, Michael

et al.

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SPECIAL ARTICLES

Enhancing public health and safety by diagnosing and treating obstructive sleep apnea in the transportation industry: an American Academy of Sleep Medicine position statement

Aneesa M. Das, MD¹; Judy L. Chang, MD²; Michael Berneking, MD³; Natalie P. Hartenbaum, MD, MPH⁴; Mark Rosekind, PhD⁵; Kannan Ramar, MD⁶; Raman K. Malhotra, MD⁷; Kelly A. Carden, MD, MBA⁸; Jennifer L. Martin, PhD^{9,10}; Fariha Abbasi-Feinberg, MD¹¹; R. Nisha Aurora, MD, MHS¹²; Vishesh K. Kapur, MD, MPH¹³; Eric J. Olson, MD⁶; Carol L. Rosen, MD¹⁴; James A. Rowley, MD¹⁵; Anita V. Shelgikar, MD, MHPE¹⁶; Lynn Marie Trotti, MD, MSc¹⁷; Indira Gurubhagavatula, MD, MPH^{18,19}

¹Division of Pulmonary, Critical Care and Sleep, The Ohio State University, Columbus, Ohio; ²San Jose Military Entrance Processing Station, Mountain View, California; ³Concentra, Inc., Grand Rapids, Michigan; ⁴OccuMedix, Inc., Dresher, Pennsylvania; ⁵Center for Injury Research and Policy, Department of Health Policy and Management, Johns Hopkins Bloomberg School of Public Health, Baltimore, Maryland; ⁶Division of Pulmonary and Critical Care Medicine, Center for Sleep Medicine, Mayo Clinic, Rochester, Minnesota; ⁷Sleep Medicine Center, Washington University School of Medicine, St. Louis, Missouri; ⁸Saint Thomas Medical Partners–Sleep Specialists, Nashville, Tennessee; ⁹Veteran Affairs Greater Los Angeles Healthcare System, North Hills, California; ¹⁰David Geffen School of Medicine at the University of California, Los Angeles, California; ¹¹Sleep Medicine, Millennium Physician Group, Fort Myers, Florida; ¹²Department of Medicine, Rutgers Robert Wood Johnson Medical School, New Brunswick, New Jersey; ¹³Division of Pulmonary Critical Care and Sleep Medicine, University of Washington, Seattle, Washington; ¹⁴Department of Pediatrics, Case Western Reserve University School of Medicine, Cleveland, Ohio; ¹⁵Wayne State University, Detroit, Michigan; ¹⁶University of Michigan Sleep Disorders Center, University of Michigan, Ann Arbor, Michigan; ¹⁷Emory Sleep Center and Department of Neurology, Emory University School of Medicine, Atlanta, Georgia; ¹⁸Division of Sleep Medicine, Perelman School of Medicine, University of Pennsylvania, Philadelphia, Pennsylvania; ¹⁹Corporal Michael J. Crescenz Department of Veterans Affairs Medical Center, Philadelphia, Pennsylvania

Obstructive sleep apnea (OSA) may lead to serious health, safety, and financial implications—including sleepiness-related crashes and incidents—in workers who perform safety-sensitive functions in the transportation industry. Evidence and expert consensus support its identification and treatment in high-risk commercial operators. An Advanced Notice of Proposed Rulemaking regarding the diagnosis and treatment of OSA in commercial truck and rail operators was issued by the Federal Motor Carrier Safety Administration and Federal Railroad Administration, but it was later withdrawn. This reversal has led to questions about whether efforts to identify and treat OSA are warranted. In the absence of clear directives, we urge key stakeholders, including clinicians and patients, to engage in a collaborative approach to address OSA by following, at a minimum, the 2016 guidelines issued by a Medical Review Board of the Federal Motor Carrier Safety Administration, alone or in combination with 2006 guidance by a joint task force. The current standard of care demands action to mitigate the serious health and safety risks of OSA.

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INTRODUCTION

The American Academy of Sleep Medicine (AASM) is a professional society that advances sleep care and enhances sleep health to improve lives. The AASM advocates for policies that recognize that sleep is essential to health.

Obstructive sleep apnea (OSA) is a sleep-related breathing disorder that is characterized by repetitive episodes of complete or partial upper airway obstruction during sleep.¹ Untreated, OSA is a potentially lethal disease that is associated with numerous health complications, including hypertension, congestive heart failure, atrial fibrillation, coronary artery disease, stroke, and type 2 diabetes.^{2,3} Data show that untreated OSA is associated with an increased risk of all-cause and cardiovascular mortality and that effective treatment may reduce this risk.^{4,5} A common symptom of OSA is excessive daytime sleepiness, which can increase the risk of transportation crashes caused by drowsiness. Therefore, the diagnosis and effective

treatment of OSA in transportation personnel is an urgent health and safety priority. For 20 years, the National Transportation Safety Board has prioritized this issue by including the need to reduce fatigue-related accidents on its Most Wanted List of Transportation Safety Improvements and by issuing more than 200 recommendations to address these safety risks.⁶ These recommendations have included urging federal regulators to require medical fitness for duty through the implementation of a comprehensive medical certification system that includes mandatory screening and treatment for OSA for rail and highway personnel in safety-sensitive positions.⁶

The diagnosis and effective treatment of OSA in safety-critical transportation personnel offers the opportunity to significantly improve public health and safety while reducing the well-established risks. To develop a position statement addressing this important issue, the AASM assembled a joint writing group comprising experts representing the AASM, American Academy of Neurology, American College of Chest Physicians, American

College of Occupational and Environmental Medicine, and Sleep Research Society.

BACKGROUND

Technological advances have facilitated greater access to the diagnosis and ongoing management of OSA.^{7,8} Positive airway pressure, the first-line therapy for OSA, improves health-related outcomes—including neurocognitive outcomes, cardiovascular outcomes, quality of life, alertness, and workplace productivity—and it also lowers the rates of drowsiness-related crashes, all-cause mortality, health care costs, disability, and absenteeism from work.^{9,10}

Based on 2 evidence-based reviews on crash risk in drivers with OSA,^{11,12} a report by a medical expert panel, and meetings by 3 medical review boards (MRBs), the Federal Motor Carrier Safety Administration and the Federal Railroad Administration proposed rulemaking in 2016 that would address OSA in commercial drivers and rail operators. However, they withdrew the notice in 2017.¹³ Therefore, no specific criteria are mandated for the diagnosis and management of OSA in these safety-sensitive transportation workers. At this time, resources for medical examiners include the medical expert panel, MRBs, recommendations from the MRB and the Motor Carrier Safety Advisory Committee, and published documents from several other groups.^{14–16}

Treating OSA can result in substantial cost savings. Estimated annual costs of undiagnosed OSA are in the range of \$150 to \$165 billion. In contrast, the diagnosis and treatment of every American who has OSA would cost \$49.5 billion each year.^{17,18} These economic benefits could be obtained directly by patients as well as by employers, self-insured carriers, third-party payers, and public payers such as Medicare and Medicaid. Although individual drivers may bear out-of-pocket costs for diagnosis and treatment, they also may benefit from a lower risk of fatigue-related crashes, improved daytime symptoms, less time lost from work, and lower future health care costs.

POSITION

It is the position of the AASM that workers who perform safety-sensitive functions in the transportation industry should be screened for OSA using both self-reported symptoms and established, objectively measurable criteria such as blood pressure and body weight. Personnel identified to be at risk for OSA should be diagnosed and effectively treated according to current best practices. Existing science and guidance documents indicate that OSA occurs at a high prevalence in commercial motor vehicle drivers and other transportation operators. The disorder contributes to preventable crashes of large vehicles, serious health consequences, and sizable economic costs. However, OSA is identifiable and treatable, and treatment can promote individual and public safety, improve health, and yield economic gains. If this position were implemented, in addition to

the clear and data-supported benefits, there are potential unintended risks and consequences of its implementation that should be studied and addressed. For example, consequences may include employment discrimination or the loss of a job, license, or income based on screening results.

DISCUSSION

The transportation industry has both large firms and tens of thousands of small companies and independent owner-operators, many of whom are underinsured or uninsured with respect to medical coverage. Some employers accept a current, valid medical certificate, whereas others require a new medical certification examination, conducted by an examiner chosen by the employer or the driver. Employers, federal regulators, law enforcement, and health care providers can work to enhance operator health and safety by addressing the screening, diagnosis, and treatment of OSA.

As directed by the Federal Motor Carrier Safety Administration, employers should ensure that their examiners are using current best practices to determine medical qualification of their drivers. Employers should implement OSA management programs even in the absence of a regulatory requirement. Currently, examiners should utilize the 2016 MRB recommendations as a starting point for identifying at-risk drivers who should be referred for diagnostic testing for suspected OSA.¹⁹ The MRB recommendations involve established criteria that are risk factors for OSA, such as body mass index, micrognathia or retrognathia, airway and neck size, age, sex, and history of comorbid hypertension, type 2 diabetes, stroke, coronary artery disease, or arrhythmias. The recommendations also involve self-reported symptoms such as fatigue or sleepiness during the wake period, loud snoring, and witnessed apneas. Similar criteria were developed in 2006 by a joint task force of physicians and scientists.¹⁶ A study found that combining the 2016 MRB recommendations with those from the 2006 joint task force among 706 commercial drivers produced a higher screening yield.²⁰

New federal regulatory protections also would provide national benefits. To minimize disruptions in treatment, payers should incentivize medical services that address adherence rather than simply discontinuing coverage for nonadherence with positive airway pressure therapy. Education, ongoing monitoring of treatment effectiveness, and interventions to support treatment adherence, including cognitive behavioral therapy,²¹ should be included in the ongoing management of OSA in safety-sensitive transportation workers.

When evaluating a transportation operator, clinicians must be aware that the absence of symptoms does not ensure the absence of risk. In a culture of partnership and shared accountability, clinicians must work in close cooperation with operators to ensure effective treatment, while also recognizing their professional obligation to make decisions in the interest of both the driver's and the public's safety. If the health care professional has concerns that the individual is unsafe to drive, they should discuss their concerns with the patient (and, if possible, their

family members) and document these discussions. Obtaining a signed attestation by the operator indicating that the discussion was held and that the information was understood may be reasonable in some cases. If there is continued concern that the individual will not follow the health care provider's instructions to stop driving, then reporting to the state driver licensing agency may be considered. Clinicians should be aware that states have varying rules regarding reporting of potentially unsafe drivers. While a few have a mandatory reporting requirement, most are "permissive," meaning whether to report or not is at the health care professional's discretion, and still others prohibit reporting altogether in the interest of patient privacy. The health care professional should become knowledgeable about the relevant state's reporting requirement, and if they are considering reporting, first obtain legal advice, then inform the operator of the decision to report in advance, and document that discussion in the medical record.

Transportation workers, including commercial drivers, also need to understand that they may be at increased risk for drowsiness-related crashes and incidents due to the higher prevalence of moderate-to-severe OSA in their population. Operators also must be aware that the effects of coexisting factors, including extended or nontraditional work hours and insufficient sleep,²² may exacerbate impairment associated with OSA-related drowsiness. Because clinicians make decisions based on the data provided to them, all transportation operators are encouraged to be forthcoming in symptom reporting. Additionally, clinicians are unable to assess variables that can affect operational safety in real time, including insufficient sleep, irregular schedules, and circadian misalignment. In the collaborative approach needed to minimize risks, each employee who conducts safety-sensitive work bears the responsibility to become educated, recognize risks, and avoid operating when impaired or concerned about impairment.

CONCLUSIONS

Faced with the challenge of identifying which operators are at an increased risk of both having OSA and being involved in an OSA-related crash, particularly without reliable symptom reporting, clinicians should use guidance documents and existing science to promote uniformity in risk-reduction practices. Acknowledging that individuals who work in safety-sensitive transportation occupations have unique testing needs, the US Preventive Services Task Force has urged clinicians evaluating such employees to consult guidelines issued by the relevant agency.²³ Despite the withdrawal of the Advanced Notice of Proposed Rulemaking, the Federal Motor Carrier Safety Administration has stated that OSA is an important medical issue that requires evaluation and management to mitigate crash risk, and it encourages examiners to use available guidance.¹³ To do nothing about OSA is unacceptable and inconsistent with the current standard of care.

A clear need persists for a national effort to educate, train, and provide investigational resources for local and state law enforcement regarding the role of fatigue and sleep disorders in

transportation crashes. Future models to predict crash risk also may incorporate novel measures to improve sensitivity and accuracy.

While most employers have not mandated specific screening and treatment programs beyond the federal requirement, some have implemented programs through collaborative partnerships between the operator, employer, examiner, and sleep medicine clinician. Such initiatives have identified at-risk operators efficiently and successfully. The use of existing paradigms to identify and treat OSA-related crash risk results in clear benefits, including a reduction in crashes, economic gains, symptom relief, and general health benefits for the individual operator.

ABBREVIATIONS

AASM, American Academy of Sleep Medicine

MRB, medical review board

OSA, obstructive sleep apnea

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Address correspondence to: Indira Gurubhagavatula, MD, MPH, Division of Sleep Medicine, Perelman School of Medicine, University of Pennsylvania, 3624 Market St, Suite 205, Philadelphia, PA 19104; Tel: (630) 737-9700; Fax: (630) 737-9790; Email: gurubhag@penncmedicine.upenn.edu

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