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Screening for Obstructive Sleep Apnea in the Transportation Industry—The Time is Now

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On September 29, 2016, a New Jersey Transit train failed to slow down and stop at the station in Hoboken, New Jersey. The resulting crash injured a number of passengers and killed a young mother who happened to be near the crash site. Subsequently, it was learned that the train engineer who apparently had blacked out was diagnosed as having severe obstructive sleep apnea (OSA). (1) Unfortunately, this was not an isolated incident. Over the past few years, there have been several other well-documented incidents of train, truck and bus crashes resulting from their operators falling asleep from OSA. In 2013, a Metro-North commuter train derailed outside of New York City because of excessive speed approaching a curve, the train engineer reported being “dazed” and was subsequently found to have OSA.(2) Four passengers were killed and numerous others were injured. In another well-documented accident in 2013, the driver of a Greyhound bus fell asleep. The bus ran off the road, rolled on its side and injured 35 passengers. The driver had been told to get tested for OSA, but did not have the study done. A subsequent court-ordered polysomnogram showed OSA. (3) In another incident in 2009, a truck-tractor semitrailer operator failed to notice slowing and stopped cars in front of him and collided with a passenger vehicle. This led to a series of rear end vehicle collisions resulting in 10 fatalities. The cause of the accident was operator fatigue related in part to OSA. (4) These well-publicized incidents are only a few of the sleepiness/fatigue related accidents caused by unrecognized OSA in the transportation industry.

One of the most common symptoms attributed to OSA is daytime sleepiness which can be uncontrollable and unpredictable. Numerous studies have demonstrated that persons with OSA have an increased rate of motor vehicle accidents with up to a 4.9 fold higher risk. (5) Accidents involving only a single vehicle are particularly frequent suggesting that the crashes are caused by the operators having fallen asleep. Truck drivers are at even greater risk, most likely because they are disproportionately male, middle aged and overweight, all of which are risk factors for OSA. Over a ten year span from 2004 to 2013, it has been estimated that 3,133 to 8,952 deaths and 77,000 and 220,000 serious injuries have resulted from sleepy operators of commercial motor vehicles, many of whom most likely had undiagnosed and untreated OSA. (6)

Given the severe consequences of unrecognized OSA on public safety and the high prevalence of unrecognized OSA among operators of trains, buses and commercial trucks, the imperative to screen and treat these persons for OSA is high. The advisory boards to the Federal Motor Carrier Safety Administration (FMCSA) have recommended that commercial truck drivers be screened for OSA if their body mass index is > 40 kg/m\(^2\), or \(\geq 33\) kg/m\(^2\) and have 3 or more conditions or findings associated with OSA, but adoption of these recommendations has not occurred. More recently, the Department of Transportation, Federal Railroad Administration and the FMCSA have taken the first steps to mandate screening and treatment of rail and commercial motor vehicle operators for OSA by soliciting public comment. Airline pilots are already screened. However, there is substantial opposition from the trucking industry and drivers themselves, the latter because of potential job loss.
However, such a screening program in one large trucking company has demonstrated a 5-fold reduction in accident rates in drivers who were adherent to CPAP treatment for OSA. (5)

With the development of relatively simple to use ambulatory devices that can identify most persons with OSA, screening for OSA can be done easily and cost-effectively. In the vast majority of cases, referral to a sleep lab is not necessary. Persons diagnosed with OSA can be treated with several different modalities and are able to return to work. Employers may actually experience a reduction in their costs related to fewer accidents and improved employee health. Thus, there is no reason to delay requiring OSA screening programs for all persons working in occupations where public safety is at risk. For regulators, policy makers, and the various industries affected, the time is now. Failure to act places the responsibilities for the ensuing economic costs, injuries and deaths on your shoulders.
References:


