



## What The Experts Say

### Researchers investigate trucker connection.

**"What matters is not the numbers, but whether we have an alert, qualified individual making decisions at 3 o'clock in the morning."**

—Joseph Clapp, Chief, FMCSA.

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Increased public awareness of Obstructive Sleep Apnea (OSA) has produced a proliferation of sleep test facilities, estimated at 1,500 nationwide and growing. Among them is SleepQuest, Inc., an innovative ambulatory sleep care provider, in Redwood, Calif., headed by Robert Koenigsberg, president/CEO. The company's chief scientific advisor is William Dement, M.D., Ph.D. from Stanford University. He is the world's leading authority and advocate on sleep, sleep deprivation, and the importance of sleep education together with diagnosis and treatment of sleep disorders.

SleepQuest collaborated with Dr. Dement, the Stanford University Sleep Research Center, and the Safety Research Center in creating the widely publicized pilot program that has been submitted to the Federal Motor Carrier Safety Administration for review.

The program will follow a group of drivers from Dart Transit and Star Transport who will attend a comprehensive educational program explaining the importance of sleep, sleep deprivation and circadian rhythms. In addition, drivers will be tested and treated for sleep disorders. They will be allowed to operate outside the hours of service guidelines and will be closely followed to illustrate that drivers who are trained to manage their sleep and recognize the signs of fatigue are at least as safe as drivers operating under the current regulations.

These drivers will also be monitored to document the improvements in alertness levels. A matched control group will also be followed. An initial small group of drivers participated in the trial run of the program last year with overwhelmingly successful results.

As more becomes known about OSA and research trumpets the connection of truck drivers to this disorder, trucking associations like the ATA have been helping to bring the industry up to speed by hosting seminars to educate drivers and trucking personnel on the subject.

One of the most prominent OSA educators on the speakers'

circuit is Stuart Lowenthal, chief operating officer of HealthScreenings, Inc., Louisville, Ky. A lecturer and consultant to the trucking industry, and author of papers on trucker lifestyle and sleep disorders, he has made numerous presentations at national trucking associations and insurance risk control management meetings. His articles on sleep disorders have been widely published and he is currently helping carriers develop their own sleep screening/treatment programs.

We spoke with Koenigsberg and Lowenthal on the current state of OSA awareness in trucking and asked them to explain to long haul carriers the importance of getting truckers diagnosed and treated for sleep disorders, specifically OSA.

### **SleepQuest's Robert Koenigsberg**

Why are sleep disorders dangerous in trucking?

"The job requires a driver to be alert and attentive every second as he maneuvers massive equipment under difficult conditions. He cannot do this if he is sleep-deprived," Koenigsberg stated.

"There is a high prevalence of OSA in [truckers]," Koenigsberg said. He cited a study of 159 commercial truckers (R. A. Stoohs, et al, "Sleep and Sleep-Disordered Breathing in Commercial Long-Haul Truck Drivers") that found 78 % of them had results suggestive of OSA.

"It's a sensitive issue — that three-quarters of drivers would need testing and treatment. It can run up a bill awfully quick."

Every hour of missed sleep accumulates, leading to sleep deprivation (sleep debt), he explains, which can bring about impaired memory, decreased reaction time, and increased likelihood of having a motor vehicle accident, either due to falling asleep behind the wheel or delayed reactions.

The two causes of sleep debt are insufficient sleep (fatigue) and sleep disorders like OSA. "Both are major problems in the trucking industry," he notes.

Koenigsberg reached this conclusion by way of the study on which his company collaborated with Stanford University Sleep Research Center, the Safety Research Center, Dart Transit, and Star Transport.

"Drivers can't predict when they will get to sleep because of variable schedules and, without being properly educated, they are unable to manage their sleep cycle," he said. In the study, eight out of nine drivers had OSA and now all are compliant with CPAP (Continuous Positive Airway Pressure used to treat OSA) therapy.

"It has turned their lives around. We have a video that describes [the drivers'] reactions. Some are dramatic, like a comment from Walter Johnson of Dart Transit, who said, 'I used to wonder why those guys end up in the ditch; now I know why.'"

Koenigsberg described a study by Dr. Nelson B. Powell, et al, published in the medical journal *Laryngoscope*, which proved a sleepy driver can be every bit as dangerous as one who is legally drunk. Subjects with mild to moderate sleep-disordered breathing, such as occurs in OSA, had worse drive-test reactions than healthy, nonsleepy subjects who had high blood alcohol concentrations.

"Potential risks of driving while sleepy are at least as dangerous as risks of driving illegally under the influence of alcohol, a culturally

accepted standard of impairment," Koenigsberg said.

SleepQuest offers a five-step fatigue management program to trucking companies that combines education with sleep disorder testing and treatment. It starts with education in sleep, sleep management and sleep disorders, followed by a preliminary screening questionnaire to assess the probability of sleep disorders.

Next come diagnostic tests that are overseen by a board certified sleep physician. Step four is providing the appropriate treatment and finally, a follow up program to ensure compliance with nasal CPAP.

"Without a continuum of care, six out of 10 CPAP units will go unused, requiring trucking companies and their insurance providers to continue to incur large expenditures as drivers re-enter the healthcare system to have the ramifications of OSA (i.e. heart disease, stroke, hypertension, etc.) treated," Koenigsberg relates.

"We follow the patient from A to Z, from questionnaire to compliance on the CPAP. We use mobile equipment, testing in a driver's home or truck or hotel, with licensed medical professionals," he explained.

"Since long-haul truck drivers are constantly on the move, portable testing makes much more sense for them. Sleep laboratories charge \$2,000 to \$2,500 for just the diagnostic sleep study. SleepQuest is able to provide a comprehensive program, including the CPAP equipment and a proprietary compliance protocol to measure outcomes, for about the same price. Trucking executives can sleep a little easier knowing that they won't have to break the bank in order to keep their drivers safe and alive."

Not all fleets are ready to address OSA, he says. Concerned that treatment costs will impact their earnings, trucking companies are proceeding cautiously, unsure whether to jump into what could be a costly diagnosis and treatment program because of the high driver turnover in the industry.

On the other hand, Koenigsberg posits, programs like SleepQuest's could have a profound effect on employee loyalty and driver retention. Drivers who get help would be more likely to stay, perceiving their treatment as an added employment benefit.

He believes many carriers are waiting until the DOT comes down with a definitive statement and "...as of now there isn't anything put out from DOT that mandates a policy on this issue."

He thinks the recommendation to medical doctors that a driver wait one month after starting treatment before resuming driving is unrealistic. "This time frame is arbitrary and not based on any published findings in the field of sleep medicine, so we are working with the DOT to come up with new recommendations that are more scientifically based."

Koenigsberg concludes, "SleepQuest is committed to do whatever it takes to make sleep medicine available to everyone."

They hope to diagnose and treat 25% of Americans for sleep related breathing disorders (OSA) within Dr. Dement's lifetime. "It's an ambitious goal," he admits, "but it's a promise I made to him."

Education, he notes, is the key to achieving to this goal.

The SleepQuest website, [www.sleepquest.com](http://www.sleepquest.com), is chockfull of useful information on sleep disorders and treatment.

## **HEALTHSCREENINGS' STUART LOWENTHAL**

"I am fighting a challenging battle, getting the trucking industry to deal with OSA because of the safety risk," he began. "Sleep apnea affects more than 12 million people in the U.S., more than 15% of them professional truck drivers, whereas in general population it's only about 4% effected."

Lowenthal cites research that suggests a significant number of over-the-road drivers sleep less than five hours in a 24-hour period. "Routinely getting five hours or less sleep gives the driver symptoms similar to OSA. Sleep deprivation is not OSA, but often scheduling leads to sleep deprivation," he says.

Trucking administrators are often reluctant to acknowledge that their drivers may have sleep apnea, he says, because they believe it will be expensive to treat and increase the carrier's liability.

"I don't agree. With today's knowledge of OSA and its impact on drivers' health, the right thing to do is screen, diagnose, and treat drivers. When treated with a CPAP machine, drivers do just as well as those who don't have the disorder. Left untreated, OSA affects health as well as safety, and can contribute to all kinds of medical complications, from high blood pressure to heart attack, stroke and, rarely, death."

Lowenthal compared OSA to poor eyesight, "It's like wearing glasses, a correctable thing. If you have a vision problem or OSA and don't get treated, then you are at risk."

Treatment costs are another issue. "We know it's costing twice as much to maintain the driver who isn't treated. It may cost \$1,500 to treat OSA, but then you'll save after that. The difference in health costs is significant — \$2,700 a year to maintain a person with undiagnosed OSA versus about \$1,350 for someone who has been diagnosed and treated. In a study with 230 patients, medical costs for diagnosed and treated OSA patients decreased by one-third."

In an article published in 2001 Lowenthal noted, "Common sense tells us that fit, alert, and vigilant drivers will be involved in fewer crashes. Those who sleep fewer than six hours per night (which include the majority of over-the-road truck drivers) have a 70% higher early death rate," he wrote.

For a carrier to ignore the well-being of its drivers is to assure failure and increased risks and liability, he says.

Acknowledging the addition of yes/no questions about sleep disorders recently added to the FMCSA medical examination form, he says the questions are too vague and that drivers might not be honest in answering them, fearing they will not get their license. "That is why education on this issue is so important," he notes.

Avoiding potential litigation, he says, is another reason to get drivers treated. "Tired trucker litigation is on the rise. If a guy has [OSA], they could say that given the information out there on OSA the carrier should have addressed it. The carrier becomes liable because it put him on the highway without proper treatment."

The solution to detecting OSA starts with educating drivers, Lowenthal asserts. "Some people think it's natural to be tired all the time. It's not. Drivers and employers need to understand the importance of adequate sleep and the consequences if they aren't getting it."

He also advocates lifestyle changes to reduce the risk of OSA.

"The average American male lives 76 years. Reportedly, the average OTR male truck driver lives 15 years less."

To get back those 15 years, he recommends that carriers encourage their drivers to make five lifestyle changes: stop smoking, change diet, lower stress, start regular exercise and take time for true rest.

Screening drivers for OSA is the next step, says Lowenthal.

He suggests starting with questionnaires and assessment of body size, weight and snoring. Overweight men with a neck size of 16 1/2 inches or larger are at risk, as are loud snorers. Other signs that the screening process helps identify: feeling tired most of the time, falling asleep easily during the day, restless sleep, interrupted breathing, high blood pressure, and heart problems.

He notes that detection methods have come a long way and several cost-effective approaches exist for identifying drivers with moderate to severe apnea.

"We use a **SleepStrip** screening patch that is applied at home for one night. Placed above the upper lip before retiring, it monitors breathing interruptions and helps identify sleep apnea. Technology has made OSA so much easier and economical to diagnose than it used to be."

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