

# TRUCKOPHOBIA

by Frank Roman MD JD



Beyond my fear of spiders, snakes, heights, the Internal Revenue Service, and Catholic nuns (eight years of Catholic grade school) I am pretty fearless. However, as someone who commutes an average of 100 miles daily and on occasion due to professional commitments, 250-270 miles in a 24 hour period, I am becoming more and more cognizant if not fearful of large trailer trucks on the road. Apparently I am not alone, as the Omnibus-Bureau of Transportation Statistics household survey from August 2000, revealed that 1.8% of the public surveyed mentioned fear of trucks as a safety concern. Obviously not as dramatic as fear of drunk drivers (11%), accidents (38.2%), and aggressive driving/road rage/other drivers (39%) but nonetheless registering on the radar as a concern to the traveling public.

In medicine, it seems that there is a name for everything so I requested my medical librarian, Clare Leibfarth, for the official terminology of my self-

diagnosed problem. After a comprehensive search she found no specific term for fear of trucks. She did however find amaxophobia, fear of riding in a car, diderodromophobia, fear of trains, railroads, or train travel, dystyziphobia, fear of accidents, hodophobia, fear of road travel, motorphobia, fear of automobiles, ochophobia, fear of vehicles (not fear of the number eight in Spanish), and finally tachophobia, fear of speed. This was somewhat surprising and taking the initiative in defining this new phenomenon I initially tried coining the phrase grandemotorhodophobia, which would mean fear of big speeding auto traveling on the road. However, this would be difficult to spell let alone pronounce; therefore, I will call it truckophobia.

Who among us has not taken advantage of these large trailer trucks on the expressway riding next to them for shade from the sun or as cover from state troopers while speeding. However, it seems that these benefits do not outweigh the potential risk as more surveys and scientific studies point out.

Under no circumstances should this article be considered an indictment of the trucking industry which provides an essential role in the day to day activities of our society. The trucking industry employs approximately 2.5 million drivers, operates one million motor carriers, and accounts for 10 billion miles per year of travel on U.S. highways. The truckers that I have had the privilege of meeting in the past 15 years are responsible, conscientious individuals who work long hours in somewhat unfavorable conditions.

Transportation safety databases were developed by the Federal government to monitor transportation accidents and to hopefully develop programs for improving safety. Databases for highway travel include the following: Fatality Analysis Reporting System (FARS), National Accident Sampling System/General Estimate System (NASS/GES), National Accident Sampling System/Crash Worthiness Data System (NASS/CDS), and finally the most important one for our discussion here Motor Carrier Management Information System (MSMIS). The Federal Motor Carrier Safety Administration (FMCSA) Analysis Division maintains the motor carrier management information system (MCMIS), which contains census, crash, inspection, enforcement, and compliance review information. Accidents contained in the MCMIS Crash Data involve at least one truck or bus. In addition each accident must result in at least one of the following outcomes: (a) a fatality, (b) at least one injury requiring transport to a medical facility, or (c) damage

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Let's pause and reflect on these numbers for a minute. OK, now that I have reflected, I am shocked and not shocked. I knew that the issue of adverse events and errors was serious, but this research seems to indicate that it is much more serious than we might have imagined in the NICU. Of course not all the adverse events identified by this study were the result of errors. 40% or so were not really preventable. Well I sure feel better. But my good feelings are short lived, since, during the brief period of reflection at the start of this paragraph I realized that all of this is still based mostly on the medical record and a lot of what happens to patients does not get entered into the medical record, especially paper records, and especially unhappy things.

One thing on the horizon that might help us better measure (and hopefully improve) the safety of our clinical practice is the advent of the electronic medical record. First, having all information about the patient coded into an electronic record makes mining of these data much more feasible and would help create more credible measurement systems. Second, if data were acquired automatically, e.g. if monitoring systems were hard wired into the electronic data gathering system, then there would be less chance of adverse events not being recorded in the medical record.

Finally, but really first, hospitals must create a just culture. This is one in which clinicians are not afraid to report their errors, which then allows the hospital to become a learning culture. All the clinical disciplines should collaborate to create a set of agreed upon principles for drawing the line between acceptable and unacceptable actions with regard to making errors. This does not mean there are never consequences to making errors, but it means that careful consideration will be given to intentions of the practitioners, and the degree to which poorly designed systems helped contribute to mishaps. We may, and sometimes do have little help to offer our patients, but we must remember that our very first duty to do no harm.

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requiring that at least one vehicle be towed from the accident scene. This database was created in 1989 and the information is gathered from police accident reports by state agencies which are then transferred electronically to the FMCSA for inclusion in the MCMIS. On average approximately 100,000 accidents are recorded to the MCMIS each year and published in the annual Large Truck Crash Overview.

The National Highway Traffic Safety Administration estimates that 100,000 automobile crashes per year are fatigue related. These sleepiness related accidents contribute to an estimated 71,000 injuries and 1,500 deaths per year. Moreover, in a report from 1990 the National Traffic Safety Board found that one third of fatal to driver heavy truck crashes in the commercial driving industry were fatigue related. The mean cost of a crash involving a single large vehicle has been calculated to be \$51,000 but when fatalities are involved the cost per crash increases to \$2.7 million. Despite these impressive numbers there is a sense in the field of sleep medicine that these numbers are a gross under estimation of sleep related motor vehicle accidents. Society has been very successful in decreasing the number of drunk driving fatalities which in the United States have declined by more than 50% since receiving national and local interest more than 25 years ago. However, there has been a major lag in recognizing the dangers of drowsy driving, especially the dangers of chronic partial sleep deprivation which seems to be prevalent in certain occupations such as long haul truck drivers. It is well known that performance consistently begins to decline after 16 hours of continuous wakefulness regardless of how long the nightly sleep duration was. Furthermore, this cumulative partial sleep deprivation is more problematic than acute sleep deprivation since it can be very difficult to identify and many individuals may misperceive their level of impairment. Of dire significance is the scientific data showing that a person who has been awake for 24 consecutive hours demonstrates the same impairment in judgment and reaction time as an adult with a blood alcohol concentration of 0.10%, which in years past was the definition of legal intoxication. However, as of August 2005, all states in the United States by Federal mandate have lowered the definition of legal intoxication to a blood alcohol concentration of 0.08%.

As reported by The National Sleep Foundation, the Federal Motor Carrier Safety Administration (FMCSA) has indicated that it will issue a notice of proposed rule making related to trucking safety. This notice essentially starts the discussion on whether or not the United States will require mandatory or voluntary use of electronic onboard recorders (EOBR) and the conditions that should be in place when using EOBRs. Additionally, as reported by the National Sleep Foundation, this rule making would evaluate alternatives for encouraging or providing incentives for EOBRs to ensure that hours of service record keeping and compliance are met by American commercial drivers. EOBRs would essentially serve the same function as the black boxes in airplanes and record the movement, data, and activity of trucks and drivers independent from manual daily logs that are kept by the actual truckers.

Noteworthy on 8/10/06 President George W. Bush signed into law the new Federal Transportation Bill which includes a mandate that driver fatigue be added to the list of safety factors that must be included in all state highway programs. This involves adding more rumble strips to roads, providing information on driver fatigue in driver education programs as well as educating

*continued on next page*

police officers of the characteristics of drowsy driving and standardizing reporting of drowsy driving crashes on police forms. Individual states will have up to six years to implement these provisions or risk losing Federal monies.

As a healthcare provider some of the difficulties in treating this segment of the population has been their fear of losing their driving privileges and thus their livelihood. From a physician's standpoint the difficulty in managing these patients is the lack of specific guidelines concerning medical clearance to operate a commercial vehicle weighing the patients rights and well being versus public health safety. Recently, a statement addressing sleep apnea and commercial motor vehicle operators was prepared and published by the Joint Task Force of the American College of Chest Physicians, American College of Occupational and Environmental Medicine, and the National Sleep Foundation. It is of such importance that I would like to go into some detail on this position paper but I strongly encourage each and every one of you to look up the original reference in Chest 2006; 130:902-905.

The screening recommendation for CMV drivers with possible or probable sleep apnea are divided into three sections. The first section is drivers who would be medically qualified to drive commercial vehicles if they meet either of the following:

1. No positive findings or any of the numbered inservice evaluation factors.
2. Diagnosis of obstructive sleep apnea with continuous positive airway pressure compliance documented.

Section II would be in-service evaluation and recommendation if driver falls into any one of the following five major categories with only a three month maximum certification.

1. Sleep history suggestive of obstructive sleep apnea.
2. Two or more of the following: (1) a body mass index graded at 35 kilograms/per square meter. (2) neck circumference greater than 17 inches in men and 16 inches in women. (3) hypertension.
3. Epworth sleepiness scale score of greater than 10.
4. Previously diagnosed sleep disorder compliance claimed but no recent medical visit compliance data available for immediate review. Noteworthy if the driver is not found to be compliant they should be removed from service.
5. Apnea hypopnea index greater than 5 but less than 30 in a prior sleep study and no excessive daytime sleepiness with an Epworth sleepiness scale of less than 11; no motor vehicle accidents; no hypertension requiring two or more agents to control.

Section III would be out-of-service immediate evaluation recommended if the driver meets any one of the following:

1. Observed unexplained excessive daytime sleepiness or confessed excessive daytime sleepiness.
2. Motor vehicle accident (run off the road, at fault, rear-end collision) likely related to a sleep disturbance unless evaluated for sleep disorder in the interim.
3. Epworth sleepiness scale  $\rightarrow$  16 or functional outcomes of sleep questionnaire score  $<$ 18.
4. Previously diagnosed sleep disorder (1) non-compliant (CPAP not tolerated); (2) no recent follow up (within recommended time frame) (3) any surgical approach with no objective followup.
5. Apnea hypopnea index  $>$ 30.

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Also very important in this position paper are guidelines for return to work after treatment, which has been somewhat a source of contention between the sleep specialist, the occupational physician triaging the driver, and finally the trucking industry. The recommendations for return to work after treatment with CPAP are the following:

1. After approximately one week of treatment with contact between the patient and personnel from either the durable medical equipment company, treating provider or sleep specialist.
2. Apnea hypopnea index of less than 5 documented with continuous positive airway pressure on initial titration or after surgery or with use of oral appliance; apnea hypopnea index less than 10 depending on clinical findings.
3. Checking the smart card if used on the CPAP unit.
4. At a minimum of two weeks after initiating therapy but within four weeks the driver should be re-evaluated by the sleep specialist and compliance and blood pressure assessed.
5. If the driver is complaint and blood pressure is improving the driver can return to work but should be certified for no longer than three months.

This review and recommendations will be presented to the Federal Motor Carrier Safety Administration as its recently convened medical review panel works on updating the guidelines for obstructive sleep apnea. It is exciting to see the current explosion in our scientific data and knowledge regarding sleep disorders and specifically obstructive sleep apnea in this population be presented to the federal government hopefully for implementation to further improve safety on our highways. This is a significant improvement from 15 years ago where the general attitude was DON'T ASK DON'T TELL.

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