

SLEEP WELL

News on sleep apnea for the commercial trucking industry

WORK BETTERSM

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Driver edition

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Sleep apnea puts drivers at risk

Learn the basics of this deadly disorder

Sleep apnea is very common, particularly in the commercial driver population. Studies show that up to 28% of commercial drivers may be afflicted. Primary risk factors include being male, overweight, and over the age of forty.

Fortunately sleep apnea can be diagnosed and, with treatment, quality of life and health benefits can be realized.

What is sleep apnea?

Sleep apnea is defined as the cessation of breathing during sleep. Obstructive sleep apnea (OSA) is the most common form of sleep apnea — where the tissues in the back of the throat repetitively collapse during sleep, producing snoring and complete airway blockage.

This blockage creates pauses in breathing that occur repeatedly every night. In severe cases they can occur as frequently as every 30 seconds. Alarming, they can last up to a full minute.

These repetitive pauses in breathing during sleep are accompanied by a reduction in blood oxygen levels and



are followed by an arousal response.

This response includes a release of substances into the bloodstream, which promote elevation of blood pressure, inflammation, insulin resistance, and a disruption of the brain wave sleep pattern.

The consequences of untreated sleep apnea include poor quality sleep, excessive daytime fatigue and sleepiness, irritability, hard-to-control high blood pressure and diabetes, heart disease, and stroke. Interestingly and not coincidentally, many of these same medical conditions account for the majority of health-related

expenditures in the commercial driver population.

Moreover, untreated sleep apnea may be responsible for job impairment and motor vehicle crashes.

While sleep apnea can be a deadly condition, it is treatable.

Drivers who are diagnosed require treatment which often includes a CPAP mask, flow generator, and heated humidifier for nightly use.

For more information about sleep apnea and treatment, visit PrecisionPulmonary.com.

INSIDE

- 2 Editor's Note
- 3 Belly fat: Weight loss shrinks effects of sleep apnea
- 3 How to diagnose sleep apnea in your partner
- 4 Drivers inquire: Answers to your toughest questions about using a CPAP machine
- 5 New study: CPAP improves symptoms of depression
- 5 MRB reviews DOT sleep apnea screening
- 5 Cup o' Joe may be hiding serious sleep problems

EDITOR'S NOTE

Sleep Well Work Better is a production of Precision Pulmonary Diagnostics, specializing in premium news and analysis on sleep apnea for the commercial trucking industry, and is published 4 times a year.

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Precision Pulmonary Diagnostics (PPD), provides professional screening for drivers who are at risk for sleep apnea. This is a HIPPA-compliant, online tool customized to a company's requirements.

Once a driver has been identified as at-risk for sleep apnea, PPD will provide local diagnostic services with the ease of Web-based scheduling and quick, reliable turn-around — from diagnosis to treatment.

Drivers who require treatment will be fitted for and provided with a CPAP mask, flow generator, and heated humidifier for nightly use.

In order to ensure drivers are using their masks correctly, PPD has partnered with a leading manufacturer of CPAP equipment, masks, and the only provider of a patented wireless compliance monitoring system.

The wireless compliance monitoring system provides daily information of CPAP use, efficacy, and allows real-time troubleshooting of any problems your drivers may be experiencing. With this data, we can enhance your drivers' CPAP acceptance and long-term compliance. In short, our protocols can maximize your results and your return on investment.

Dear Readers,

For those of you diagnosed with sleep apnea:

Sleep apnea occurs when the muscles responsible for keeping the upper airway open during sleep relax, allowing the tissues in the back of the throat to come together. This causes a complete (apnea) or an incomplete (hypopnea) reduction in airflow into your lungs. These respiratory events result in drops in your blood oxygen level. The subsequent falls in your blood oxygen level have been shown to have numerous adverse health consequences.

In response to these respiratory events and drops in blood oxygen levels, the body releases a chemical similar to adrenaline. This has the effect of speeding up your heart rate, raising your blood pressure, and disrupting your brain's sleep quality. Most of these brain wave changes do not lead to full awakenings that you remember but they do interfere with a quality night's sleep. This is one major reason why people with untreated sleep apnea are often sleepy or inattentive during the day. Others may experience mood issues (depression, anger, anxiety) without clear-cut complaints of fatigue. Medical studies have shown that drivers with untreated severe sleep apnea are at an increased risk for motor vehicle accidents.

Other chemicals and hormones are released into the bloodstream of people with untreated sleep apnea. These substances have been shown to contribute to many health problems including high blood pressure, stroke, heart disease, diabetes, and even weight gain. Treatment of sleep apnea, including that of mild and moderate severity, has been shown to improve the long-term health of these individuals. This is why we and your employer are encouraging you to be compliant with your CPAP machine use at all times. The health benefits achieved are considerable over a long period of time.

Unfortunately, like most things in medicine, there is no cure for sleep apnea. However, nightly and effective use of your CPAP machine reduces the health and driving risks from this condition back to what they would be if you did not have sleep apnea. Sleep apnea does not go away when you are at home or on vacation and, in fact, it worsens as you age. Nevertheless, use of your CPAP machine whenever you sleep will significantly improve your well being.

We are excited about publishing this first edition of Sleep Well Work Better, the only newsletter addressing sleep apnea issues in the commercial driver population. Future issues will include articles written by drivers for drivers, tips for traveling in your truck with CPAP machines, idling your truck as it relates to sleep apnea, new research in sleep medicine to name a few. Have an idea or a story to share? E-mail Wsullivan@ppdsleep.com.

Safe Travels,

Mark B. Berger, MD FCCP

President, Precision Pulmonary Diagnostics LLC



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Belly fat: Weight loss shrinks effects of sleep apnea

Research has shown a strong relationship between weight and obstructive sleep apnea (OSA). Your neck gets thicker as you gain weight. This increases the level of fat in the back of the throat, making your airway more likely to be blocked. Because exercise reduces body weight, it has been suggested as a potential intervention for mild to moderate OSA.

How can you exercise on the road? Consider the following easy activities.

Knee Grabs (abs)

- Lie on your back with your knees bent.
 - Pull your right knee toward your chest and place your hand on your knee.
 - Push your knee into your hand and hold for 10 seconds.
- Relax and repeat 10 times. Repeat with left knee.

Leg Extensions (thigh)

- Sit on a chair facing a wall.
- Raise right leg so toes are pointed

and touching the wall.

- Push the wall with your toes and hold for 10 seconds.
- Repeat 10 times with each leg.

Heel Digs (calves, hamstrings)

- Sit on a chair with both feet on the ground
 - Push right heel into the ground away from chair
 - Hold for 10 seconds.
- Relax and repeat 10 times. Repeat with left foot.

Leg Adductors (thighs)

- Sit in a chair, and put an object like a basketball between your knees.
 - Squeeze the ball with your knees.
- Hold for 5 seconds.
Relax and repeat 10 times.

Curl Ups (abs, hips and shoulders)

- Lie on back on flat with bent knees.
- Bring knees into chest and hold with hands.
- Push knees against hands with

keeping in position. Hold for 5 seconds. Relax and repeat 10 times.

Also:

- Park far away from stop location so you are forced to walk or jog.
- Carry a jump rope with you.
- Keep basic exercise equipment like stretch bands and dumbbells in your cab.
- Do standing push-ups against your truck.



SPOUSE'S CORNER



How to diagnose sleep apnea in your partner

Spouses/significant others help diagnose sleep apnea more accurately than drivers or physicians in many cases because they hear and see what is happening every time the driver sleeps.

Help diagnose and treat the condition, keep your partner driving safety, help reduce your out of pocket insurance costs, improve the overall quality of life for your partner, extend your partner's life span and most importantly, getting the driver through a DOT physical to keep them earning a paycheck on a regular basis.

A CPAP machine is given to the driver to correct his breathing disorder. It may take a while to get used to, but PPD staff will work with your partner on tolerance as well as other drivers that are treated . Your partner's company will pay for testing and treatment—saving thousands in the long run and an important investment into the health and safety of your partner. Drivers with untreated sleep apnea are 2-7 times more likely to be in a driving accident.

You can be a tremendous resource for diagnosis and support

SYMPTOMS

- Loud snoring
- Stops breathing while asleep
- Tosses and turns
- Heavy sleep sweats
- Collar size 17" or greater
- Family has sleep apnea
- May often also have high blood pressure, diabetes, heartburn, etc.
- Heart disease

Drivers inquire

Answers to your toughest questions about using a CPAP machine



My mask is uncomfortable. What can I do?

It takes time to adjust to sleeping with something on your face. Give it some time. Make sure the mask is not pulled too tight or too loose – both of these things can lead to discomfort and mask leakage.

Your APAP (Auto Titration Positive Airway Pressure) machine has a mask leak feature that will tell you when you have an optimal mask fit (press “Start” button down for 3 seconds and then place the mask on your face – the LCD screen will show what kind of mask fit you have – make sure the mask setting on the MASK screen is the same as the mask you are using – for more detailed instructions, turn to page 13 of the user’s manual).

Once you are convinced that the mask you have is not working for you, call Precision Pulmonary Diagnostics at (866) 370-3102 / (713) 520-5864 and they will help you choose another mask and ship it to your home.

What can I do if the pressure on my machine feels too high?

It takes time for your body to adjust to APAP treatments. It is a process of adjustment so be patient with your new treatment. Your machine is provided to you in the APAP mode, which means that the machine adjusts the amount of air pressure you need throughout the night instead of a constant flow of air pressure (CPAP). Therefore, some people will feel a sudden “boost” or increase in air pressure during the night which might wake them. This may be the result of 2 issues:

1. Your mask may have come off (the seal around your face came undone) or a high leak might be detected which would prompt the machine to increase air pressure.
2. You may have been experiencing an “apnea” (closing of your throat) at the time of the air pressure boost, and you needed the air pressure to open your throat. Some people may need to turn the machine off and then on again, in order to reset the machine back to its beginning settling time and give you time to fall asleep again. Give the machine approximately 2 minutes to reset itself once you turn it on and place the mask back on your face.

I’m having a hard time using my machine because I am a side and belly sleeper. How can I adjust?

Masks are designed primarily for sleep on your back. There are a couple of masks that are easier for side sleepers (nasal pillows and sometimes a nasal mask if your pillow is adjusted correctly).

Most people end up training themselves to sleep on their back – the use of a cervical pillow and a pillow under your knees can make this process more comfortable by better aligning your back and allowing better neck placement while on APAP/CPAP.

How can I keep from feeling congested when I wake up in the morning?

Are you using your humidifier? Is it turned on? Is the dial on the humidifier turned up high enough? Are you running your machine/humidifier off of a 200-watt, hard-wired inverter while in

your truck? Are you breathing through your mouth? (Do you have a full face mask?)

By far, the most common cause of either dryness or congestion when on APAP/CPAP treatment is improper or non-use of the humidifier.

Make sure that your humidifier is working and set up correctly, and that if you are a mouth breather, you have either a full face mask or a nasal mask with a chin strap.

Can I run my APAP unit off of the AC adaptor power cord through the cigarette lighter?

Your APAP unit will work off of the cigarette lighter with the AC adaptor provided to you, but it will only power the APAP (S8 Auto Vantage unit), not the humidifier.

To use the humidifier with the APAP unit, you must have a 200-watt inverter hard wired into your truck. If using your APAP unit off of the AC adaptor, please unplug the adaptor from the cigarette lighter prior to turning on your truck to avoid any power surges.

How can I initiate a desensitization period?

Some people find it helpful to start out with small increments of time on the machine, so at the beginning you may want to try 1-2 hours a night to adjust to the air pressure, and then slowly increase the time to the 4 hours required by your employer.

You can also change the settling time on your machine up to 45 minutes to give you that time to fall asleep.



New study: CPAP improves symptoms of depression

Patients with obstructive sleep apnea (OSA) who also suffer from depression often find that continued use of continuous positive airway pressure (CPAP) relieves them of symptoms of depression, according to a study published by the Journal of Clinical Sleep Medicine.

Dr. Daniel J. Schwartz, of the Sleep Center at University's Community Hospital in Tampa, Fla., surveyed patients of OSA who demonstrated a significant response to CPAP. The subjects were evaluated for symptoms of depression, were assessed again after four to six weeks of treatment with CPAP and then reassessed approximately one year later.

In this group of patients, the institution of CPAP therapy resulted in a significant decrease in those symptoms of depression that were assessed at both the short-term and long-term follow-up periods.

First introduced in 1981, CPAP is the most common and effective treatment for OSA.

FMCSA updates

MRB reviews DOT sleep apnea screening

The Medical Review Board (MRB), on task at the Federal Motor Carrier Safety Administration (FMCSA) is holding a public hearing in Salt Lake City on January 28, 2008, on sleep disorders. A joint committee to the MRB and FMCSA released a paper in September of 2006 with the following recommendations to DOT examiners regarding screening for sleep apnea:

Drivers who are to be considered for a referral for sleep apnea from the DOT examiner include:

- Drivers with a body mass index of 35.0 or higher,
- have a history of high blood pressure and/or heart disease,
- have accident history,
- neck of 17 inches or greater

This is where the government may consider starting, although many drivers without the above criteria can also have symptoms of sleep apnea to include:

- excessive daytime sleepiness (often masked by caffeine, smoking and things like 'stackers')
- loud snoring

- stopping of breathing while asleep — awakening gasping for air or snorting
- restless sleep — difficulty falling asleep or staying asleep

The Federal Government, due to the fact that the sleep apnea guidelines have not been updated for DOT examiners since 1991 and fatigue related accidents are beginning to offer guidelines to help the DOT Medical examiners fight the issue of sleep apnea.

DOT Regulation 391.41 (5) b speaks to sleep apnea as a respiratory dysfunction that needs to be treated to driver a commercial vehicle. Screening drivers more carefully for this condition is already underway.

As your company offers a sleep apnea screening, diagnosis and treatment program, if you think you may be a candidate, contact your employer. It could literally save your life.

Sleep Well will bring you the update on this hearing as it becomes available.

Cup o' Joe may be hiding serious sleep problems

That daily jolt that you crave every day may be the reason you need the caffeine in the first place. Those who rely on caffeine to stay awake need to find out why we are having problems sleeping, according to Dr. Joshua Septimus, an internist with The Methodist Hospital in Houston.

Some 12 million people in the U.S. have OSA and are not aware of the problem. Most people wake up from a deep sleep hundreds of times a night, and when they finally get up in the morning, they are exhausted, and head straight for the caffeine drinks to make it through the day.

"Most people don't realize how much more productive and vibrant they would feel if they could get eight solid hours of sleep a night," Septimus said.

"Masking your bad sleep habits with caffeine drinks or multiple cups of high priced coffee, while it might provide a short-term spark, will do nothing to cure the underlying problem, and make you feel better in the long run."

