What You **REALLY** Need to Know About SLEEP APNEA

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Airline pilots: Obstructive sleep apnea (OSA), if untreated, is serious, with significant health and career implications. The FAA has considered sleep apnea disqualifying since 1996. And with the FAA's announcement that it plans to provide new guidance to aviation medical examiners on this issue, airline pilots will likely encounter new screening and documentation during future medical exams.

So how do you know if you're at risk? In this article we'll discuss what OSA is, how it's diagnosed, and what it means for you as a line pilot.

Diagnosing sleep apnea

Sleep apnea involves frequent intermittent pauses in breathing for more than 10 seconds while sleeping (apnea) and/or reduced airflow with blood oxygen desaturation greater than 4 percent (hypopnea). Sleep apnea has several forms: OSA from mechanical obstruction of the airway (the most frequent form); central sleep apnea (CSA) from defective signals to breathe from the central nervous system; and a mixed form combining OSA and CSA.

Sleep apnea is usually diagnosed by a laboratory polysomnogram (sleep study), but also can be diagnosed or excluded via home studies. Most people with sleep apnea are unaware they have it.

The severity of OSA is scored using several tools, the most common being the Apnea-Hypopnea Index (AHI). Screening for sleep apnea may involve simple overnight oximetry (blood oxygen saturation) studies or some of the less-sophisticated home studies, but diagnosing OSA may require more advanced types of home studies or even a formal laboratory sleep study.

Mild OSA occurs when the AHI is between 5 and 15 (i.e., the person has 5 – 15 apnea and hypopnea events per hour) and OSA symptoms exist. Many people with mild OSA have no symptoms and may not need treatment. Moderate OSA involves an AHI of 15 – 30; an AHI greater than 30 is severe OSA.

Symptoms

Common OSA symptoms include excessive daytime sleepiness, fatigue, and impaired cognition. Other symptoms include snoring, gasping when sleeping, difficulty with short-term memory or concentration, frequent nighttime urination, reduced sex drive, morning headaches, irritability, and unrefreshing sleep.

OSA significantly increases the risk of congestive heart failure, atrial fibrillation, high blood pressure requiring medication, high cholesterol, stroke, heart attacks, diabetes, and depression. People with untreated OSA have a significantly increased health risk. This risk is substantially reduced after just two days of treatment.

Untreated sleep apnea triples the risk for fatal and nonfatal cardiac events, primarily in those younger than 65. Sleep apnea also is associated with adult epilepsy and complications with surgery.

BMI and OSA

Body mass index (BMI) is a person's weight in kilograms divided by height in meters squared (go to www.bmi-calculator.net). Normal BMI is 18 – 24.9; less than 18 is underweight; 25.0 – 29.9 is overweight; greater than 30 is obese. A BMI greater than 40 is morbidly obese. For example, a 5 foot 11 inch person would have to weigh more than 287 pounds to exceed a BMI of 40. The Stanford University Sleep Center has detailed the relationship of weight and OSA. One ironic finding: Obesity is the biggest risk factor for OSA (and the only evidence-supported treatable risk factor), yet OSA can lead to obesity; treating one helps treat the other.

According to Stanford researchers,

- OSA risk factors include alcohol intake, smoking, nasal congestion, and menopause. Physical risk factors include a large neck, recessed jaw, enlarged tonsils, high arched palate, and nasal obstructions; all may collapse the airway during sleep.
- Adding 10 kg (22 pounds) doubles the risk of OSA; an increase in BMI of 6 or an increase in waist or hip size of 13 – 15 cm (5 – 6 inches) quadruples the risk.
- Waist obesity is more associated with OSA than hip obesity or BMI, even in nonobese people.
- Hormones associated with sleep disturbance lead to increased appetite and weight gain.
- OSA reduces energy, physical activity, muscle energy, metabolism, and exercise performance, all leading to obesity.

Bottom line for pilots

Again, untreated OSA is serious and has significant health and career implications. If you are at risk, get evaluated. The most common comment from pilots who have been treated for OSA is, "I never knew I felt so bad before, until I felt so good after treatment." Don't let OSA ground you.

Most insurance companies cover most costs associated with OSA, as treating OSA is cheaper than covering medical complications of untreated OSA.

For more on OSA and related conditions and screening, diagnosing, and treating pilots, plus FAA medical certification, visit the ALPA Aeromedical site at www.aviationmedicine.com and stay tuned for future articles in *Air Line Pilot*.

We continue to work with ALPA and FAA staff to safely keep pilots on the job if they are diagnosed with sleep apnea.

In December 2013, the federal air surgeon announced that new guidance on obstructive sleep apnea would be published in the FAA's *Guide to Aviation Medical Examiners* in early 2014. This announcement caused a number of stakeholders, including ALPA, to contact the FAA to emphasize the need for greater stakeholder input before implementing any new sleep apnea screening policies. Additionally, legislation has been introduced that would require the FAA to address sleep apnea screening changes through formal rulemaking activity (see page 15).