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# WAKE-UP CALL FOR SLEEP APNEA

By **Nathan Seppa**

**The constant stress of "fight-or-flight" mode out of deep sleep may exacerbate other health problems over time.**

A common breathing disorder that disrupts sleep also, over time, increases the risk of death, a study in the August Sleep suggests. But people who use a nighttime breathing apparatus face less risk, the research shows.

Obstructive sleep apnea is a disorder marked by gaps in breathing during sleep that rob the blood of oxygen until a person gasps for air. People with apnea stop breathing many times in an hour, which can jar them out of restful sleep and wreak havoc with blood pressure, heart rate and internal stress responses.

In the United States, about one in six people may have sleep apnea, with one-fourth of those cases severe, Terry Young, an epidemiologist at the University of Wisconsin–Madison, estimates.

Sleep apnea has received widespread attention as a health problem in the past 15 years, but data generated by Young's team suggest 85 percent of sleep apnea cases still go undetected.

While studies have suggested it carries risks, no study had, until now, tracked a population of healthy, middle-aged individuals for more than a decade to measure apnea's effects.

The new findings come from a Wisconsin sleep project in which Young and her colleagues monitored the long-term health of 1,522 state employees, some starting in 1988. While some of the volunteers were overweight, all were otherwise healthy upon entry to the study. Their average age at that time was about 50.

At the outset, the scientists assessed each person's sleep in a laboratory and found that, while most of the volunteers slept normally, 365 had sleep apnea. Of these, 63 people had severe apnea in which they experienced 30 or more breathing stoppages per hour.

Researchers have monitored the study participants for 14 years on average, tracking some for nearly 19 years. Death certificates over that time show that the people with severe sleep apnea were more likely to die than people without the condition, the researchers report.

"This study establishes clearly that sleep apnea is not benign," Young says. People with milder apnea didn't die in statistically greater numbers than those without the condition, but mild cases often progress to worse apnea, she says.

Upon entering the study, the people who didn't have sleep apnea were borderline

overweight on average, whereas those with severe sleep apnea had an average weight that is considered obese. Indeed, sleep apnea can result from obesity.

"Fat accumulation in the airway makes the airway walls thicker, softer and more likely to collapse," says Michael Twery, director of the National Center on Sleep Disorders Research at the National Heart, Lung, and Blood Institute in Bethesda, Md.

But sleep apnea can also result from large tonsils, tightened throat muscles, a history of smoking or just a smaller-than-normal air passage. Even with adjustments for differences among the study participants in body weight, age and gender, those with severe apnea were still three times more likely to die, says Young.

The most common treatment for sleep apnea requires a person to wear a small mask during sleep. The device delivers gently forced air to the nose or mouth, keeping the airway open.

In this study, two-thirds of the people diagnosed at the outset with apnea chose not to use the devices during the time of the study. People with severe apnea who went untreated were four times as likely to die as those without the disorder, suggesting that using the masks increases survival, Young says.

Some people find the mask uncomfortable or the air-pumping machine too loud. Others pull their mask off unwittingly at night or complain of dried nasal passages.

"It's encumbering and unnatural," says Twery. "And it's not attractive in bed." But the machines work, he says.

Sleep apnea is rarely fatal on its own. In this study, deaths were mainly attributable to heart problems, stroke or cancer. When deprived of oxygen, the body responds as if confronted with an emergency, Twery says. This response pulls a person out of a deep, restful sleep to a point of semi-arousal — enough to start breathing again but not wake up. The process sabotages deep sleep. The release of stress hormones jumps and the continuing exposure to stress can have larger effects, such as chronic inflammation, he says.

"This may exacerbate existing problems indeed," Young says.

Sleep apnea also increases daytime sleepiness and, although it didn't show up in this mortality study, has been linked to accidents.

Thursday, August 28, 2008

# Sleep Apnea Boosts Death Risk

## But it's unclear whether treating the breathing disorder cuts the danger, one expert says

Posted August 1, 2008

**By Steven Reinberg**
*HealthDay Reporter*

HealthDay

FRIDAY, Aug. 1 (HealthDay News) -- The interrupted nighttime breathing of sleep apnea appears to increase the risk of dying, Australian researchers report.

Earlier studies have linked sleep apnea to increased risk for death. However, these studies were done in sleep centers rather than in the general community. This new study suggests that the risk is present among all people with obstructive sleep apnea.

"This is the first study to demonstrate an independent association betweenall-cause mortality and sleep apnea in a community-based study," researcherNathaniel Marshall, a postdoctoral fellow at the Woolcock Instituteof Medical Research in Sydney, said in an American Academy of Sleep Medicine news release.

"The size of the increased mortality risk was surprisingly large," Marshall said. "In our particular study, a sixfold increase means that having significant sleep apnea at age 40 gives you about the same mortality risk as somebody aged 57 who doesn't have sleep apnea," he said.

Sleep apnea is a common problem in which one has pauses in breathing or shallow breaths during sleep.

The report was published in the Aug. 1 edition of *Sleep*.

For the study, Marshall's team collected data on 380 men and women, 40 to 65 years old, who participated in the Busselton Health Study. That study is an ongoing survey of residents in the rural town of Busselton in the state of Western Australia.

Among these people, three had severe obstructive sleep apnea, 18 had moderate sleep apnea, and 77 had mild sleep apnea. The remaining 285 people did not suffer from the condition.

During 14 years of follow-up, about 33 percent of those with moderate to severe sleep apnea died, compared with 6.5 percent of those with mild sleep apnea and 7.7 percent of those without the condition, Marshall's group found.

For patients with mild sleep apnea, the risk of death was not significant and could not be directly tied to the condition, the researchers note.

"Our findings ... remove any reasonable doubt that sleep apnea is a fatal disease," Marshall said. "People who have, or suspect that they have, sleep apnea should consult their physicians about diagnosis and treatment options."

Dr. David M. Claman, director of the Sleep Disorders Center at the University of California, San Francisco, believes this study strengthens the conclusion that severe obstructive sleep apnea does contribute to cardiovascular illness and death.

"This Australian data has additional strengths in that it is a population-based prospective sample with a long period of follow-up," Claman said.

However, the researchers could not assess whether there were any beneficial effects of a common apnea treatment called Continuous Positive Airway Pressure, Claman said. Continuous Positive Airway Pressure (CPAP) treatment blows air into a person's nose to keep the airway from collapsing.

"Further work is needed to see if mild obstructive sleep apnea is associated with adverse effects and if Continuous Positive Airway Pressure treatment reduces cardiovascular risk in larger populations," he said.

In another report in the same issue of the journal, researchers from the University of Wisconsin uncovered findings similar to those in Australia.

In the Wisconsin study, researchers found severe sleep apnea was associated with a threefold increased risk of dying. In addition, for those with moderate to mild sleep apnea,

the risk of death was increased 50 percent compared with people without sleep apnea. However, this increased risk was not statistically significant, the researchers report.

"Our findings of significant mortality risk with untreated sleep disordered breathing, in conjunction with prior evidence that Continuous Positive Airway Pressure can effectively treat severe sleep disordered breathing, underscore the immediate need for heightened clinical recognition and treatment of sleep disordered breathing," the researchers concluded.

**More information**

For more about sleep apnea, visit the U.S. National Library of Medicine.

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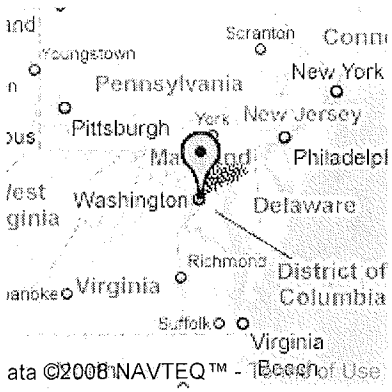


# Study: To sleep better, perchance to liv longer

By RANDOLPH E. SCHMID – **Aug 1, 2008**

WASHINGTON (AP) — Shakespeare once called sleep the "balm of hurt minds too, apparently. People with the severe form of apnea, which interferes with sle several times more likely to die from any cause than are folks without the disord researchers report in Friday's edition of the journal Sleep.

The findings in the 18-year study confirm smaller studies that have indicated an increased risk of death for people with apnea, also known as sleep-disordered b

"This is not a condition that kills you acutely. It is a condition that erodes your he time," Dr. Michael J. Twery, director of the National Center on Sleep Disorders Research, said in a telephone interview.

People with such disorders "have been sleep deprived for perhaps very long pe time, they are struggling to sleep. If this is happening night after night, week afte on top of all our other schedules, this is a dangerous recipe," said Twery, whose is part of the National Heart, Lung and Blood Institute.

The institute estimates that 12 million to 18 million people in the U.S. have mod severe apnea. The condition is not always detected because the sufferer is asle the problem occurs and it cannot be diagnosed during a routine office visit with Researchers tested the patients for sleep-disordered breathing in the laboratory followed them over several years.

For people with apnea, their upper airway becomes narrowed or blocked period during sleep. That keeps air from reaching the lungs. In some cases, breathing seconds to a minute or so; the pauses in breathing disrupt sleep and prevent ac amounts of oxygen from entering the bloodstream.

"When you stop breathing in your sleep you don't know it, it doesn't typically wa up," Twery said. Instead, it can move a person from deep sleep to light sleep, w breathing resumes. But the overall sleep pattern is disturbed, and it can happen hundreds of times a night.

He said that a person typically will have four or five cycles per night of light slee sleep and REM (rapid eye movement) sleep, when most dreams occur. More de comes early in the night with more REM sleep closer to waking up. This pattern control hormones, metabolism and levels of stress.

The institute, part of the National Institutes of Health, says apnea has been linke greater risk of heart disease, high blood pressure, stroke, diabetes and excessi daytime sleepiness.

In the new report, the Wisconsin Sleep Cohort followed 1,522 men and women, to 60. The annual death rate was 2.85 per 1,000 people per year for people with sleep apnea.

People with mild and moderate apnea had death rates of 5.54 and 5.42 per 1,0 respectively, and people with severe apnea had a rate of 14.6, researchers saic

Cardiovascular mortality accounted for 26 percent of all deaths among people w apnea and 42 percent of the deaths among people with severe apnea, accordin researchers led by Terry Young of the University of Wisconsin, Madison.

In the same issue of the journal Sleep, a separate study of 380 adults between 65 in Australia came to a similar conclusion. This study found that after 14 years

33 percent of participants with moderate to severe sleep apnea had died, compa
6.5 percent of people with mild apnea and 7.7 percent of people without apnea.

"Our findings, along with those from the Wisconsin Cohort, remove any reasona
that sleep apnea is a fatal disease," said lead author Dr. Nathaniel Marshall of th
Woolcock Institute of Medical Research in Sydney, Australia.

Apnea often is treated with a device that delivers continuous positive airway pre
through a mask over the nose and/or mouth. The U.S. study found that patients
device had reduced death rates.

There has been debate over whether to use airway pressure to treat patients wh
sleepy in the daytime, the report noted.

The U.S. researchers noted that while theirs was a large study, 95 percent of the
participants were white and most had adequate income and access to health ca

"It is likely that our findings may underestimate the mortality risk of SDB in other
groups or the lowest socio-economic strata where there is poor awareness and a
health care," they said.

The U.S. research was supported by the National Institutes of Health. The Austr
study was supported by the Australian National Health and Medical Research C

On the Net:

- Sleep: http://www.journalsleep.org
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