## 'Short sleepers' can get just 4 hours a night and feel fine. But is their health at risk?

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"Sleep is overrated."
So proclaims Stephen Klasko, who throughout his life has taken pride in
sleeping only four or five hours a night. Those extra few hours away from his pillow, he believes, have allowed him to write books, run marathons, and achieve his lofty professional goals. An obstetrician and gynecologist, he's the president and CEO of Jefferson Health, one of the region's largest health systems. Under his tenure, it has expanded rapidly to a $\$ 5$ billion enterprise with 14 hospitals.

As a doctor, he is aware that inadequate sleep has been associated with a mounting list of cardiovascular, metabolic, mood, immune system and cognitive problems, or, as one researcher put it, "pretty much anything bad." He recently turned 65 and knows that his habits might catch up with him. But he thinks he's passing the most important health test: He feels fine.
"I'm not worried," he said.

Should he be?

Millions of Americans, including President Donald Trump, are in the same boat. They're considered "short sleepers," which means they get six hours or less of shut-eye a night. Experts recommend that adults sleep at least seven hours.
"To me, the only thing more important than sleep is air and water," said Ying-Hui Fu, a molecular biologist and geneticist who studies sleep at the University of California-San Francisco. "You cannot live very long without sleep."

So far, most scientific studies have lumped all short sleepers together, but they are not homogeneous, and researchers are increasingly interested in whether all short sleepers share the same risks. Fu studies a rare and exceedingly lucky group who seem genetically inclined to get—and probably need—less sleep. Many more people—often
energetic, extroverted high achievers-choose to scrimp on rest and say they feel OK, but probably aren't. Others are pushing themselves and know they feel bad.

Then there are insomniacs, whose difficulty sleeping is often paired with anxiety and stress. Many of them believe that they need more sleep. People with sleep apnea, who sometimes sleep plenty of hours, may be in a different category altogether because of poor sleep quality.

The new research trend is raising questions that are harder than they first seem, said Michael Grandner, director of the Sleep and Health Research Program at the University of Arizona School of Medicine. How do you know when someone has gotten enough sleep? Enough for what?

It is possible that the amount of sleep individuals need to prevent fatigue or flightiness is different from the amount needed to forestall overeating, diabetes or depression. "Sleep isn't one thing," Grandner said. "It's a whole set of processes." Researchers are trying to develop biomarkers that can objectively measure fatigue and other consequences of inadequate sleep.

There are an "amazing amount of gaps" in our scientific knowledge of sleep, said Paula Williams, a clinical health psychologist who studies sleep at the University of Utah.

In the meantime, many of us are pushing our luck. Kristen Knutson, a biomedical anthropologist at the Center for Circadian and Sleep Medicine at Northwestern University's Feinberg School of Medicine, said about 30 percent of adult Americans now qualify as short sleepers, compared with about 20 percent in the 1970s. She thinks longer commuting times are likely a factor as well as extra time spent on computers and smartphones, distractions that didn't exist 50 years ago.
"We're in a grand societal experiment where it's common to sleep less now," Williams said.

## The New Focus On Sleep

People are getting the message that sleeping too little is bad. James Findley, a psychologist who is clinical director of the behavioral sleep medicine program at Penn Medicine, said short sleepers often seek treatment now because they're worried about their health, especially the potential for dementia.

Insomniacs may already be having trouble relaxing because they are worried that they'll be a wreck the next day. Studies about the ill effects of sleep deprivation just give them something else to obsess about. Such devices as Fitbits, which can monitor sleep habits, have spawned a form of sleep perfectionism, which researchers have dubbed orthosomnia, that also can increase anxiety.

Several sleep researchers said they're most worried about really short sleepers, those who get less than four hours, regardless of how this habit makes them feel. Experts also suspect that feeling tired or fuzzy-headed after sleeping four to six hours is a signal that something is wrong. The most perplexing group is people who sleep four to six hours and say they feel good.

Fu has been studying natural short sleepers for about 10 years. She's found mutations on five genes that seem to change our need for sleep. When mice were genetically altered to express three of these mutations, they also slept less and didn't appear to suffer otherwise. The group of about 50 natural short sleepers that Fu has found tends to be energetic, thin and optimistic.

People don't belong in this group, Fu said, if they drink much coffee or
tea to stay awake, or need to catch up on sleep on weekends or vacations. Klasko, who has not participated in her research, fits her profile. So does Rosary Giang, an Erie native and University of Pittsburgh grad who now lives in Houston. Her parents forced her and her siblings to spend seven to eight hours in bed each day. She was thrilled that she could sleep only four to five hours after she left home. "It's not like a choice I make," she said. "I just go to bed when I'm tired and I just wake up naturally. ... I don't even need an alarm clock to wake up."

Fu has not studied whether people with the genes are any more or less likely than others to develop health problems or how their short sleep affects life span. Her altered mice seem healthy, but she hasn't studied them throughout their life spans, either. Such research is very expensive.

While this group seems most likely to evade problems from sleep deprivation, Williams cautions against assuming that.
"Just because something occurs naturally," she said, "doesn't mean it's good."

## Caffeinated All Day

True natural short sleepers are rare. "It's a low, single-digit number," Orfeu Buxton, director of the Sleep, Health and Society Collaboratory at Penn State University, said of their percentage in the population. Meanwhile, 12 percent of Americans say they sleep less than six hours without consequences, Williams said. But studies have found that many are not doing as well as they think they are.

Some brag about how little sleep they need but fall asleep in meetings, sleep in on weekends, or guzzle coffee or Diet Coke all day, while some genuinely don't seem tired. Williams suspects that many of them avoid sleep by keeping themselves constantly stimulated. When forced to sit
still in, say an MRI machine or a dark, quiet room, the ones who say they feel fine get just as sleepy as the ones who knew they were tired all along.

Researchers describe their personalities a lot like Fu describes the personalities of her subjects. They're busy, often high-achieving people who are "hypomanic" or energized in ways that can look a little like mania in bipolar disorder without the downside. They can also be impulsive. Ability to focus is one of the first things to go when people are sleep-deprived.

Short sleepers also often say they can tolerate pain better than most. "Some people simply don't perceive physical symptoms in the same way other people do," Williams said.

The same goes for focus. "Some of the ones who think they're fine, those are the ones you don't want to get behind the wheel of a car," Grandner said.

Andrew Lim, a neurologist who studies sleep at Sunnybrook Health Sciences Centre in Toronto, believes that quality of sleep may be more important than quantity. On average, people wake so briefly that they aren't even aware of it about six times an hour. High sleep fragmentation, nine to 10 awakenings an hour, is strongly associated with dementia, he said. He is currently involved in two large studies that are following both working-age adults and those over age 70 for several years to better study the long-term impact of different types of sleep.

To further complicate matters, Sigrid Veasey, a physician who studies sleep at Penn Medicine, said it may also matter when you lose sleep. The brains of sleep-deprived mice look prematurely old. "The earlier in life you have sleep loss, the more of an issue it is," she said.

Experts say you can test whether you're pushing your own body too far. Cut back on the caffeine. Put the devices away well before bedtime. Make sure your room is dark. Alcohol can disrupt sleep, so don't drink too close to bedtime. Use your bed only for sleep and sex. Gradually move your bedtime earlier.
"My advice to anybody would be to try to strive to get sufficient sleep, even if it means catching up," Williams said.

There are some, though, who side with Klasko, and think that some short sleepers may, in fact, be fine.

"Just listen to your body," Fu said. "Your body will let you know."<br>© 2019 Philly.com<br>Distributed by Tribune Content Agency, LLC.

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