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# Sleep: are you really getting enough?

## A neuroscientist has warned that sleep-deprivation is affecting our health. So what can we do about it, asks John Naish

**G**etting enough sleep? More than likely the answer is no. Britain is getting ever more red-eyed as we try to keep up with a 24/7 culture where technology never takes a break and neither, it seems, should we. This week, an Oxford Don gave us a wake-up call.

"We are the supremely arrogant species," said Russell Foster, a professor of circadian neuroscience at the University of Oxford. "We feel we can abandon four billion years of evolution and ignore the fact that we have evolved under a light-dark cycle."

According to the Sleep Council, we now get only six and a half hours' sleep a night on average, up to two hours shorter than 60 years ago. As a consequence, many of us face serious health problems. Foster warned. More than a third of us suffer insomnia and another quarter have some other form of sleeping problem according to the Economic and Social Research Council.

So what are we to do? Here we gather the experts and the evidence to answer questions that may be keeping you awake at night:

**Is there anything wrong with reading my iPad in bed?**  
"Sleep is about a state of mind and

using technology puts us in completely the wrong mindset," says Professor Jim Horne, who established the Sleep Research Centre at the University of Loughborough. "With all that texting, social networking and reading shock headlines, using these devices is far too exciting for bedtime." Even worse, the light emanating from computer screens can increase our alertness and suppresses the release of melatonin, a sleep-promoting hormone.

I've a demanding job and social life, and often have six hours' sleep. It's nothing that caffeine can't cure, is it? Studies show that you may be putting yourself at serious risk if you regularly deprive your body of sufficient sleep. According to a 2011 investigation by Warwick University, sleeping poorly for less than six hours increases your risk of dying from heart disease by almost 50 per cent, and from a stroke by 15 per cent. Both conditions are associated with chronic inflammation of the cardiovascular system.

Francesco Cappuccio, a Warwick University professor of cardiovascular medicine, says that people who sleep for less than six hours a night are 12 per cent more likely to die before the age of 65 than those who sleep between seven and eight hours. He explains: "Anything you do to work against your body clock will have consequences on your physiology."

**I stayed up to watch a late-night film yesterday. Is there anything wrong with missing a couple of hours of shut-eye occasionally?**

Bad news: the risk to your heart can even be raised by the advent of British Summer Time, when the clocks go forward. Scientists at Karolinska Institutet in Sweden found that over the past five years, the number of heart attacks increased by about 5 per cent during the first week of summer time. Even a single night without sleep can deeply affect us. When University of California sleep expert Matthew Walker brain-scanned people after a sleepless night, he found that their basic centres of emotion, the amygdala, over-reacted when they were shown disturbing news pictures. We really do get tired and emotional, it seems.

**How long should I wait between eating or drinking and going to bed?**  
There are accepted rules for this, says Adrian Williams, a professor of sleep medicine at King's College, London: "People who are sensitive to caffeine should not drink it after 2pm. As for alcohol, that should not be consumed within three hours of going to bed, to give the body time to metabolise it."

Eating something heavy such as a spicy meal is not advisable before bed, he adds. "But having some food in the



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stomach is a good thing, as it stops your digestive system from getting hungry. There is research showing that a warm, milky drink can help."

I wake up naturally after six hours' sleep. Am I endangering my health? Researchers at the University of Pennsylvania found that our genes can determine how much sleep we require and how well we respond to lack of it. "There are certainly individual differences in the amount of sleep that people need," Horne explains. "The acid test is whether you are sleepy throughout the next day or whether you are alert. Some people kid themselves that they can get by on little sleep, but in fact they have to nap during the afternoon to make up."

If I go to bed earlier than normal I just toss and turn. Please help. You need to learn your body's preference for when it wants to rest, then stick to a regular pattern, says Colin Espie, a professor of behavioural sleep medicine at the University of Oxford. "To work out what your pattern of sleep is, keep a diary showing how you slept and whether you felt tired the next day. If you are a natural lark, then it is worthwhile going to bed earlier. If you are an owl, then look to waking up later." If that doesn't work, he suggests cognitive behavioural therapy. "Clinical studies have shown that it can be very beneficial in helping to optimise sleep patterns."

How do you know when you've slept soundly? Sometimes I think I've lain awake all night but my husband tells me I was snoring away contentedly "It is hard to know how much wakefulness we have suffered because it is difficult to ascertain where you are in the zone between being awake and asleep," says Horne. "You need to be awake for about two minutes before you know you're awake. If you just go back into a light sleep you won't notice but it means you are suffering from poor sleep quality — your natural cycle of going into deep sleeps does

not get a chance to kick in." Quality of sleep is essential. Snoring reduces the quality of it for both you and your partner because of restricted breathing and the noise. "Someone who sleeps for ten hours but is continually disturbed can wake up just as tired as when they went to bed," he says.

I regularly take sleeping pills to ensure I get off quickly, but I still feel tired. What's the problem? More than 15 million NHS prescriptions for sleep medication are given out each year, and one in ten of us regularly takes sleeping pills according to the Economic and Social Research Council. Yet research in *The Lancet* has warned of severe side effects, such as memory problems and daytime grogginess.

Adrian Williams says that commonly prescribed benzodiazepine drugs may cause problems because people can become habituated to them and then suffer insomnia when they stop taking the pills. "Intermittent use of sleeping pills is acceptable if people need them to get sleep before an important day," he says. "But these drugs should be used cautiously. There are strategies for coming off them that should be used."

Does it matter if I sleep four hours at night and three in the afternoon? Power naps of 20 minutes may lower the risk of heart attacks and strokes by more than a third, according to a study in the journal *Current Biology* in 2011. Longer periods are counterproductive, says Horne. "This is because your body clock is disturbed by your going into a deep state of sleep when it thinks you should be awake."

A Cambridge University study found that British adults who sleep for an hour or more in the day increase their chances of premature death by almost a third. The biggest risks appear to be associated with lung diseases such as bronchitis, emphysema and pneumonia. The researchers said in the *American Journal of Epidemiology* that this could be because napping triggers inflammation in the body.



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Is it true that the more sleep I have,  
**the more weight I lose?**

"Survey **evidence** shows that people who sleep two hours less a night than average put on 1.5kg a year but I don't think that sleep duration has a major effect on **people's weight**," says Horne. "Rather than getting an extra two hours' sleep a night, you'd be better off using some of that time to go for a brisk 20-minute walk."

**Can you have too much sleep?**

You can indeed, says Horne, if for example you habitually sleep for seven hours, then sleep in for more than an hour. "This can confuse your body clock. The sense of tiredness that ensues is called post-sleep inertia, which can hang around for a few hours afterwards."

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