



Why Can't Carol Sleep?

A bedtime story about all the things keeping you up and what to eat for a good night's sleep.

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Once upon a time there was a young woman named Carol. Carol had lots of friends. She had a loving family and Betty, her pet Weimaraner. Can you say *Weimaraner*? Carol had an ocean-blue house with white shutters and a semi-tended garden in back. She had a wonderful job as a county school's comptroller. Can you say *comptroller*?

Still, Carol was very sad. Because of her long work hours and busy life, Carol could never seem to get enough sleep!¹ Every night she tossed and turned, her mind racing. Every day her brain felt as fuzzy as a cheap cashmere sweater.² Poor Carol! Even though she tried to catch up on sleep on the weekends, it never seemed to be enough.³

¹ An estimated 50-70 million U.S. adults do not get enough sleep, according to the Centers for Disease Control.

² When your brain is sleep-deprived, you make more mistakes, your judgment is poorer and you have difficulty making decisions, says a 2011 study in the journal *Nature*. The reason is "neuron

catnaps": when you are sleepy, some of the cells in your brain that send messages nod off throughout the day as they do during sleep.

³ If you sleep poorly once or twice a week, you can make up for it. But after more than a few sleepless nights, it becomes harder to "recover" from lost sleep, says new research from Penn State.



Soon, Carol started to feel even worse. Colds that other people kicked quickly kept her in bed for days.⁴ Her skin looked dry and drab and she was beginning to notice more small lines around her eyes and forehead.⁵ Even though she jogged every day, her belly was starting to look like a bowl full of jelly.⁶ “If only I could get to sleep!” Carol said.

What do you think Carol did next? She tried all the wrong tricks to fall asleep. To tire herself out, she’d spend an hour on the treadmill after dinner.⁷ Because warm rooms made her drowsy, she’d turn up the heat and pile extra blankets on the bed.⁸

⁴ [Skimping on sleep can compromise your immune system](#), according to one study in the *Journal of the American Medical Association*. Study participants who got only 4 hours of sleep each night for a week produced half the number of flu-fighting antibodies after being administered a flu vaccine compared to participants who slept for 7½ to 8½ hours each night.

⁵ Researchers at Cornell University found that [one night of sleep deprivation may cause your skin to lose elasticity, firmness and moisture, and make fine lines and wrinkles more noticeable](#). It does this by triggering the immune system to release molecules that make it easier for dirt and UV rays to penetrate your skin.

⁶ In a small study in the *Annals of Internal Medicine*, researchers found that when dieters slept 5½ hours a night for two

weeks, they burned less fat and more muscle than those who slept 8½ hours. Other research shows that [sleeping less than 5 hours per night may cause weight gain to settle around your midsection](#). Cortisol secretion (the stress hormone linked to belly-fat accumulation) is at its lowest at night, but sleep loss boosts cortisol the day after a night of poor sleep.

⁷ Some research has found that [exercising less than 3 hours before bedtime lowers sleep quality](#), but it doesn’t prevent you from falling asleep.

⁸ “As night begins, your body temperature falls and reaches its coolest after you go to bed. So [if it’s hot and humid and you can’t cool down you won’t sleep well](#),” says Daniel McNally, M.D., director of the Sleep Disorders Center at the University of Connecticut Health Center.

*“She’d stay up late into the night,
counting digital sheep in her piping-hot room.
Nothing worked.”*

Before turning in for the night, she’d fill up on food, hoping that would make her sleepy.⁹ She started to drink a glass of Grown-Up Juice¹⁰ right before bed, hoping it would relax her.¹¹ She even went so far as to find an app for her smartphone that allowed her to count sheep!¹² She’d stay up late into the night, counting digital sheep in her piping-hot room. Nothing worked.

Meanwhile, Carol was not only tired all the time, she felt blue too.¹³ She was almost always stressed and her heart would sometimes race.¹⁴ It became harder for her to stick to a healthy diet. Late at night she couldn’t resist foods she knew were sugary and fatty like chips and chocolates and chèvre.¹⁵ Can you say *chèvre*?

When she went for her annual physical, her doctor told her that her lack of sleep was raising her risk for diabetes¹⁶ and heart disease.¹⁷

⁹ According to the National Institutes of Health, it is best to [avoid large meals late at night](#) as a large meal can cause indigestion that interferes with sleep.

¹⁰ A medium-priced California pinot noir with a full body and blackberry undertones.

¹¹ Because alcohol is a sedative, drinking alcoholic beverages may help you fall asleep, but [as little as two drinks can cause you to sleep less restfully and wake up more frequently](#). Alcohol-related sleep disturbances are worse for women, say researchers at the University of Michigan.

¹² According to a study in the *Journal of Applied Physiology*, light from computer and smartphone screens may suppress production of melatonin, a sleep-inducing hormone triggered by darkness. Artificial light also shifts your circadian rhythms—a biological cycle that responds primarily to daylight and darkness and influences sleep.

¹³ One two-year study of more than 10,000 middle-aged men and women found that [sleeping less than 6 hours per night \(or more than 9\) was linked with feeling sad and anxious](#). Too little sleep may

cause changes in brain chemicals that fuel depression.

¹⁴ Research has found that middle-aged adults who regularly sleep less than 6 hours a night are almost doubling their risk of developing high blood pressure compared to those that sleep the recommended 7-8 hours per night.

¹⁵ A recent study out of Harvard shows [if you’ve missed an hour or two of sleep, you’re more likely to give in to junk food the next day](#). The prefrontal cortex—part of the brain responsible for self-control—is compromised by sleep loss.

¹⁶ Research indicates that even one night of low-quality sleep (i.e., restless sleep) or low-quantity sleep (less than 6 hours) can cause an increase in insulin resistance, a major contributor to the development of type 2 diabetes.

¹⁷ [Habitually skimping on sleep may increase your risk for heart disease](#). In one study, researchers observed elevated levels of C-reactive protein (CRP)—an indicator of heart disease—in women who slept 5 or fewer hours compared to those who slept 9 or more hours.



One night, while Carol was counting sheep with half-open eyes on her sheep-counting app, she saw a flash of light at her window. There was a beautiful woman in a flowing dress. “Sweet dreams!” the woman said. “I’m the Sandwoman!”¹⁸

The Sandwoman explained to Carol that the power to get a good night’s sleep had existed inside her all along. It’s called melatonin and your body’s levels of this hormone rise when it’s dark out. Can you say *melatonin*? This magical compound helps lower Carol’s core temperature and prepare her for sleep.

But, the Sandwoman warned, there were a

¹⁸ With prolonged sleep deprivation, [hallucinations may develop](#). According to the National Institute of Neurological Disorders and Stroke, sleep allows the neurons you use while you’re awake a chance to shut down and repair themselves.

Without sleep, neurons may become so impaired that they begin to malfunction.

¹⁹ [Vitamin B₆ is needed to make melatonin](#), according to an article published in the *Annals of the New York Academy of Sciences*.

number of things that suppressed melatonin production. Keeping a room too warm or basking in the light of her phone can both do so!

And then, as if by magic, the Sandwoman produced a platter of food from beneath her coat. “Some foods help your body coax out melatonin,” she said. “Try bananas or fish for vitamin B₆. Tart cherry juice, which contains the magical melatonin, might help too,” she said.^{19,20}

“Wow,” Carol said, as she reached for a banana.

“And be sure you’re having some milk and yogurt and eating whole grains,” said the Sandwoman as she flew off into the night.²¹

Carol left the window open to let in the cool evening air. She turned off her phone. “Good night, Betty,” she said to her dog, who lay curled in the corner. And then, very quietly, Carol closed her eyes and drifted off into a deep, long slumber.

The End. ★

²⁰ In a small study, [melatonin-rich tart cherry juice was shown to aid sleep](#). When adults with chronic insomnia drank a cup of tart cherry juice twice a day they experienced some relief in the severity of their insomnia.

²¹ A deficiency of calcium (found in dairy products, kale, broccoli) may make it difficult to fall asleep; consuming [too little magnesium](#) (found in whole grains and nuts) [may make it harder to stay asleep](#), reported the *Journal of Orthomolecular Medicine*.