

4. Sleep Less, Hang on to Fat More

Lack of sleep may also affect the kind of weight you lose. In another study at the University of Chicago, researchers followed 10 overweight but healthy subjects who were placed on a balanced diet, then observed in two 14 day increments, one in which they got about 7.5 hours of sleep, and the other in which they got 5 hours and 15 minutes. During both periods, the subjects lost an average of 6.6 pounds. But when they got more sleep, they lost 3.1 pounds of fat, whereas during the short-sleep period, they lost only 1.3 pounds of fat. Those who got more sleep reported less hunger, which makes sense: When they got enough sleep, their ghrelin levels stayed the same. On the 5-hour nights, their ghrelin levels rose by 9 points.

Since ghrelin also promotes the retention of fat, researchers theorize that a lack of sleep explains why the non-sleepers held on to body fat. This happens because the diet-unfriendly hormone reduced the number of calorie you burn off and increases glucose production.



5. Sleep less, have more time to eat

It hasn't been scientifically proven, but some experts believe that the 2 hours or more that we're no longer using to sleep is giving us another 2 hours to raid the fridge.



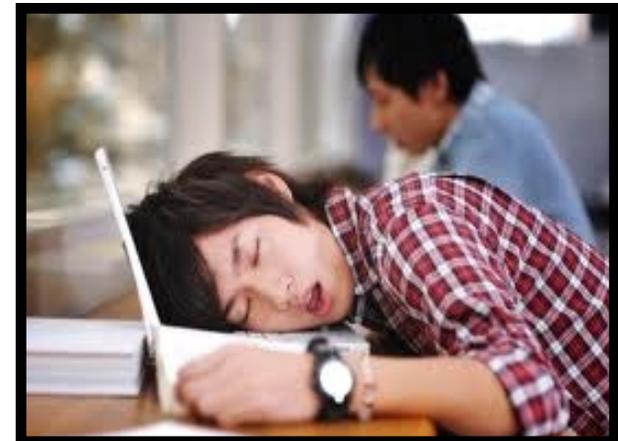
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5 Ways Sleeping Less Makes You Gain



If you're what researchers call a short sleeper (measured by how long you sleep each night—5.5 to 6 hours or less qualifies you), you'll have trouble losing weight, no doubt about it. In a 7-year study of 7,022 middle-aged people, Finnish researchers found that women who reported sleep problems were more likely to experience a major weight gain (defined as 11 pounds or more).

You know that sleep and weight gain may be linked, but why is that? Here's what the new research has revealed, and why lack of sleep could be stalling your ability to lose weight and keep it off.



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1. Sleep less, burn less

In a study published in the *American Journal of Clinical Nutrition*, researchers had a group of men sleep for 12 hours a night but didn't allow them to sleep the next night, and then had them eat an opulent buffet the following morning. Then the researchers measured the subjects' energy expenditure—the calories you burn just by being. When the men were sleep-deprived their general energy expenditure was 5 percent less than it was when they got a good night's sleep, and their post-meal energy expenditure was 20 percent less.

2. Sleep less, eat more

In research presented at the American Heart Association's 2011 Scientific Sessions, it was shown that women who got only 4 hours of sleep at night ate 329 additional calories the next day than they did after they slept 9 hours. In another study published in the *American Journal of Clinical Nutrition*, 55 volunteers spent 58 days at a sleep center on two occasions. During one period, they slept 5.5 hours a night, and during the other, they slept 6-8.5 hours. When the subjects were sleep-deprived, they increased their nighttime snacking and were more likely to choose high-carbohydrate snacks.



3. Sleep less crave more

This is probably the biggest revelation about the connection between sleep and weight loss—and the biggest challenge if you're not getting at least 7 solid hours of sleep each night. Sleeping too little impacts your hormone levels in ways that can undermine the efforts of even the most determined dieter. That's because insufficient sleep raises the levels of ghrelin, the hormone that tells you to eat. When it comes to weight gain and loss, this hormone plays a leading role.



Ghrelin's job is to boost your appetite, increase fat production, and make your body grow—which are undesirable effects once you've passed your teenage years. Lack of sleep also lowers levels of leptin, the hormone that says, "I'm full." Leptin levels run high during the night, which tells your body while you're sleeping that you don't need to eat. Its levels drop during the day, when you need food as energy. So high leptin levels keep hunger at bay.

After even one night of too little sleep, leptin and ghrelin become dietary nightmares bent on diet-wrecking mischief. The lower the leptin levels mean that you still feel hungry after you eat. And ghrelin, for its part, magnifies the problem by stimulating appetite, setting the stage for a day of unsatisfying, high-calorie feasting after a restless night.