

# Teen sleep deprivation related to weight gain

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Sleeping less than 8 hours a night may be linked to weight gain in teens, shows a new study presented at CHEST 2011, the 77th annual meeting of the American College of Chest Physicians (ACCP). Furthermore, obesity was linked to short sleep duration in teen males, with the fewest hours slept linked to the highest BMI levels.

"[Sleep](#) is food for the brain. When teens do not get enough sleep, they fall asleep in class, struggle to concentrate, look and feel stressed, get sick more often, and do not meet their obligations due to tiredness," said study author Lata Casturi, MA, RPSGT, Baylor College of Medicine Sleep Center in Houston, TX. "Teens who sleep fewer than eight hours may also consume more calories than those who sleep more than eight hours. Therefore, they have a higher risk for obesity and associated health problems, including [high blood pressure](#), heart disease, and stroke."

Ms. Casturi and colleagues, including coauthor Anita Rao, presently a 10th grader at Dawson High School in Pearland, TX, surveyed 255 teens (108 males and 147 females) in high school to obtain self-reported measures of height and weight (used for BMI calculation) and both weekday and weekend quantity of sleep. Among males, results indicated the average [sleep time](#) on weekdays was 6 hours 32 minutes and on weekends 9 hours 10 minutes. Among females, the average weekday sleep time was 6 hours 30 minutes and the average weekend sleep duration was 9 hours 22 minutes. Teen males who slept 7 hours or less on weekdays had an average BMI that was 3.8 percent higher than those who slept more than 7 hours. Likewise, teen females who slept 7 hours

or less had a BMI that was 4.7 percent higher than females who got more than 7 hours of sleep per weekday.

But how does lack of sleep really affect weight gain? According to researchers, hormones [leptin](#) and ghrelin work in a "checks and balances" system to control feelings of hunger and fullness. Ghrelin, which is produced in the [gastrointestinal tract](#), stimulates appetite, while leptin, produced in fat cells, sends a signal to the brain when you are full. "When you don't get enough sleep, it drives leptin levels down, which means you don't feel as satisfied after you eat. Lack of sleep also causes ghrelin levels to rise, which means your appetite is stimulated, so you want more food," said co-author Radha Rao, MD, DeBakey VA Medical Center, Houston, TX. "The two combined, can set the stage for overeating, which in turn may lead to weight gain."

Furthermore, after adjusting for potential cofounders, [short sleep](#) duration (

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