



Wellness Tips To  
Better Your Life

# InFlight

## Wellness Weekly

February

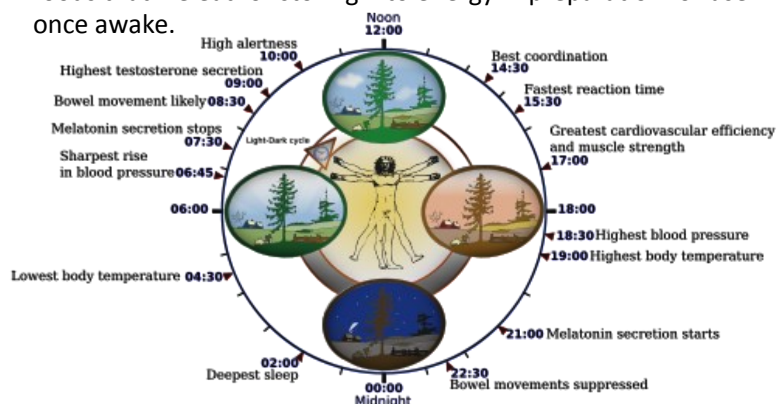
Healthy Weight & Nutritional Fitness | Physical Activity | Tobacco Free Living | Sleep Health

## Sleep and Your Weight

It Might Be Your Weight  
That Is Causing Those  
Sleepless Nights



Sleep 'is a restorative process of the brain, by the brain, and for the brain' as well as being important for health of the entire body. For anyone who lives a busy lifestyle such as most adults today, sleep is an important modulator of the neuroendocrine function and glucose metabolism. Sleep loss has been shown to result in metabolic and endocrine alterations including decreased glucose tolerance, decreased insulin sensitivity, increased evening concentrations of cortisol, increased levels of ghrelin (which increases appetite), decreased levels of leptin (which tells us we're full), and increased hunger and appetite. These neuro-chemical actions are what helps the body during specific periods of the sleep cycle to metabolize the foods that we eat for storing into energy in preparation for use once awake.



According to recent estimates, the worldwide prevalence of obesity has doubled since 1980 and can be tied to a person's sleep duration. Poor sleep quality, which is associated with overall sleep loss, has become a frequent complaint and epidemic as the majority of complaints stem from those who fall into the category of being overweight or obese.

Being that we live in a 24-hr society where work and sleep schedules are rotating day, evening and night-time work along with leisure activities leads to a sacrifice of hours available for sleep. This modern day way of life has resulted in later bedtimes, reduced total sleep time, and eating instead of sleeping during the night-time hours.

### Sleep Deprivation, Obesity, And Diabetes

Although the connection between sleep and weight is becoming clearer, the exact mechanisms involved are still being studied. Because insufficient sleep causes changes in hormones, this results in sleepy people feeling hungrier and consuming more energy than those who are well rested. Studies suggest that when people are sleep deprived, their brains respond differently to unhealthy foods and are less likely to resist eating them.

Not sleeping enough is also known to lower a person's metabolic rate and affect the production of insulin. A study conducted by the NIH showed that when your body is subjected to a sustained wakefulness, it undergoes a process where the glucose metabolism is slowed and absorption is lowered. Unfortunately, these changes extend to younger people as well and have shown to increase the risk of obesity in children. Because childhood obesity rates have tripled in the last 30 years, doctors and researchers are starting to focus on the role of sleep in weight control.

### Sleep Recharges You

By not getting the recommended hours of sleep, your body begins to wear down. Much in the same way that a car battery over a period of time begins to lose its ability to retain a full charge if the alkaline fluid levels inside it are not maintained at the proper levels, your body will also lose its charge if the parts within the body that maintain the charge are not allowed to do so. The best thing to do is get the recommended amount of sleep every night. Look below to see how much sleep you and your family should be getting each night.

Age Group	Recommended amount of sleep	Age Group	Recommended amount of sleep
Newborns	14 to 17 hours a day	3 to 5 years	10 to 13 hours
12 months	About 10 hours at night, plus 4 hour naps	6 to 13 years	9 to 11 hours
2 years	About 11 to 12 hours at night, plus a 1 to 2-hour nap	14 to 17 years	8 to 10 hours
		Adults	7 to 9 hours



## A Personal Message From Your Health Promotion Health Myth Busting Team



Dear Health Myth Busters,

*I've been gaining weight lately and according to my BMI I'm considered obese. I've noticed I get less and less sleep, is there a correlation between my weight and the amount of sleep I get?*

Sincerely,  
Heavy Sleeper

Dear Heavy Sleeper,

Sleep can be contributing to your weight gain but keep in mind that obesity is a multifactorial condition influenced by genetic, environmental, and lifestyle factors. Studies have found a relationship between the quantity and quality of one's sleep and many health problems, including obesity. For example, insufficient sleep affects growth hormone secretion that is linked to obesity; as the amount of hormone secretion decreases, the chance for weight gain increases. The association between genetic risk of obesity and phenotypic measures (BMI, abdominal circumference) are intensified by poor sleep quality. Sleep is a powerful regulator of appetite, energy use, and weight control. During sleep, the body's production of the appetite suppressor leptin increases, and the appetite stimulant ghrelin decreases. The less you sleep, the more likely you are to be overweight or obese and prefer eating foods that are higher in calories and carbohydrates.

Another contributing factor to your weight gain could be a sleep disorder. One sleep-related disorder often associated with people who are overweight is sleep apnea, which is a breathing disorder that leads individuals to repeatedly stop breathing during sleep. Weight gain leads to compromised respiratory function when an individual's trunk and neck area increase from weight gain. These interacting problems of weight gain and sleep apnea make it difficult to help oneself off the slippery slope of health problems. If you suspect you may have sleep apnea, the first thing to do is see your doctor.

There are a number of things you can do to lose weight and improve your sleep. The foods you eat are related to sleep by appetite and metabolism so make healthy choices for your meals by avoiding fast foods and foods high in carbohydrates and fat. Incorporate more fish, fresh fruits and vegetables into your diet. Start getting consistent exercise, which will improve the quality of your sleep. Avoid exercising less than 3 hours before bedtime, because exercise is alerting and can make it harder to fall asleep. The more caffeine you consume, the harder it'll be to fall asleep at night so try replacing caffeinated beverages with a healthy snack such as carrots, fresh whole fruit or a fruit and nut granola bar.

Sincerely,  
Health Myth Busters

Got questions on other health issues related to sleep health, physical activity, tobacco, or nutrition? Share them with us and we will help you "Bust The Myths!" Send your questions to [usaf.jbsa.afmoa.mbx.hpo@mail.mil](mailto:usaf.jbsa.afmoa.mbx.hpo@mail.mil). Make sure to include in the subject line "Health Myth Buster." For more online health tips visit the Air Force Healthy Living webpage <http://www.airforcemedicine.af.mil/HealthyLiving/>

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