

USC Center for Work & Family Life

What is Sleep Deprivation

Sleep deprivation occurs when inadequate sleep leads to decreased performance, inadequate alertness, and deterioration in health. Sleep deprivation has many deleterious effects, including increased risk for stroke, obesity, diabetes, cancer, permanent cognitive deficits, osteoporosis, cardiovascular disease, and mortality.

Sleep deprivation is extremely common, with 20% of the adult population reported to be sleep deprived. Inadequate sleep is due to either decreased quantity or impaired quality of sleep. Typically, a decrease in quantity of sleep occurs over multiple nights. If chronic, loss of sleep results in a sleep debt, which cannot be recovered. Although the amount of sleep required varies from person to person, on average, 7 to 8 hours of sleep are needed per night to function without impairment. Even if a person sleeps more than 8 hours nightly, sleep deprivation may still occur if the quality of this sleep is poor. Sleep quality is determined by the number of arousals, or awakenings from sleep, during the night. Five or more arousals can lead to daytime sleepiness

Sleep deprivation has many deleterious effects

- Increased risk for stroke (Adults who sleep fewer than 6 hours per night have a 4-fold elevated risk of stroke)
- Obesity due to increased production of ghrelin and limited production of leptin
- Elevated risk of diabetes due to an increase in insulin resistance
- Permanent cognitive deficits
- Mental status changes resembling depression or anxiety
- Quality of life is reported as worse
- Osteoporosis
- Increased risk for colorectal and breast cancer
- A 48% higher risk of developing cardiovascular disease
- Increase in mortality (During a 14-year study period, men who slept less than 6 hours per night were 4 times more likely to die during the study period)

As one ages, sleep deprivation worsens because of an increase in sleep disorders and decreased quality of sleep. After age 45 years, deep stage 3 and 4 levels are lessened, which makes it more difficult for individuals to function after a sleepless night. Along with cognitive impairment seen in sleep-deprived individuals, there are considerable emotional effects. Older adults who lack quality sleep have a significant increase in depression, lack of empathy toward patients, marital discord, and suicide.

For more information feel free to call CWFL at (213) 821-0800 or visit www.usc.edu/worklife