

Study finds regular daily exercise does not increase total sleep time

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According to new research, days with increased activity were followed by nights with lower total sleep time (TST), while nights with lower TST were followed by increased activities during the next day.

Results indicated that total sleep time increased by an average of 42 minutes a night only after days with low activity. In related findings, increased activity was seen in participants with higher [body mass index](#) (BMI).

According to lead author Arn Eliasson, MD, at the Integrative Cardiac Health Project at Walter Reed Army Medical Center in Washington DC, results of the study were the opposite of expectations. Quality of sleep (measured by [sleep efficiency](#) or sleep time divided by time in bed) did not improve after days of increased exertion and sleep efficiency did not vary according to the amount of exertion during the day.

"It has long been recommended, even championed, that getting exercise is part of the recipe for improved sleep. Our data do not support that notion," said Eliasson. "The longest sleep and best sleep efficiency occurred after days with low non-exercise exertion. Similarly, we expected that better-rested subjects would be more inclined to get exercise or have busier days; however, better rested subjects got less exercise and had less calorie expenditure. After relatively more sleep (more than six hours), all measures of exertion decreased."

The study included 14 subjects who wore actigraphy armbands that

measure body temperature, ambient temperature, position sense, and accelerometry for approximately 23 days. Data regarding total sleep time, sleep efficiency, total energy expenditure, exercise energy expenditure, non-exercise activity steps and BMI were collected. When sorted by BMI, seven subjects had a normal BMI (under 25 kg/m²) and seven were overweight (over 25 kg/m²). Paradoxically, the group with higher BMI had a higher total energy expenditure, and took more steps per day.

Dr. Eliasson speculates that these findings may be explained by personality types: Individuals who are Type A (ambitious, active people during the day), may also be more hyper-vigilant at night and therefore sleep less; whereas people who are Type B (lower-key people who are less active) may have no difficulties falling or staying asleep. Another explanation may be that job and life stresses lead to busier days, more exertion and more calories burned but may interfere with sleep.

Source: American Academy of [Sleep](#) Medicine ([news](#) : [web](#))

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