

Weight and diet may help predict sleep quality

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The old adage "you are what you eat," may be better phrased as "your sleep relates to what you eat." An individual's body composition and caloric intake can influence time spent in specific sleep stages, according to results of a new study (abstract 0088) from researchers at the Perelman School of Medicine at the University of Pennsylvania that will be presented at SLEEP 2016, the 30th annual meeting of the Associated Professional Sleep Societies LLC.

In the study, 36 healthy adults experienced two consecutive nights of 10 hours in bed per night at the Hospital of the University of Pennsylvania. Polysomnography- which records physiological changes that occur during sleep - was recorded on the second night. Body composition and resting [energy expenditure](#) were assessed on the morning following the first night of sleep. Food/drink intake was measured each day.

The Penn team found that body mass index (BMI), body fat percentage and resting energy expenditure were not significant predictors of sleep stage duration, but that overweight adults exhibited a higher percentage of time spent in the rapid-eye movement (REM) stage of sleep - when dreams typically occur and characterized by faster heart rate and breathing and less restorative sleep than in non-REM stages - than normal-weight adults.

The group also found that increased protein intake predicted less stage 2 sleep - the period when a person's heart rate and breathing are relatively normal and his/her body temperature lowers slightly - and predicted

more REM sleep.

"In a culture of increasing pressure to sacrifice sleep to maintain productivity, this research adds to the body of knowledge on how lifestyle behaviors may influence the quality of our sleep" said Andrea M. Spaeth, PhD, postdoctoral fellow and lead author on the study.

Much of this body of knowledge resulted from the same researchers. A 2013 study from the Penn team found that those with late bedtimes and [chronic sleep restriction](#) may be more susceptible to weight gain due to the increased consumption of calories during late-night hours. A 2015 study from the group found that eating less late at night may help curb the concentration and alertness deficits that accompany sleep deprivation.

Future research is needed to study whether changing [protein intake](#) alters REM [sleep](#) duration and to find the biological mechanisms behind this relationship.

Provided by University of Pennsylvania School of Medicine

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