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Older people may need less sleep, study finds

Along with all the other changes that come with age, healthy older people also lose some capacity for sleep, according to a new report published online on July 24th in *Current Biology*, a Cell Press publication. When asked to stay in bed for 16 hours in the dark each day for several days, younger people get an average of 9 hours of shuteye compared to 7.5 for older people, the researchers report.

"The most parsimonious explanation for our results is that older people need less sleep," said Elizabeth Klerman of Brigham and Women's Hospital & Harvard Medical School. "It's also possible that they sleep less even when given the opportunity for more sleep because of age-related changes in the ability to fall asleep and remain asleep," she added, noting that the new results apply only to healthy individuals taking no medication and having no medical conditions or sleep disorders.

The study also found that most healthy people, and young people in particular, don't get as much sleep as they need.

The idea that sleep changes markedly across the life span isn't new. In fact, insomnia is a common complaint among older people. But whether age-related changes in sleep were due to changes in social factors, circadian rhythms, or shifts in an internal "set point" for sleep need or the ability to sleep had remained unresolved.

In the new study, Klerman and her colleague Derk-Jan Dijk, of the University of Surrey in the UK, set out to compare the capacity for sleep in young people (between the ages of 18 and 32) compared to older people (age 60 to 72) under conditions that controlled for circadian rhythms by allowing the chance to sleep during both the night and the day and by controlling individual choices in sleep opportunities.

"While humans can sometimes override the homeostatic set point and not sleep when tired, there is no evidence that they can sleep when they are not tired," Klerman explained.

Given the same amount of time in bed, older people take longer to fall asleep and sleep for less time than younger people do, they found. When required to remain in bed for 16 hours a day, older people slept 1.5 hours less on average than younger people, they showed. That age-related decline in sleep included an even split between rapid eye movement (REM) sleep, which is associated with dreaming, and non-REM sleep, they found.

Most younger subjects slept for many more hours during the study than their usual self-selected sleep times. Given the evidence that insufficient sleep is associated with increased risk of accidents, errors, and metabolic changes similar to diabetes, Klerman emphasized that younger people should sleep more.

The findings may also influence treatment for insomnia in older people, Klerman said.

" If older people believe that they need more sleep than they can achieve even when they spend extra time in bed, then they may complain of insomnia: being awake when wanting to be asleep. They may start using medications needlessly. If they are tired during the day, they should consider evaluation for a sleep disorder that may be interfering with their ability to obtain good sleep at night."

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The researchers include Elizabeth B. Klerman, Division of Sleep Medicine, Brigham and Women's Hospital, Harvard Medical School, Boston, MA; and Derk-Jan Dijk, Surrey Sleep Research Centre, Faculty of Health and Medical Sciences, University of Surrey, Guildford, UK.
