

# A reduced arousal threshold in *Drosophila* mutants prevents them from staying asleep

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Most short-sleeping mutant phenotypes in *Drosophila* (a genus of small flies) are characterized by an inability to stay asleep, most likely because of a reduced arousal threshold, according to a study published in the April 1 issue of the journal SLEEP.

“The development of the fruit fly *Drosophila melanogaster* as a model system to study sleep was driven by the goal of using this system to carry out large scale genetic screening, in order to identify novel genes that regulate sleep,” said Mark Wu, MD, PhD, of the University of Pennsylvania, lead author of the study.

“However, to date, only one such screen has been carried out in *Drosophila*. In our manuscript, we describe a screen for short-sleeping mutant flies and find that these mutants generally have difficulty staying asleep, probably because they are hyperarousable. These data suggest that changes in arousal threshold are a common mechanism by which sleep may be perturbed. Interestingly, hyperarousability appears to be an important mechanism underlying insomnia in humans as well. From this screen, we also identified a novel allele of a dopamine transporter previously implicated in sleep regulation. As we continue to clone genes from screens such as these, we hope to identify novel molecules and pathways required for sleep.”

It is recommended that adults get between seven and eight hours of nightly sleep.

The American Academy of Sleep Medicine (AASM) offers the following tips on how to get a good night's sleep:

- Follow a consistent bedtime routine.
- Establish a relaxing setting at bedtime.
- Get a full night's sleep every night.
- Avoid foods or drinks that contain caffeine, as well as any medicine that has a stimulant, prior to

bedtime.

- Do not bring your worries to bed with you.
- Do not go to bed hungry, but don't eat a big meal before bedtime either.
- Avoid any rigorous exercise within six hours of your bedtime.
- Make your bedroom quiet, dark and a little bit cool.
- Get up at the same time every morning.

Source: American Academy of Sleep Medicine

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