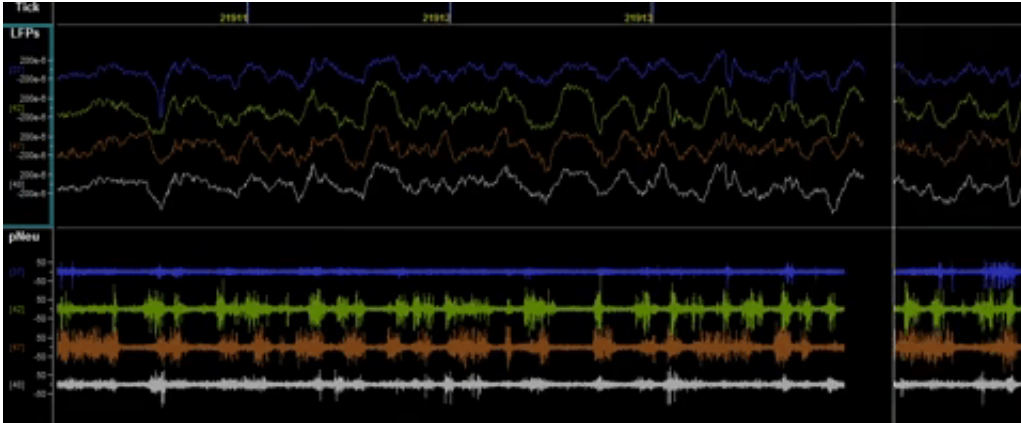


# Why does sleep become disrupted in old age?

March 26 2018

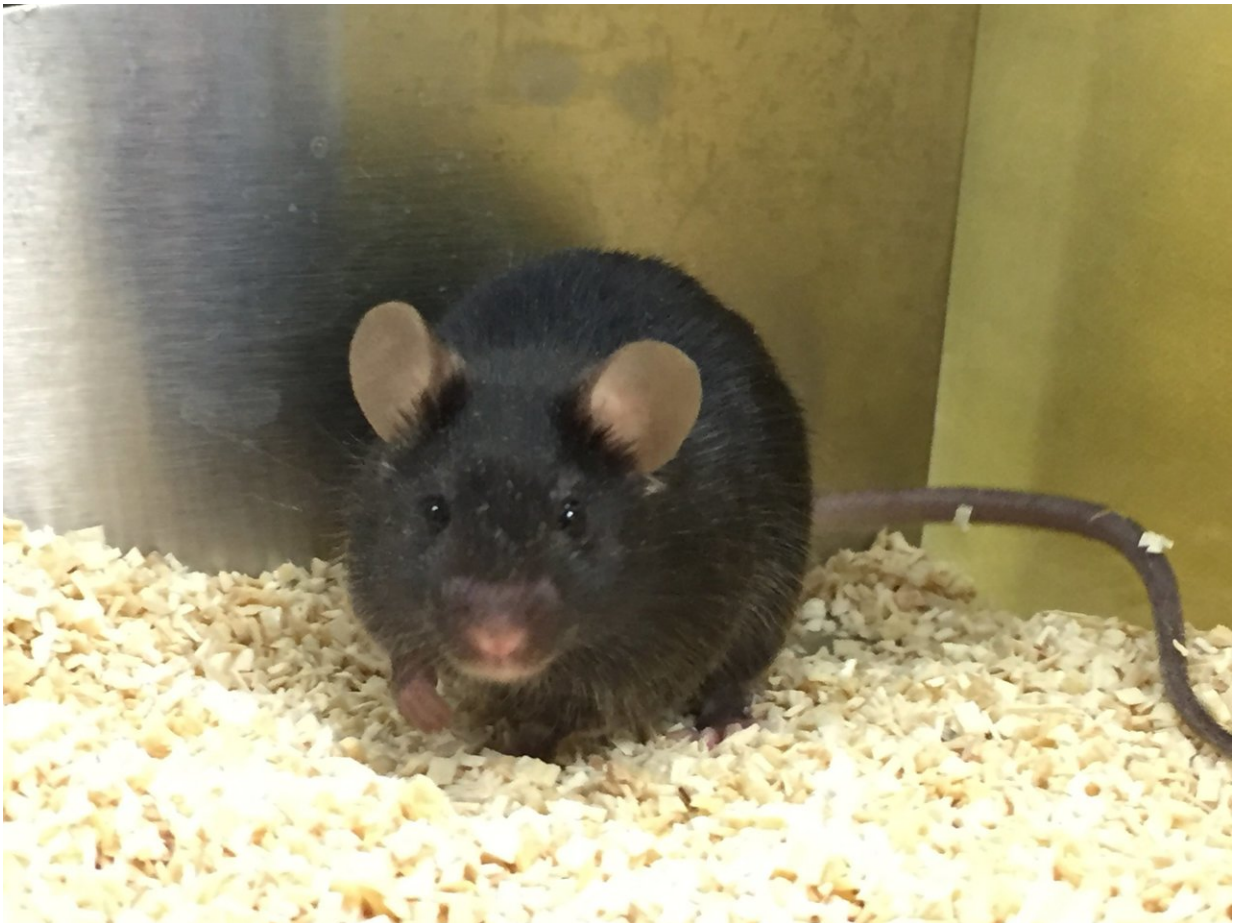


Local neural oscillations during sleep are not affected by ageing. Credit: McKillop et al., *JNeurosci* (2018)

The brain maintains its ability to generate local neural oscillations during sleep throughout the lifespan, according to a study of young and old mice published in *JNeurosci*. The research indicates that age-related disruptions in sleep and associated large-scale brain activity, are not due to changes in the activity of individual neurons.

Vladyslav Vyazovskiy and colleagues recorded neural activity from deep layers of the motor cortex of groups of mice at different stages of life: early adulthood (5 months), late adulthood (12 months) and old age (24 months). The old age mice in this study are estimated to correspond to an age of roughly 70-years in humans.

The researchers did not find any major differences in the cortical neural activity during sleep across the three age groups. All mice also showed similar effects of [sleep deprivation](#) on local sleep oscillations in the neocortex. These findings contrast with previous studies both in mice and humans showing that ageing is associated with a reduced capacity to generate [deep sleep](#), and highlight the need to consider activity at the level of [individual neurons](#), in addition to the whole-brain view, in order to fully understand the effects of ageing on sleep.



Local neural oscillations during sleep are not affected by ageing. Credit: Laura McKillop

**More information:** Effects of ageing on cortical neural dynamics and local sleep homeostasis in mice, *JNeurosci* (2018). [DOI: 10.1523/JNEUROSCI.2513-17.2018](https://doi.org/10.1523/JNEUROSCI.2513-17.2018)

Provided by Society for Neuroscience

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