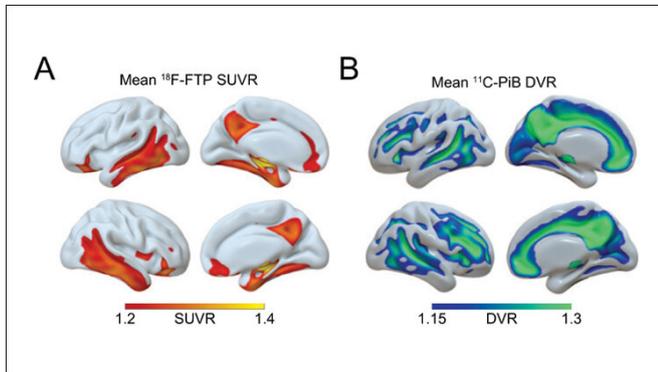


# Sleep history predicts late-life Alzheimer's pathology

17 June 2019



Mean tau and  $\beta$ -amyloid distribution in healthy older adults. Credit: Winer et al., *JNeurosci* 2019

amyloid and tau later in life.

This means that changes in [brain activity](#) during sleep and sleep quantity during these time frames could serve as a warning sign for Alzheimer's disease, allowing for early preventive care.

**More information:** Sleep as a Potential Biomarker of Tau and  $\beta$ -Amyloid Burden in the Human Brain, *JNeurosci* (2019). DOI: [10.1523/JNEUROSCI.0503-19.2019](https://doi.org/10.1523/JNEUROSCI.0503-19.2019)

Provided by Society for Neuroscience

Sleep patterns can predict the accumulation of Alzheimer's pathology proteins later in life, according to a new study of older men and women published in *JNeurosci*. These findings could lead to new sleep-based early diagnosis and prevention measures in the treatment of Alzheimer's disease.

Alzheimer's disease is associated with disrupted sleep and the accumulation of tau and proteins in the brain, which can emerge long before characteristic memory impairments appear. Two types of hippocampal sleep waves, slow oscillations and sleep spindles, are synced in [young individuals](#), but have been shown to become uncoordinated in old age.

Matthew Walker, Joseph Winer, and colleagues at the University of California, Berkeley found a decrease in slow oscillations/sleep spindle synchronization was associated with higher tau, while reduced slow-wave-activity amplitude was associated with higher  $\beta$ -amyloid levels.

The researchers also found that a decrease in sleep quantity throughout aging, from the 50s through 70s, was associated with higher levels of  $\beta$ -

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