

Careful, your brain may begin to eat itself if you don't get enough sleep

Burning the midnight oil may well burn out your brain. The brain cells that destroy and digest worn-out cells and debris go into overdrive in mice that are chronically sleep-deprived.

In the short term, this might be beneficial – clearing potentially harmful debris and rebuilding worn circuitry might protect healthy brain connections. But it may cause harm in the long term, and could explain why a chronic lack of sleep puts people at risk of Alzheimer's disease and other neurological disorders, says Michele Bellesi of the Marche Polytechnic University in Italy.

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The team specifically looked at glial cells, which form the brain's housekeeping system...One type of glial cell, called an astrocyte, prunes unnecessary synapses in the brain to remodel its wiring.

Bellisi's team found that after an undisturbed sleep, astrocytes appeared to be active in around 6 per cent of the synapses in the brains of the well-rested mice,...[while] the cells were active in 13.5 per cent of the synapses of the chronically sleep-deprived animals.

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The finding could explain why [a lack of sleep seems to make people more vulnerable to developing such dementias](#), says Agnès Nadjar of the University of Bordeaux in France.

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