

Researchers look at waste clearance in the brain during sleep

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Credit: Wikimedia Commons

Researchers in the US have used rats and mice to explore how sleep posture alters the way in which toxic proteins are cleared from the brain. The research was published in the *Journal of Neuroscience* on 10 August.

Protein clearance is an important process to rid the brain of waste products and toxic proteins. In this study, the team used [rats](#) to investigate whether placing them on their back, front or side during anaesthesia made any difference to the speed in which a chemical was cleared from the brain. They found that the chemical was cleared fastest when the rats were on their side.

The researchers then went on to inject mice, anaesthetised in these same postures, with the Alzheimer's hallmark protein, amyloid. They used sophisticated imaging techniques to track the speed at which amyloid was cleared from the brain and revealed that it was cleared most efficiently in mice anaesthetised on their sides.

Dr Emma O'Brien of Alzheimer's Research UK said:

"While sleep has a role in keeping our brains healthy, this research in rodents investigated the effects of anaesthetic and is not able to tell us whether our sleeping position could have any effect on our risk of developing Alzheimer's. This study suggests that in rats and [mice](#), posture may affect the [brain](#)'s ability to clear waste products, but it's too early to say whether these results would also hold true for people. We would need to see further research to understand whether these findings have any implications for Alzheimer's disease.

"With half a million people currently living with Alzheimer's in the UK, investment in research is crucial if we are to find better ways to treat and prevent the disease. While some research has linked [poor sleep](#) to a higher dementia risk, there is still much that we need to understand about sleeping patterns and disease risk. In the meantime, the best evidence suggests we can lower our risk by eating a healthy, balanced diet, taking regular exercise, not smoking, and keeping weight, blood pressure and cholesterol in check."

Provided by Alzheimer's Research UK

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