

Sleep apnoea linked to changes in brain structure

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Obstructive sleep apnoea occurs when someone stops breathing while sleeping, because their airway at the back of the throat becomes blocked. This can lead to excessive sleepiness, increased risk of stroke and heart attack, and cognitive impairment.

The changes in the brain that cause these cognitive effects are little understood, and studies into links between [sleep](#) apnoea and changes in [brain structure](#) have so far yielded conflicting results.

Now, research from the UK and Australia has reinforced the idea that there are differences in brain structure between people with sleep apnoea and healthy controls, although more work is needed to understand how these differences affect brain function. For the study, 60 people with severe sleep apnoea were recruited from sleep clinics at the Royal Brompton and Charing Cross Hospitals in London and Austin Health, Melbourne, alongside 60 healthy controls. The researchers used [magnetic resonance imaging](#) to compare the volume of grey matter in the two groups.

Compared with controls, people with sleep apnoea had significantly reduced amounts of grey matter in the temporal lobe and the cerebellum. The team concludes that these deficits could negatively affect motor processing and working memory – which could, in combination with sleepiness, impair the everyday tasks such as driving that suffer as a result of sleep apnoea.

The condition is thought to affect around 2-4 per cent of younger adults and over 15 per cent of elderly people.

More information: Morrell MJ et al. Changes in brain morphology in patients with obstructive sleep apnoea. *Thorax* 2010;65:908-14.

Provided by Wellcome Trust

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