

Sleep Enhances Long Term Memory

A good night's sleep within 30 hours of trying to remember a new task is a prerequisite to effective recall in subsequent weeks, scientists have found.

The findings, published in the December issue of *Nature Neuroscience*, showed that it was the act of sleep, rather than the simple passage of time, that was critical for long-term memory formation.

The study highlights a less well understood side-effect of insufficient sleep: serious memory impairment.

In the study volunteers found it easier to remember a task if they were allowed to sleep; for others who were kept awake, no amount of subsequent sleep made up for the initial loss.

Lead researcher Professor Robert Stickgold and his team invited 24 volunteers taking part in the study to identify the orientation of three diagonal bars flashed for one-sixtieth of a second on a screen that was also covered with a series of horizontal stripes.

Half the subjects were allowed a night's sleep and half were kept awake, but both groups were later allowed sleep on the second and third nights, to make up differences in fatigue between the groups.

The tests found that those who slept on the first night were significantly and consistently better at performing the memory task, while the second group showed no improvement, despite their catch-up sleep over the two subsequent nights.