

While you sleep, your brain decides which memories to keep, and which ones go to 'the garbage bin'

We don't remember every detail of our lives: Our brains decide which events are important for long-term storage and which can be purged. So, how does the brain divide [memories](#) between long-term safekeeping and the garbage bin?

A collaboration between Japanese and US researchers has revealed an unheard-of method of the brain actively "forgetting" under the lens of [REM sleep](#). The researchers, authors of a recent [study](#) led by Shuntaro Izawa and published in the journal Science, have spent years studying sleep and wakefulness. They examined a group of neurons that produce melanin concentrating hormone ([MCH](#)) near a pea-sized area in the brain called the [hypothalamus](#), which produces various types of hormones, including those needed for sleep.

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The results were phenomenal: by temporarily "turning off" MCH neurons during the REM phase, mice showed significantly increased memory during the memory tests, while "turning off" the neurons while the mice were awake or in NREM had no effect on their memory.

It's easy to think of forgetting as a passive process, where things slip through the cracks. The results of this study suggest that MCH neurons can substantially impair memory and [prompt forgetting during REM](#).

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