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# Why do we need sleep?

KS2

KS3

Ages 7-14 ⌚ 4 min read

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Sleep seems like doing nothing. You're just lying there, eyes closed, not experiencing anything useful. But during those hours, your brain and body are doing some of their most essential work. Skip sleep, and things fall apart surprisingly quickly.

## What's happening while you sleep?

**Memory consolidation.** While you sleep, your brain replays experiences from the day and transfers information from short-term to long-term memory. This is why studying, then sleeping, leads to better retention than cramming all night. Sleep is essentially compulsory revision time your brain runs without asking you.

**Brain cleaning.** Your brain produces waste products as it works — including proteins linked to Alzheimer's disease. During sleep, the brain's cleaning system (called the glymphatic system) is about ten times more active than when you're awake. Cerebrospinal fluid flows through the brain, flushing out toxins that built up during the day. Think of it as running the dishwasher after a big meal.

**Body repair.** Growth hormone is released primarily during deep sleep. Tissues repair themselves. Muscles recover from the day's activity. Your immune system ramps up its activity — which is why you sleep more when you're ill.

A busy restaurant can't deep-clean the kitchen while it's serving 200 customers. It has to close first. Your brain is the same: it can't do maintenance while running your conscious life. Sleep is closing time — the moment the brain can finally clean up, restock, repair equipment, and get ready for the next day. Running on no sleep is like keeping the restaurant open 24 hours and never cleaning the kitchen.

## What happens if you don't sleep?

After one bad night: slower reaction times, impaired judgement, worse mood, difficulty concentrating. After several nights: hallucinations, severe cognitive impairment, physical breakdown. The world record for sleeplessness (under observation) is 11 days and 24 minutes — set in 1964. The volunteer experienced hallucinations, paranoia, and severe memory problems. Recovery required weeks.

There are rare conditions where people lose the ability to sleep — they uniformly die within months. Sleep deprivation is, genuinely, fatal.

## **How much do you need?**

Most adults need 7-9 hours. Teenagers genuinely need more — around 8-10 — and their biological clocks run later, which is why making teenagers start school at 7am is, scientifically speaking, not ideal. Young children need 10-13 hours. There are rare genetic variants that allow some people to function on 6 hours, but they're genuinely rare — most people who think they're fine on 6 hours are operating in a state of chronic sleep deprivation without realising it.