

# Drinking any amount of alcohol causes damage to the brain, study finds

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It's generally accepted that alcohol is fine in small amounts and not so healthy in larger quantities. But a new study from researchers at the University of Oxford suggests that consuming any amount of alcohol can damage your brain.

The research, which is an [observational study](#) that hasn't yet been peer-reviewed, analyzed data from 25,378 people who participated in the U.K.'s Biobank study. That data included how much alcohol the participants said they drank, along with scans of their brains.

The researchers discovered that alcohol use was linked to the amount of gray matter in the brain, regions that affect how decisions are made. Specifically, the more people drank, the less gray matter they had — and people who drank any amount of alcohol had less gray matter than those who didn't drink. There were no differences in this impact between people who drank beer, wine and liquor.



A new study from researchers at the University of Oxford suggests that consuming any amount of alcohol can damage your brain. (Getty Images)

"No safe dose of alcohol for the brain was found," the researchers wrote in the conclusion, adding that "moderate consumption is associated with more widespread adverse effects on the brain than previously recognized." The researchers also said that "current 'low risk' drinking guidelines should be revisited to take account of brain effects."

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The [U.S. Dietary Guidelines for Americans](#) recommends that adults 21 and older have no more than a drink or less a day for women and two drinks a day or less for men. The guidelines also state that people who don't drink alcohol shouldn't start drinking for any reason. But for people who do drink alcohol, the guidelines say that drinking less is better for health.

Lead study author Anya Topiwala, a senior clinical researcher at the University of Oxford, tells Yahoo Life that her study suggests "moderate" drinking recommendations should be revisited. "'Moderate' drinking is highly prevalent, yet there were still controversies about whether or not it affected the brain, such as the amount necessary and who is at higher risk," she says.



Your brain volume shrinks with age, and it shrinks even more if you happen to develop a condition like dementia, Topiwala points out. "Given that we have no cure for diseases like dementia, prevention is key," she says.

While very [heavy drinking](#) can damage the brain through deficiency in the vitamin thiamine, Topiwala says that "we don't know if this mechanism could also be relevant for lower intakes." Ethanol, aka alcohol, is "probably also directly toxic to brain cells," she says.

Jamie Alan, assistant professor of pharmacology and toxicology at Michigan State University, tells Yahoo Life that the study results are "very interesting." Still, she points out, the finds are a correlation and not causation. Meaning it's difficult to say whether it was the alcohol itself that reduced gray matter volume in the brains of certain people or something else entirely.

"It's not a surprise that ethanol can penetrate into all areas of the brain," Alan says. "I think the surprising part was that effects were seen with almost any dose of alcohol." The long-term impacts of alcohol on the brain are still being studied, Alan says. But, she notes, alcohol "can cause oxidative stress and cause inflammation," two factors that are related to disease, illness and the [aging](#) process.

Overall, Topiwala urges people to be aware of how alcohol could affect them. "People should be well informed of the potential risks in making their decisions about drinking," she says. "This includes awareness that drinking at lower levels may not be safe for the brain." And, she adds, "avoiding binge-drinking is sensible."

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