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Even a Little Alcohol Can Harm Your Health

Recent research makes it clear that any amount of drinking can be detrimental. Here's why you may want to cut down on your consumption beyond Dry January.

Source: Dana G. Smith, *New York Times*, January 13, 2024

Sorry to be a buzz-kill, but that nightly glass or two of wine is not improving your health.

After decades of confusing and sometimes contradictory research (too much alcohol is bad for you but a little bit is good; some types of alcohol are better for you than others; just kidding, it's all bad), the picture is becoming clearer: Even small amounts of alcohol can have health consequences.

Research published in November revealed that between 2015 and 2019, excessive alcohol use resulted in roughly 140,000 deaths per year in the United States. About 40 percent of those deaths had acute causes, like car crashes, poisonings and homicides. But the majority were caused by chronic conditions attributed to alcohol, such as liver disease, cancer and heart disease. When experts talk about the dire health consequences linked to excessive alcohol use, people often assume that it's directed at individuals who have an alcohol use disorder. But the health risks from drinking can come from moderate consumption as well.

"Risk starts to go up well below levels where people would think, 'Oh, that person has an alcohol problem,'" said Dr. Tim Naimi, director of the University of Victoria's Canadian Institute for Substance Use Research. "Alcohol is harmful to the health starting at very low levels."

If you're wondering whether you should cut back on your drinking, here's what to know about when and how alcohol impacts your health.

How do I know if I'm drinking too much?

"Excessive alcohol use" technically means anything above the U.S. Dietary Guidelines' recommended daily limits. That's more than two drinks a day for men and more than one drink a day for women.

There is also emerging evidence "that there are risks even within these levels, especially for certain types of cancer and some forms of cardiovascular disease," said Marissa Esser, who leads the alcohol program at the Centers for Disease Control and Prevention.

The recommended daily limits are not meant to be averaged over a week, either. In other words, if you abstain Monday through Thursday and have two or three drinks a night on the weekend, those weekend drinks count as excessive consumption. It's both the cumulative drinks over time and the amount of alcohol in your system on any one occasion that can cause damage.

Why is alcohol so harmful?

Scientists think that the main way alcohol causes health problems is by damaging DNA. When you drink alcohol, your body metabolizes it into acetaldehyde, a chemical that is toxic to cells. Acetaldehyde both "damages your DNA and prevents your body from repairing the damage," Dr. Esser explained. "Once your DNA is damaged, then a cell can grow out of control and create a cancer tumor."

Alcohol also creates oxidative stress, another form of DNA damage that can be particularly harmful to the cells that line blood vessels. Oxidative stress can lead to stiffened arteries, resulting in higher blood pressure and coronary artery disease. "It fundamentally affects DNA, and that's why it affects so many organ systems," Dr. Naimi said. Over the course of a lifetime, chronic consumption "damages tissues over time."

Isn't alcohol supposed to be good for your heart?

Alcohol's effect on the heart is confusing because some studies have claimed that small amounts of alcohol, particularly red wine, can be beneficial. Past research suggested that alcohol raises HDL, the "good" cholesterol, and that resveratrol, an antioxidant found in grapes (and red wine), has heart-protective properties.

However, said Mariann Piano, a professor of nursing at Vanderbilt University, "There's been a lot of recent evidence that has really challenged the notion of any kind of what we call a cardio-protective or healthy effect of alcohol."

The idea that a low dose of alcohol was heart healthy likely arose from the fact that people who drink small amounts tend to have other healthy habits, such as exercising, eating plenty of fruits and vegetables and not smoking. In observational studies, the heart benefits of those behaviors might have been erroneously attributed to alcohol, Dr. Piano said.

More recent research has found that even low levels of drinking slightly increase the risk of high blood pressure and heart disease, and the risk goes up dramatically for people who drink excessively. The good news is that when people

stop drinking or just cut back, their blood pressure goes down. Alcohol is also linked to an abnormal heart rhythm, known as atrial fibrillation, which raises the risk of blood clots and stroke.

What types of cancer does alcohol increase the risk for?

Almost everyone knows about the link between cigarette smoking and cancer, but few people realize that alcohol is also a potent carcinogen. According to research by the American Cancer Society, alcohol contributes to more than 75,000 cases of cancer per year and nearly 19,000 cancer deaths. Alcohol is known to be a direct cause of seven different cancers: head and neck cancers (oral cavity, pharynx and larynx), esophageal cancer, liver cancer, breast cancer and colorectal cancer. Research suggests there may be a link between alcohol and other cancers as well, including prostate and pancreatic cancer, although the evidence is less clear-cut.

For some cancers, such as liver and colorectal, the risk starts only when people drink excessively. But for breast and esophageal cancer, the risk increases, albeit slightly, with any alcohol consumption. The risks go up the more a person drinks.

“If somebody drinks less, they are at a lower risk compared to that person who is a heavy drinker,” said Dr. Farhad Islami, a senior scientific director at the American Cancer Society. “Even two drinks per day, one drink per day, may be associated with a small risk of cancer compared to non-drinkers.”

Which condition poses the greatest risk?

The most common individual cause of alcohol-related death in the United States is alcoholic liver disease, killing about 22,000 people a year. While the risk rises as people age and alcohol exposure accumulates, more than 5,000 Americans in their 20s, 30s and 40s die from alcoholic liver disease annually.

Alcoholic liver disease has three stages: alcoholic fatty liver, when fat accumulates in the organ; alcoholic hepatitis, when inflammation starts to occur; and alcoholic cirrhosis, or scarring of the tissue. The first two stages are reversible if you stop drinking entirely; the third stage is not.

Symptoms of alcoholic liver disease include nausea, vomiting, abdominal pain and jaundice — a yellow tinge to the eyes or skin. However, symptoms rarely emerge until the liver has been severely damaged.

The risk of developing alcoholic liver disease is greatest in heavy drinkers, but one report stated that five years of drinking just two alcoholic beverages a day can damage the liver. Ninety percent of people who have four drinks a day show signs of alcoholic fatty liver.

How do I gauge my personal risk for alcohol-related health issues?

Not everyone who drinks will develop these conditions. Lifestyle factors such as diet, exercise and smoking all combine to raise or lower your risk. Also, some of these conditions, such as esophageal cancer, are pretty rare, so increasing your risk slightly won't have a huge impact.

“Every risk factor matters,” Dr. Esser said. “We know in public health that the number of risk factors that one has would go together into an increased risk for a condition.”

A pre-existing condition could also interact with alcohol to affect your health. For example, “people who have hypertension probably should not drink or definitely drink at very, very low levels,” Dr. Piano said.

Genes play a role, too. For instance, two genetic variants, both of which are more common in people of Asian descent, affect how alcohol and acetaldehyde are metabolized. One gene variant causes alcohol to break down into acetaldehyde faster, flooding the body with the toxin. The other variant slows down acetaldehyde metabolism, meaning the chemical hangs around in the body longer, prolonging the damage.

So should I cut back — or stop drinking altogether?

You don't need to go cold turkey to help your health. Even reducing a little bit can be beneficial, especially if you currently drink over the recommended limits. The risk “really accelerates once you're over a couple of drinks a day,” Dr. Naimi said. “So people who are drinking five or six drinks a day, if they can cut back to three or four, they're going to do themselves a lot of good.”

Light daily drinkers would likely benefit by cutting back a bit, too. Try going a few nights without alcohol: “If you feel better, your body is trying to tell you something,” said George Koob, director of the National Institute on Alcohol Abuse and Alcoholism.

Notably, none of the experts we spoke to called for abstaining completely, unless you have an alcohol use disorder or are pregnant. “I'm not going to advocate that people completely stop drinking,” Dr. Koob said. “We did prohibition, it didn't work.”

Generally, though, their advice is, “Drink less, live longer,” Dr. Naimi said. “That's basically what it boils down to.”

Possible Response Questions

- What are your thoughts about the harmful effects of alcohol? Explain.
- Did something in the article surprise you? Discuss.
- Pick a word/line/passage from the article and respond to it.
- Discuss a “move” made by the writer in this piece that you think is good/interesting. Explain.