Alcohol

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Recent systematic evaluations and extensive research have consistently highlighted the risks and harms associated with alcohol consumption. The World Health Organization (WHO) has emphasized in The Lancet Public Health that no level of alcohol consumption is without health risks.

Alcohol's Harmful Effects

Alcohol, a psychoactive and dependence-producing substance, has been classified as a Group 1 carcinogen by the International Agency for Research on Cancer, indicating the highest level of risk, similar to asbestos, radiation, and tobacco. It is not the type of beverage but the presence of alcohol itself that poses health risks.

Cancer Risk and Alcohol Consumption

The risk of developing cancer escalates with increased alcohol consumption. Surprisingly, even "light" and "moderate" drinking (defined as less than 1.5 glasses of wine, 2 bottles of beer, or 1.5 ounces of spirits per day) contributes to half of all alcohol-attributable cancers in the European Region. This pattern is notably responsible for the majority of alcohol-attributable breast cancers, with the highest impact observed in the European Union, where cancer is the leading cause of death. In addition to breast cancer, drinking alcohol raises your risk of getting several kinds of cancer including;

- Mouth and throat
- Voice box (larynx)
- Esophagus
- Colon and rectum
- Liver
- Stomach
- Pancreatic
- Prostate

All alcoholic drinks, including red and white wine, beer, and liquor, are linked with cancer. The more you drink, the higher your cancer risk. The carcinogenic effect is due to the biological mechanisms triggered as ethanol breaks down in the body, making **any** alcoholic beverage a potential risk factor for cancer.

Fatty Liver Disease

Alcohol consumption is a primary cause of fatty liver disease, a condition where excess fat accumulates in the liver. This condition, known as alcoholic fatty liver disease (AFLD), can occur even with moderate alcohol intake but is more prevalent and severe with higher consumption levels. The liver, responsible for metabolizing alcohol, undergoes stress and damage during this process. Over time, this can lead to inflammation, scarring, and impaired liver function, known as alcoholic steatohepatitis. If left unchecked, this condition can progress to cirrhosis, a severe and irreversible form of liver damage, and increase the risk of liver cancer.

It's crucial to understand that the liver's ability to recover from alcohol-induced damage diminishes with persistent and excessive consumption. Therefore, reducing or abstaining from alcohol is a key preventive measure against AFLD and its progression to more severe liver conditions

The Dual Impact of Alcohol on Mental Health

Short-term Effects: Initially, alcohol may seem to reduce stress and anxiety due to its sedative properties. This can make it an appealing option for relaxation or social settings.. However, these effects are temporary and can quickly give way to negative emotional states.

Long-term Effects: Regular and heavy alcohol use can lead to the development of serious mental health issues. It can cause or exacerbate conditions such as:

- **Depression**: Alcohol is a depressant, and its frequent consumption can lead to or worsen depressive symptoms. The temporary "high" is often followed by a period of low mood, lethargy, and sadness.
- **Anxiety:** While some use alcohol to manage anxiety, it can actually increase anxiety levels once the initial effects wear off. This can create a vicious cycle where more alcohol is consumed to alleviate heightened anxiety, leading to dependence.
- **Mood Swings and Irritability**: Alcohol can disrupt emotional stability, leading to mood swings and irritability. This can strain personal and professional relationships.

- **Sleep Disturbances:** Despite the common belief that alcohol aids sleep, it actually disrupts sleep patterns and decreases sleep quality, leading to fatigue and mood disturbances.
- **Nutritional Imbalance:** Alcohol intake is linked to vitamin deficiencies, unhealthy eating patterns with macronutrient imbalances, and eating disorders.

Alcohol use can be particularly harmful for individuals with pre-existing mental health conditions. It can interfere with medications, worsen symptoms, and make recovery more challenging. For those with conditions like bipolar disorder, schizophrenia, or severe depression, alcohol can trigger episodes or exacerbate the severity of symptoms.

The Connection Between Alcohol and Gut Health

Alcohol can cause inflammation in the gut, which may contribute to a wide range of diseases, both within the digestive system and elsewhere in the body. The inflammation is a result of how the body processes alcohol, both through the creation of harmful molecules and through other pathways, leading to an imbalance in gut bacteria (dysbiosis), and changes to the immune system in the gut lining. Here are some other correlations between alcohol and gut health.

- **Irritation of Digestive Organs:** Regular heavy drinking can inflame the esophagus and stomach, causing conditions like acid reflux and gastritis.
- **Nutrient Absorption Disruption:** High alcohol intake disrupts the stomach and intestines, impairing absorption of vital nutrients like B vitamins and zinc, essential for overall health.
- **Destruction of Beneficial Bacteria:** Even moderate drinking can harm the gut microbiome by killing beneficial bacteria.
- **Promotion of Harmful Bacteria Growth:** Alcohol metabolism produces acetate, which can disrupt the microbiome balance, favoring harmful bacteria and yeasts, and may cause bloating and other discomfort.
- **Dehydration and Digestive Health:** Alcohol's dehydrating effects can lead to constipation, affecting gut health and regularity.

What about drinking red wine for heart health?

Overall, the risks far outweigh any possible benefits.

The newest evidence suggests benefits for heart health of drinking alcohol are less and apply to a smaller group of the population than previously thought. While certain studies

suggest a link between moderate alcohol consumption, particularly red wine, and a reduced risk of heart disease, interpreting these findings can be complex. It's challenging to pinpoint whether the observed benefits are directly due to alcohol or related to other factors. For instance, individuals who enjoy red wine may have higher incomes, leading to better education, healthier diets, and improved overall lifestyle choices.

Moderate alcohol intake has been associated with a slight increase in HDL cholesterol levels. Red wine, in particular, is often highlighted for its heart-protective properties, attributed to its antioxidant content. However, it's important to note that these health benefits are not exclusive to alcohol consumption. Engaging in regular physical activity is a proven way to elevate HDL cholesterol and lower LDL, and a diet rich in fruits, vegetables can provide superior antioxidant exposure without the risks or damage associated with alcohol.

High blood pressure, or hypertension, is an important – yet preventable – risk factor for cardiovascular disease. Nearly half of U.S. adults have high blood pressure. More recent research suggests that drinking alcoholic beverages on a regular basis – even if it's just one drink per day – raises blood pressure levels as you age. Comparing people who drank alcohol regularly with those who never drank, researchers found measurements for both systolic and diastolic blood pressure rose more in people who drank. Alcohol is certainly not the sole driver of increases in blood pressure; however, the findings confirm it contributes in a meaningful way.

Take Home Message

Current evidence does not support the existence of a "safe" level of alcohol consumption.

From the first drop, alcohol poses a health risk, with no threshold below which its carcinogenic effects are absent. The potential benefits of light to moderate drinking on conditions like cardiovascular diseases do not outweigh the cancer risks associated with alcohol.

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