

## HEALTH EFFECTS OF ALCOHOL

The holiday season wouldn't be the holidays without the five "f's" – food, family, friends, fun, and fermentation. Some cultures view alcohol as an essential part of social and culinary life, and others shun it. Regardless of viewpoint, medical research has shown us some mild potential benefits of alcohol consumption and the many dangers of overconsumption.

Perhaps the "healthiest" alcoholic beverage to consume is red wine or a dark beer. The depth of color of alcohol is partly determined by the flavonoids and polyphenols in the beverage. These chemicals, and specifically another chemical called resveratrol, are anti-inflammatory and are anti-oxidants, so they can improve overall cardiovascular health.

Moderate alcohol intake for those who already drink, ie 1-2 drinks per day on average for men and 1 drink a day for women, also can modestly increase "good" high-density lipoproteins (HDLs), lower blood pressure, and provide anti-clotting properties to the blood. A "drink" is defined as about one 12 oz. beer, 4 oz. of wine, 1.5 oz. of 80-proof spirits, or 1 oz. of 100-proof spirits. The American Heart Association does not recommend starting alcohol intake for these mild benefits, and instead recommends a combination of daily exercise and a healthy diet, sometimes in addition to lipid-lowering medication, to increase HDLs and decrease the "bad" low-density lipoproteins (LDLs). Some even speculate that eating red grapes or drinking red grape juice may provide the same benefit.

On the flip side, science has proven that too much alcohol can increase triglycerides, another component of blood lipids, and increase risk of stroke, cardiac arrhythmias, high blood pressure, heart failure, certain cancers, liver disease, fetal alcohol syndrome, obesity and diabetes, suicide risk, and accidents; and the list goes on.

How can such a simple molecule, two carbon, one oxygen, and five hydrogen atoms, cause such potential havoc in our bodies? First, the ethanol gets absorbed from our gastrointestinal system to our bloodstream, and then gets metabolized mainly by our liver and less so by our kidneys where the toxic byproducts taken up preferentially by tissue with high water contents. Also, because of the simple chemical structure, it is able to pass through the Blood-Brain Barrier. So our brain gets a double whammy, which is why the immediate alcohol effects include social "relaxation" and loss of inhibition and then memory and judgment impairment. But no body system is left unaffected, causing adverse effects to our brain, liver, heart, muscles, kidneys, stomach, lungs, bones, endocrine, reproductive, and immune system with long-term excessive alcohol consumption.

If and when consuming alcohol over the holidays, it is extremely important to drink on a full stomach, drink in limited amounts, and to drink slowly. Blood alcohol concentration (BAC) is affected by gender, weight, and body fat of the individual. A rule of thumb is that one drink, as defined above, can increase the BAC by 0.02 to 0.05%. It can take 1.5 to 3 hours for the BAC to go back down to zero. In all states in the US, a BAC equal to or above 0.08% constitutes intoxication. In certain individuals in certain circumstances, as little as one to one and a half drinks can cause the BAC to go up to 0.08%.

Lastly, to also be safe, avoid alcohol with sedating antihistamines like Benadryl, narcotic pain medications like codeine and vicodin, anti-anxiety medications and antidepressants, sleep and anti-seizure

and cough medications, certain antibiotics, muscle relaxants, and even herbal oral medications such as St. Johns Wort, Kava Kava, chamomile, lavender, and valerian. Speak to your doctor for advice.

Enjoy in moderation, be safe, and Happy New Year!!!

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