

## **Why Reduce or Eliminate Alcohol?**

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Most people don't appreciate what the word moderate really means—5 ounces of wine, 12 ounces of beer or 1.5 ounces of spirits. In real life, these are incredibly small portions. There are safer ways to achieve relaxation and improved antioxidant status, such as exercise and a diet rich in fruits, vegetables, and berries.

Since the body is not able to store alcohol, as soon as you drink it, you trigger pathways to break it down—pathways that shunt energy and enzymatic resources that would otherwise be used to help with detoxification. The bottom line is that alcohol deters from this program by disrupting:

1. Sleep
2. normal liver function of detoxification
3. normal liver function of fat metabolism

You may be wondering how alcohol can disrupt sleep, as many use it as a sleep aid. The reality is that the byproducts of alcohol disrupt normal sleep because the brain attempts to multitask—get deep sleep (delta waves) while trying to create a relaxed awakened state (alpha waves) at the same time. Having both delta and alpha activity together leads to disrupted sleep, since the alpha functions tend to onset any restorative efforts of delta waves. These opposing alpha-delta brain patterns during sleep have been linked to daytime drowsiness, waking up not feeling rested, and symptoms like headaches and irritability.

*Chan, J. K. M., et al., "The Acute Effects of Alcohol on Sleep Electroencephalogram Power Spectra in Late Adolescence," Alcohol Clin Exp Res 39, 2015: 291–299.)*

Alcohol is broken down in the liver, both by the enzyme alcohol dehydrogenase and by an enzyme system called the microsomal ethanol-oxidizing system. This breakdown generates toxic, damaging products such as acetaldehyde (which plays a role in disrupting sleep patterns discussed above) and free radicals. These byproducts can interfere with the normal metabolism of other nutrients, particularly fats, and contribute to liver cell damage.

If those reasons aren't enough for you, consider this: Alcohol dis-inhibits; making it easy to forget why you really don't want to have that pizza once you've had that wine or beer! Instead of alcohol, try mixing your favorite fresh fruits and fresh fruit juices into seltzer water!

Your liver is your main organ for detoxification for alcohol as well as other toxins we're regularly exposed to in our environment. When you overdrink, you activate a phase I enzyme called cytochrome 2E1. In the absence of the alcohol challenge, cytochrome 2E1 is one of the "first on the scene" detoxification enzymes, which gets ramped up to begin transforming toxins into molecules that can be easily eliminated. The guidelines, and the use of Juice Plus+ Essentials Capsules and Complete Shakes, are all set up to induce phase I and phase II detoxification enzymes in the liver, and drinking alcohol shunts energy and enzymes away from that effort.

Here's a copy of our "Healthy Mocktails" Revolution Recipes Book!

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