

Alcohol, The Nutrient Thief

Alcoholic beverages are as old as the tale of man. Some of the earliest written documents in existence contain either references to the consumption of alcohol, or even contain its recipe. Beer, in particular, is quite likely the oldest alcoholic beverage known to man. As early as 3500 b.c. and further, there is proof positive evidence of its existence. Does this mean that the desire to consume alcohol is imprinted into our very DNA?

For some people it seems to be that way. Roughly two-thirds of the US population consumes alcohol at least infrequently, and among them are millions of both reported and unreported abusers that have done serious damage, both to their health and their happiness.

In recent decades, there have been a massive amount of studies and thousands of hours of research conducted on the medical effects of alcohol on the human body, and quite interestingly, contrary results seem to surface. Research on everything from the effects of alcohol consumption on heart disease to the connections to various forms of cancer has been conducted by dozens of countries around the world.

Light to heavy alcohol consumption has been linked to:

- Cardiovascular damage and disorders
- Nervous system damage, mainly to the brain
- Mental and behavioral disorders
- Digestive disorders including damage to the liver and pancreas
- Lung disease, acute respiratory distress syndrome ARDS
- Excessive ferritin levels in the blood stream
- Sexual dysfunction
- Hormonal imbalances
- Skin disorders, psoriasis, rosacea, etc.

- Bone loss and poor mineral density
- Immune system distress

Worst of all is that alcohol is a known carcinogen. Consumption has been linked to many forms of cancer including cancer of the liver, pancreas, breast, stomach, lung, colon, and various oral cancers and others.

Not only is alcohol a toxic substance, it also can create nutritional deficiencies that can exacerbate the effects of the alcohol and lead to other conditions on their own. For example, alcohol consumption increases the rate of vitamin C excretion from the body by 47% within 4 hours! Since the body cannot produce its own vitamin C, and relies upon dietary sources, this is very important. Vitamin C is a major antioxidant, immune system booster, and absolutely critical for optimum health. Regular consumption of alcohol and create a major deficiency and increases the body's susceptibility to illness.

Besides vitamin C, alcohol also depletes the body of vitamin E, D, B6, B12, selenium, calcium, and other essential nutrients and trace minerals. This means that not only is alcohol toxic by itself, it also weakens the body by removing that which it needs most.

Two of the most common afflictions regular drinkers tend to develop are fatty livers and cirrhotic livers. A fatty liver is a condition in which the cells of the liver have accumulated large amounts of lipids within the cells and the functions of the cells are impeded. It is a reversible condition, but abstaining from alcohol is a necessity in order to remove the cause of the disorder. Pantothenic acid, or B5, is an important nutrient that can help increase the body's ability to heal the liver from this condition.

A cirrhotic liver, on the other hand, is a more serious condition. Cirrhosis is when healthy liver tissue has become scarred and fibrosis has occurred. Liver function is typically impeded and depending on the

severity of the scarring, a liver transplant may be necessary. The most common observable symptom of cirrhosis is fluid retention in the gut, sometimes mistaken for a "beer gut". In many cases, if the condition is not detected soon enough, the damage done to the liver is not entirely reversible. But, there are several nutrients that can help improve liver function and provide a range of benefits, namely Alpha-Lipoic Acid, CoQ10, and Milk Thistle.

There is also a large body of evidence that suggests that individuals who smoke and drink have a greater risk of developing serious heart conditions compared to just smoking or just drinking. The negative health consequences are greatly amplified by this combination and people who smoke are strongly urged to give up the habit.

One of the most widely circulating pieces of information on the supposed "protective benefits" of alcohol consumption is the resveratrol in red wine. The assertion is that resveratrol is a chemoprotective substance that has anti-aging properties. This claim is heavily disputed and is currently the subject of serious research by pharmaceutical companies and the like. When considering that a glass of red wine contains on the order of one milligram of resveratrol, the likelihood that the resveratrol's benefits will outweigh the likely health consequences inherent in alcohol consumption is very very unlikely. There are also plenty of alternative diet sources in which to obtain it without having to consume an alcoholic beverage.

Because of the history and the broad consumption of alcohol, there is a lot of anecdotal information that people tend to gather from their own life experiences with alcohol that lead to a number of conclusions. One common observation is that there are people who consume alcohol regularly, well into their twilight years without any significant adverse health effects. They die of old age in their 80s. Conversely, there are the middle-aged people who develop various form of cancer, or nervous system damage like

Wernicke-Korsakoff syndrome. From this comes the assumption that either alcohol is not to blame and it is other lifestyle factors or that different individuals have different sensitivities. The later is of course, perfectly true, but is there a way to identify more sensitive individuals?

Absolutely. The old fashioned method was to look at family histories. Today, the easiest method is to conduct specific genetic testing to observe the function of your genes that control alcohol metabolism in the body, particularly in the liver. The old man who lived into his 80s drinking two glasses of wine a night most likely had the necessary combination of intact genes and no other damaging lifestyle factors. Whether he knew this information is another matter.

For many type of toxins, the liver requires a two-stage process to remove them from the body. Alcohol, on the other hand, is often processed in one. This is good in that it only requires an oxidation process to neutralize the alcohol. The downside is that if there is any alteration in the genetics of these particular pathways, alcohol processing becomes impaired.

Impairments to these genes cause the liver to "up regulate" the alcohol process. This means that the liver will process the alcohol too rapidly, and thus make mistakes in the process. It is in these individuals that the risk of fatty, or cirrhotic livers is significantly higher.

Being free from alterations on these genes, however, does not mean that you have immunity from liver conditions and can consume endless quantities of alcohol, but more than you have a greater tolerance of alcohol and it will take greater quantities in order to develop these conditions.

Women also have it particularly bad when it comes to alcohol consumption as a general rule. This is particularly troubling because it is an unfortunate fact that the majority of alcohol studies have been conducted on males. The information that is known, however, strongly suggests that

women should most likely avoid alcohol as much as possible.

Consider these facts: women on average are two-thirds the size of a male in total body mass. They also, typically, have a higher body fat ratio. A higher fat ratio means less total water in the body. What these facts together mean is that women tend to consume a greater quantity of alcohol compared to their body size than males, and because water dilutes alcohol, and fat doesn't, the alcohol is more concentrated and thus more toxic.

There is another disadvantage that women have when it comes to consuming alcohol and that is in the very beginning stages of the digestive tract in the stomach, women tend to have less of a specific enzyme that breaks down alcohol in the stomach called alcohol dehydrogenase. This means that a greater amount of unprocessed alcohol is entering the bloodstream, further increasing the strain on the body's liver and digestive systems.

Ironically, these factors actually put women at greater risk of developing serious health problems from alcohol addiction. Even though women make up only a third of the number of known alcohol abusers in the US, they suffer a much higher proportion of health problems than males.

A lot of important research into the female side of the alcohol addiction problem was conducted in the 1980s. In the late 1980s, a study was published in the International Clinical Nutrition Review that found that women tend to make the transition from heavy drinking to alcohol dependence much faster than men, only 5 years compared to 15-20 years, and they also tend to develop liver damage in less time from less alcohol also.

The message here is not to say that no one must ever ever have an alcoholic beverage. The point is that you must be aware of the effects it has on the body, particular what your unique sensitivities

are to it. Especially if you are a woman who is in menopause or has gone through menopause, because the liver is a critical organ for the proper processing of hormones and if you have even a slight impairment in your liver, alcohol can severely affect the levels of important hormones and can worsen symptoms.

It's becoming a popular recommendation of alcoholic beverage company promoters and endorsed celebrities to advertise that being a "moderate consumer" of alcohol is beneficial for health; moderate being one to three beverages per day. Based on the information presented here, it should be safe to say that this is much more than anyone should consume. We should all strive to be much less than a moderate drinker. How about a rare drinker? That's sounds much better.



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