

HIGHLIGHTS

- 91% of Canadians are lifelong consumers of alcohol
- Many Canadians have their first drink by the age of 16
- Alcohol exerts a systemic effect on nearly all organs in the human body
- Alcoholics are predisposed to viral infections like cytomegalovirus
- Alcohol can selectively inhibit some types of natural killer cells in a time dependent manner
- Alcohol damages mitochondrial molecules
- Alcohol is known to alter mitochondrial structure in the liver and heart
- Alcohol consumption will decrease a person's energy levels and make them feel tired and sluggish
- Alcohol is a known human carcinogen

ALCOHOL

Updated March 4, 2019

ALCOHOL CONSUMPTION IN CANADA

According to the Canadian Alcohol and Drug Use Monitoring Survey results from the year 2012, 91% of Canadians are lifelong consumers of alcohol. Many Canadians have their first drink by the time they are 16 years old. Although alcohol consumption is prevalent, is alcohol something we should be consuming? Are there any health risks? Keep reading to find out more!

RISK FACTOR FOR INFECTIONS

Alcohol exerts a systemic effect on nearly all organs in the human body. Our immune systems are not “immune” to the harmful effects of alcohol consumption. It has been observed that alcoholics are predisposed to viral infections like cytomegalovirus. In a study, researchers observed that alcohol can selectively inhibit some types of natural killer cells in a time dependent manner. Natural killer cells are immune cells that kill tumor cells or cells infected with viruses. These immune cells play an important role in keeping us free from illnesses; therefore, we want these cells to be in good shape and ready to fight off the next deadly infection or tumor.

REDUCED ENERGY LEVELS

Alcohol damages mitochondrial molecules. Mitochondria are cellular power plants of eukaryotic cells. They generate a molecule called adenosine triphosphate (ATP) which is used as energy. Alcohol is known to alter mitochondrial structure in the liver and heart. When mitochondrial function is altered by alcohol, mitochondrial function changes leading to a decrease of respiratory rate and ATP levels. For the person, this means that alcohol consumption will decrease a person's energy levels and make them feel tired and sluggish.

IS LIGHT AND MODERATE DRINKING OKAY?

Many studies seem to indicate that light and moderate drinkers experience protective health effects from the consumption of alcoholic beverages. Is this really the case? According to Liang & Chikritzhs, “the superior health status attributed to family members of light and moderate drinkers is highly likely to be spurious and due to residual confounding rather than physiologically protective effects of alcohol.” Considering the toxic properties of alcohol, it is likely that unaccounted confounding factors are likely underpinning the supposed “protective effects” from moderate drinking. Moreover, there is further research that suggests that even light and moderate drinking can predispose people to certain cancers. As a matter of fact, the National Toxicology Program of the US Department of Health and Human Services lists consumption of alcoholic beverages as a known human carcinogen.

ALCOHOL AND AGE-RELATED HEALTH DISORDERS

In the human body, alcohol may increase the production of reactive oxygen species. Reactive oxygen species are molecules that damage DNA, RNA and proteins. Reactive oxygen species can also be called free radicals. Certain conditions such as atherosclerosis, cancers, trauma, stroke, asthma, hyperoxia, arthritis, heart attack, age pigments, dermatitis, cataractogenesis, retinal damage, hepatitis, liver injury, and periodontitis are all age related. As we age, our bodies break down and produce more free radicals that damage our organs. As the amount of free radicals increases, the greater the damage our bodies sustain. Since alcohol increases the production of free radicals, this liquid poison will contribute to the development of age related health disorders.

DO YOU WANT TO LIVE A LONG HEALTHY LIFE?

War veterans have lived through the heat of the worst battles and come off as conquerors. Some veterans have been so lucky as to live long healthy happy lives. But is this really luck? According to a cross sectional self-report study on 1105 veterans age 90 and older, 60% of the men in the study totally abstained from alcohol! The results suggest that very old veterans abstain from alcohol consumption and as a consequence live longer lives. The Bible declares that wine is a mocker, strong drink is raging: and whosoever is deceived thereby is not wise {Proverbs 20:1}. Usually, old men are known for their wisdom. Perhaps it is best to follow the example of these elderly soldiers and tread the path of total abstinence from alcohol!



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- Reactive oxygen species are molecules that damage DNA, RNA and proteins
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- Wine is a mocker, strong drink is raging: and whosoever is deceived thereby is not wise {Proverbs 20:1}
- We should totally abstain from alcohol

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Readings for this Article:

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