Position Statement On

ALCOHOL CONSUMPTION

The Lifestyle Medicine Institute (LMI) recommends that alcohol should be avoided in order to reduce the risk of negative health impacts including cancer.

Key messages

- *Alcohol use is a cause of cancer. Any level of alcohol consumption increases the risk of developing an alcohol-related cancer; the level of risk increases in line with the level of consumption. Alcohol causes around 3.5% of all cancer deaths. [1, 2]*
- *There is convincing evidence that alcohol use increases the risk of cancers of the mouth, pharynx, larynx, oesophagus, bowel (in men) and breast (in women), and probable evidence that it increases the risk of bowel cancer (in women) and liver cancer.*
- *Together, smoking and alcohol have a synergistic effect on cancer risk, meaning the combined effects of use are significantly greater than the sum of individual risks.*
- *Alcohol use may contribute to weight (fat) gain, and greater body fatness is a convincing cause of cancers of the oesophagus, pancreas, bowel, endometrium, kidney and breast (in post-menopausal women).*

Alcohol and cancer

Ethanol, the chemical present in all alcoholic beverages and which induces the altered physical and mental responses experienced with alcohol use, is listed as a Group 1 carcinogen.[3] The most recent comprehensive review of the scientific evidence by the World Cancer Research Fund (WCRF) and the American Institute for Cancer Research (AICR) concluded that there is convincing evidence that alcohol is a cause of cancer of the mouth, pharynx, larynx, esophagus, bowel (in men) and breast (in women), and probable evidence that alcohol increases the risk of bowel cancer (in women) and liver cancer. Scientific research is continuing to identify other cancers such as prostate that could be associated with alcohol use. There is a dose-response relationship between alcohol and cancer risk for men and women, with studies showing that the risk of cancer increases with increasing consumption of alcohol on a regular basis.

There are a number of biological mechanisms that may explain alcohol's contribution to cancer development. Ethanol may cause cancer through the formation of acetaldehyde, its most toxic metabolite. Acetaldehyde has mutagenic and carcinogenic properties, and bonds with DNA to increase the risk of DNA mutations and impaired cell replication. Ethanol may also cause direct tissue damage by irritating the epithelium and increasing the absorption of carcinogens through its effects as a solvent.

The combined effects of drinking alcohol and smoking tobacco greatly exceed the risk from either factor alone. Smoking and alcohol together have a synergistic effect. Compared with non-smoking non-drinkers, the approximate relative risks for developing mouth and throat cancers are up to seven times greater for people who smoke tobacco, up to six times

greater for those who drink alcohol, but more than 35 times greater for those who are regular, heavy users of both substances.

Alcohol and heart disease

The relationship between alcohol consumption and heart disease is less clear. Research associating low to moderate levels of alcohol consumption with a reduction of the incidence of coronary heart disease exists but may be flawed. Comprehensive randomized controlled trials are lacking, and epidemiological studies of alcohol and heart disease that do exist have significant confounding factors. The putative benefits of moderate alcohol consumption on heart disease appear to be confined to middle aged and older people. However, the ongoing debate over the potential impact of uncontrolled confounders on estimates of the size of the cardio-protective effect, and whether or not moderate alcohol consumption should be recommended for protection against heart disease is difficult to resolve in the absence of randomized controlled trials.

It is clear that there is a relationship between heart disease and body weight and fat, and that from a nutritional viewpoint, alcoholic drinks represent 'empty kilojoules'. What this means is that alcoholic drinks are high in kilojoules but low in nutritional value, especially when added to sugary mixer drinks. Alcohol itself has a comparatively high energy content (29 kilojoules per gram) compared with other macronutrients. If people drink alcohol in addition to their normal dietary intake – that is, without a compensatory reduction in energy intake – they are liable to gain weight.

Acknowledging all of these issues, the World Health Organization (WHO) stated in 2007 that '…from both the public health and clinical viewpoints, there is no merit in promoting alcohol consumption as a preventive strategy.' In Australia, the National Heart Foundation explicitly advises against the consumption of red wine and other types of alcoholic drinks for the prevention or treatment of heart disease.

References

1. http://www.cancercouncil.com.au/wp-content/uploads/2010/09/Alcohol-and-Cancer-Position-Statement2.pdf (accessed 27 May 2013)

2. Nelson E. David et al. Alcohol-Attributable Cancer Deaths and Years of Potential Life Lost in the United States. Am J Public Health. 2013;103: 641–648.

3. http://www.cancer.org/cancer/cancercauses/othercarcinogens/generalinformationaboutcarcinogens/known-and-probable-human-carcinogens (accessed 8 Dec 2014)

4. U.S. Department of Agriculture and U.S. Department of Health and Human Services. In: Dietary Guidelines for Americans, 2010. Chapter 3 – Foods and Food Components to Reduce [PDF-967KB]. 7th Edition, Washington, DC: US Government Printing Office; 2010, p. 30–32.

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