

Is drinking wine really good for your heart?

October 27 2017, by Adrian Baranchuk, Bryce Alexander And Sohaib Haseeb



Credit: AI-generated image ([disclaimer](#))

As the weekend approaches, people are opening wine bottles in bars and restaurants and homes around the world, ready to kick back and relax.

This relationship with [wine](#) has a long history. The oldest known winery, dating back to 4100 B.C, was [discovered in 2010 by archeologists in an Armenian cave](#). Wine was used in ceremonies by the Egyptians, traded

by the Phoenicians, honoured by the Greek God Dionysus and the Roman God Bacchus. By 2014, humanity was consuming [more than 24 billion liters of wine](#) every year globally. Now there is some fear that extreme weather events in western Europe during 2017 [have reduced production substantially](#) and prices of this high-demand commodity are set to rise.

So why is wine so popular? Aside from its flavours, and capacity to help people relax, wine has gained something of a reputation as a "healthy" alcohol—with researchers in the past noting associations between red wine drinking in France, and lower incidence of heart disease.

However, wine drinking is also known to increase risks of serious health issues, including [liver cirrhosis](#), [sudden cardiac death](#), [alcoholic cardiomyopathies](#) and [cardiac rhythm disorders](#). Excessive consumption and chronic misuse of alcohol are risk factors contributing to an increase in global disease.

How does the average drinker know what to believe? And how much wine is safe? As medical researchers, we recently published an [in-depth analysis of the anatomy of wine](#). This included analysis of the risks and benefits of consumption, comparisons with other alcoholic beverages and a discussion around wine's much publicised health benefits.

Wine and heart disease

Modern scientific intrigue surrounding wine has grown immensely since the 1970s, when [large, international studies](#) first reported a link between light-to-moderate consumption of alcohol and lower rates of ischemic [heart disease](#) (IHD) occurrence and associated deaths. IHDs are a group of diseases characterised by a reduced blood flow to the heart, and account for significant deaths worldwide.

Similar results have been reported individually for wine, specifically red wine. This phenomenon was eventually [coined "the French paradox"](#) after Renaud and de Lorgeril, two scientists who became known for this work, observed a relatively low risk of IHD-associated mortality in red wine drinkers despite a consumption of a diet rich in saturated fat.

Does this mean red wine is good for the heart? This is a complex question and as yet there is no consensus on the answer. More than one factor needs to be considered in order to explain this situation. Drinking patterns, lifestyle characteristics and dietary intake are all important for individuals to obtain a healthy cardiovascular profile.

The Mediterranean diet has been put forward as one explanation. This diet emphasizes consumption of plant-based foods in addition to the moderate consumption of red wine and has [been labelled as beneficial by scientific advisory committees](#).

In the Mediterranean diet, the low-consumption of saturated fat, emphasis on a healthy lifestyle, and more independently, alpha-linoleic acid (an essential fatty acid) and red wine, may allow this diet to confer the much researched cardio-protective benefits.

Cholesterol, inflammation, blood pressure

Red wine contains over 500 different chemical substances. One class, called "polyphenols," has been widely investigated for imparting the apparent antioxidant and anti-inflammatory effects of red wine.

Alcohol and polyphenols are thought to have several positive health impacts. One is a contribution to an increase in [HDL-cholesterol](#) or "good cholesterol" and a decrease in [LDL-oxidation](#) or "bad cholesterol." They also contribute to a decrease in [inflammation](#). They are thought to increase [insulin sensitivity](#). And they are understood to improve [blood](#)

[pressure](#).

There is no consistent pattern when wine is compared to beer and spirits. Some report wine's superiority in a reduction from IHD and mortality. Others report it for beer and spirits. Others suggest there is no difference. This suggests that alcohol and polyphenols both contribute to explaining the French paradox, in addition to lifestyle factors.

Despite the beneficial effects of wine and [alcohol consumption](#), drinking is still a potential risk-factor for atrial fibrillation, the most-common "rhythm alteration" of the heart.

How much should you drink?

In much of the research, adverse effects were increasingly observed with excessive or binge-consumption of wine, while low-to-moderate intakes lowered IHD and mortality risks.

In response, various governing bodies have come forth with guidelines for alcohol consumption. These follow similar patterns, but vary remarkably by country and source. And the definition of "[one standard drink](#)" used in each guideline is highly variable, and discrepant between country borders. This causes great confusion. Readers should be wary of this when interpreting alcohol consumption guidelines.

The [World Health Organization](#) recommends low-risk alcohol consumption of no more than two standard drinks per day with at least two non-drinking days during the week. Here one standard drink is defined as 10 g of pure ethanol.

The [American Heart Association](#) recommends alcohol in moderation—less than or equal to one to two drinks per day for men and one drink per day for women. Here one drink is defined as 12 oz. of beer, 4 oz. of

wine, 1.5 oz. of 80-proof spirits, or 1 oz. of 100-proof spirits.

The [*Dietary Guidelines for Americans 2015 – 2020*](#) developed by the United States Department of Agriculture recommends a moderate consumption of alcohol. This equates to up to two standard drinks per day for men and one for women. Here, one standard drink is defined as 14 g of pure ethanol.

The [Canadian Centre for Addiction and Mental Health](#) guidelines recommend low-risk alcohol consumption —up to three drinks per day for men and two for women. One drink is defined as 12 oz. of 5 per cent beer, 5 oz. of 12 per cent wine, and 1.5 oz. of 40 per cent spirits.

Future research opportunities

Observational data around alcohol consumption and heart health suggests that a light-to-moderate intake, in regular amounts, appears to be healthy. However, when mathematical models have been applied to determine causation (an approach known as Mendelian randomization) the results have been mixed.

Some studies have found [light-to-moderate drinking beneficial](#), while others have reported [long-term alcohol consumption to be harmful](#) for the heart.

For doctors, it is quite clear what to recommend to patients when it comes to diet, exercise and smoking. Given the inconsistencies in the findings relating to [alcohol](#), and wine specifically, recommendations for consumption are less obvious.

For wine drinkers too, definitive answers on wine and health remain elusive. There is, however, immense research potential in this area for the future.

And as all the guidelines say, one or two glasses of [red wine](#) tonight will be just fine.

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