



# Is Moderate Drinking Cardioprotective?

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Alcohol affects a number of health outcomes, usually adversely, but in the area of cardiovascular disease, a protective role for alcohol has emerged. In terms of total mortality, this is reflected in a U-shaped curve with optimal ethanol intakes being between about 10 to 30 g/day for UK men, equivalent to about 1 to 4 standard drinks of most types [1]. The figure for women would presumably be lower because women have a relatively lesser volume of distribution in water-rich muscle and a relatively greater body fat.

In Busselton, Australia, women have been studied and, although alcohol may reduce mortality, smoking is an important compounding variable [2]. However, within the cardiovascular category of disease, there are various effects of alcohol, e.g. hypertension is clearly increased with alcohol consumption [3,4,5,6,7,8]. Up to 11% of Australian men and 1% of women may be hypertensive because of alcohol ingestion. Stroke rates are also higher with more alcohol [9]. Sudden death in New Zealanders [10,11] has been found more commonly among heavy drinkers but this could have been contributed to by cardiomyopathy and non-cardiac causes. The protective role of alcohol has centred on coronary heart disease [9].

The finding that high density lipoprotein (HDL) concentrations tend to rise with alcohol consumption [12] and that HDL have been shown to be inversely related to the risk for coronary heart disease [13], led to a view that ethanol may be protective. Other protective situations, such as physical activity and female sex, increase the HDL<sub>2</sub> subfraction which has been associated with a reduction in coronary heart disease, whereas alcohol mainly increases HDL<sub>3</sub> [14,15] not clearly related to coronary heart disease. Thus, alcohol may not exert a cardioprotective effect through its effect on HDL. Other pathways, such as through platelet function [16] require examination.

In the final analysis, one must relate the overall food and beverage intake pattern to total mortality. In this respect, one must take into account adverse health outcomes of alcohol, such as cancer [17,18] and cirrhosis of the liver [15]; with the latter, it would

appear prudent not to have an alcohol intake of greater than 40 g/day in men and 20 g/day in women. The interaction between alcohol and other dietary variables is also an important consideration. This is bound to emerge with studies of a more comprehensive nature relating food and beverage intake pattern to hypertension. For example, are the effects of sodium interactive with those of ethanol? It is worth remembering the well-documented ameliorating effects of the coingestion of alcohol with food as far as blood alcohol levels and acute metabolic effects are concerned.

## References

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