

# Alcohol and heart disease

It's not surprising that when new studies claim that alcohol helps prevent heart disease, the findings tend to hit the headlines. After all, heart and circulatory diseases are the UK's biggest killers with an annual death rate in excess of 180,000 men and women, costing the country £14.4 billion every year.<sup>(1)</sup> New ways to fight the disease are always going to attract interest – especially when they seem as simple as drinking a couple of glasses of red wine every night.

But look behind the headlines and you'll see that, for many scientists, the jury is still out. So far, the research that exists into the subject mostly shows conflicting findings.

Some research reveals that low levels of alcohol consumption can help protect against heart disease, but the benefits depend on the amount that people drink over time. Other factors, such as drinking patterns, race, family history and age also play a part.

Most importantly, evidence shows that excessive drinking has a direct effect on the heart. Like other lifestyle factors such as smoking, eating a poor diet and not getting enough exercise, drinking raises your risk of developing the disease.<sup>(2)</sup>

## FACTS and FIGURES

### Potential risks of drinking

Long-term drinking and heavy alcohol consumption is linked with weakness of the heart muscle, known as cardiomyopathy. That means the heart can't pump blood as efficiently.<sup>(3)</sup>

Sporadic heavy drinking (binge drinking) increases the risk of developing coronary heart disease, the most common form of heart disease.<sup>(4)</sup> Department of Health figures show that men nearly double their chances of developing coronary heart disease by drinking more than eight alcohol units a day. Women have a 1.3 times greater risk of developing coronary heart disease when they drink more than six units a day.<sup>(5)</sup>

Women who persistently drink more than three units of alcohol a day and men who drink more than four, are more likely to suffer from the risk factors associated with cardiovascular disorders such as high blood pressure.<sup>(6)</sup> (Cardiovascular diseases affect the heart or blood vessels – arteries, capillaries and veins).

Drinking too much has the following effects on the heart:

- **'Holiday heart' syndrome.** Binge drinking or a period of heavy alcohol consumption can cause a sudden, irregular rhythm of the heart in apparently healthy people. This results in shortness of breath, changes in blood pressure and an increase in the risk of a heart attack and even sudden death.<sup>(7)</sup>
- **An increased risk of thrombosis** (blood clotting). Alcohol can affect levels of a substance in the blood called homocysteine. High homocysteine levels increase the risk of blood vessel blockages.<sup>(8)</sup>
- **Increased risk of high blood pressure** (hypertension). According to the Department of Health, men who regularly consume more than eight alcohol units a day are four times more likely to develop high blood pressure. Women

who regularly consume more than six alcohol units a day double their risk of developing high blood pressure.<sup>(9)</sup> People who've had a heart attack may be at greater risk of developing high blood pressure or further damage to the heart muscle as a result of drinking alcohol.<sup>(10)</sup>

- Regular heavy drinking may lead to **enlargement of the heart.**<sup>(11)</sup> This is a sign that the heart is unable to pump effectively. This condition is known as heart failure, and requires treatment consisting of drugs, a pacemaker or even a heart transplant. The condition is not curable.<sup>(12)</sup>

### Potential benefits of drinking

There is evidence to suggest that a regular pattern of drinking relatively small amounts of alcohol (one or two drinks a few times a week) reduces the risk of heart disease in men over the age of 40 and post-menopausal women.<sup>(13)(14)</sup>

Data from 20 countries shows a 20 to 40% lower incidence of heart disease among drinkers compared with nondrinkers.<sup>(15)</sup> Scientists do not yet fully understand how alcohol is able to produce this protective effect, but there are a number of possible mechanisms:

- **Preventing artery damage.** Researchers found that limited amounts of alcohol improves elasticity in your arteries. Low elasticity of arteries causes a rise in blood pressure and is a very strong predictor of heart disease and heart attack.<sup>(15)</sup>
- **Preventing blood clots.** Alcohol may help prevent blood clots by breaking up the body's natural blood-clotters (platelets) and/or by decreasing the 'stickiness' of blood. Alcohol has a mild anti-coagulating effect, keeping platelets from clumping together to form clots.<sup>(16)</sup>
- **Lowering the risk of a heart attack.** Alcohol may help prevent the narrowing of coronary arteries, allowing blood to flow more freely.<sup>(17)</sup>
- **Protection from second heart attacks.** In a study that followed 353 male heart attack

survivors over a period of four years, researchers found men who consumed two to four glasses of wine each day were less likely to suffer from a second heart attack than men who didn't drink.<sup>(16)</sup>

## Red wine

Some studies show that wine, particularly red wine, can protect against heart disease more effectively than beer or other alcohol at equivalent levels of consumption.<sup>(19)</sup> Studies suggest that this is because red wine contains plant chemicals called procyanidins, which help protect the heart<sup>(20)</sup> and are also found in cranberry juice.<sup>(21)</sup>

However, evidence shows that people who drink wine over other alcoholic beverages also tend to live healthier lives. For example, drinkers who prefer wine tend to smoke less and drink less and have a healthier diet than those who prefer beer or spirits.<sup>(22)</sup> So these other factors rather than the red wine may in fact be responsible for the better health outcomes.

## PROGRESSION

Heart disease is caused by a gradual build up of fatty deposits on the walls of your coronary arteries, which deliver blood to the heart. This causes the artery to narrow, and makes it harder for it to supply your heart muscle with blood and oxygen.<sup>(23)</sup> To function normally, the muscle tissue that constitutes the bulk of the heart requires a constant supply of oxygen-containing blood. Blocking of the arteries leads to coronary heart disease, which may result in angina (heart-related chest pain) and eventually to sudden death from a heart attack.

Heart attacks, the most common serious manifestation of coronary heart disease, are generally triggered by a blood clot forming within a constricted coronary artery, obstructing blood flow and depriving a portion of the heart muscle of oxygen. As a result, the heart can't pump properly which can cause permanent disability or death, either immediately or through medical complications.<sup>(24)</sup>

## ADVICE and GETTING HELP

Importantly, doctors do not recommend that people who don't usually drink alcohol start doing so to protect themselves against heart disease – the evidence for the benefits does not justify this.

The trade-offs between risks and benefits can be exemplified by the fact that alcohol's anti-clotting ability, potentially protective against heart attack, may increase the risk of haemorrhagic stroke (when a blood vessel bursts inside the brain), or bleeding within the brain.<sup>(25)</sup>

There are safer options to avoid heart disease. To keep your heart healthy, the British Heart Foundation (BHF) advises:

- taking exercise
- eating a healthy diet
- being aware of dangers such as smoking, drinking, high blood pressure and stress.

British Heart Foundation: 0300 330 3311.

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