health

How to protect your heart — the cardiologist's guide

As the number of people dying before 75 in England from heart and circulatory diseases rises to the highest level in more than a decade, Dr Amanda Varnava gives her advice

Do at least 90 minutes of aerobic exercise a week

By Elisabeth Perlman

If you think you're too young to fret about your heart health, think again. The number of people dying before the age of 75 in England from heart and circulatory diseases has risen to the highest level in over a decade, according to the latest figures released by the British Heart Foundation.

The heart, which is roughly the size of a fist, continuously pumps about five litres of blood around the body and beats an average of 100,000 times a day. This blood delivers oxygen and nutrients to organs, tissues and cells, while carrying metabolic waste such as carbon dioxide to the lungs.

Most people assume doing exercise will stave off heart problems, but there's more to it than that, says Dr Amanda Varnava, head of cardiology at Imperial Healthcare Trust. Here, she outlines how to safeguard the organ, from drinking beetroot juice and taking omega-3 fatty acids to the potential benefits of HRT, and provides guidance for those in midlife and beyond, as well as flagging up issues that can present in your twenties.

How much exercise should I be doing?

"Up to about five hours of aerobic exercise a week is good for the heart," Varnava says. Beyond that the cardiovascular benefits plateau and musculoskeletal complications can arise. She recommends 90 minutes of moderately vigorous aerobic activity a week at a minimum.

People who exercise regularly may be better protected from heart disease, in part because of reduced stress-related activity in the brain, according to a study published this month in the Journal of the American College of Cardiology. Researchers from Massachusetts General Hospital analysed data from more than 50,000 adults around the age of 60 and found that physical activity was roughly twice as effective in lowering cardiovascular disease (CVD) risk among those with depression.

Is there such a thing as exercising too much?

If you go significantly above five hours of exercise and do regular Ironman-style marathons, changes can occur within the heart, Varnava explains. "We're not yet clear whether these are neutral or harmful in the longer term," she says. "Immediately after a marathon, for example, we can detect the release of heart muscle protein known as troponin in the blood that is also seen when the heart muscle is damaged. The levels in the blood are low in comparison to a heart attack but this suggests that a super-endurance event may trigger inflammation."

In time there may be microscopic scars in the heart muscle picked up on MRI. There can also be more calcium in the coronary arteries, which shows up on a CT scan. But that doesn't seem to correlate with having a higher rate of heart attacks, Varnava points out. She stresses that it's important not to over-interpret scan results and assume that a super-endurance athlete has heart disease when the scarring or calcium related to exercise.

Are there any dangers associated with frequent marathon running?

Among veteran athletes and those who do marathons throughout their lives or frequently take part in endurance sports there's an eightfold greater risk of atrial fibrillation, Varnava says. Atrial fibrillation is the most common type of arrhythmia (abnormal heart rhythm) and results in an irregular, often abnormally fast heart rate. If left untreated, it can lead to blood clots and increase stroke risk.

In general terms, however, endurance athletes live longer than people who don't exercise. "The message is certainly not that exercise is bad for you, but perhaps there is a sweet spot," Varnava says.

If I have a heart condition, do I need to limit exercising?

Those with a heart condition, whether an electrical or heart muscle problem, have previously been advised not to exercise. But now, after careful assessment of their risks, which involves a pre-participation review with a cardiologist, Varnava says many more patients are being encouraged to do physical activity. "There are rare exceptions, including a condition called aortopathy, where the main artery, the aorta, is vulnerable to tearing, or arrhythmogenic right ventricular cardiomyopathy [ARVC]," she explains. "Regarding the latter, there is some data to suggest that you are more at risk during the time you are exercising and you may also even progress the disease. There is also a risk for progressing ARVC among those who don't have the condition but carry the gene for it."

Can non-cardio exercise be beneficial?

Static resistance exercises such as wall sits and planks are beneficial for blood pressure and therefore overall heart health. They release nitric oxide, a neurotransmitter involved in blood vessel dilation, into the body, which is good for the lining of the arteries. Varnava advises doing a mix of aerobic activities and resistance exercises, as well as meditative practices such as yoga and breathwork.

What is the best diet for optimal heart health?

Beyond maintaining a healthy weight, keeping inflammation down is key. This means following a diet that is low in sugar and ultra-processed foods but high in anti-inflammatory foods such as fresh fruit and vegetables.

Tim Spector, professor of genetic epidemiology at King's College London and co-founder of the nutrition service Zoe, recommends that we eat 30 different plants a week.

There's also good data on beetroot juice, Varnava says, which, like static resistance exercises, releases nitric oxide into the blood. A daily glass of beetroot juice can reduce inflammation and speed up healing, according to researchers from Queen Mary University of London. They found that drinking a small amount offered health benefits that could reduce the risk of heart attacks for people with heart disease.

Which supplements are good for high cholesterol?

Those with raised cholesterol can take plant esters. That can be Benecol or 1.5g a day of plant sterol supplements, Varnava says. You can take plant sterol products alongside statins as they work in different ways to reduce cholesterol, but they aren't a replacement for prescribed medications. "If you have borderline raised cholesterol then add omega-3 fatty acids into your diet," she says. This can be in the form of oily fish or supplements, which, in a 2021 Lancet review of 38 randomised controlled trials, were found to reduce cardiovascular mortality. Vegetarians can opt for flaxseeds instead.

What foods would you recommend for those with raised blood pressure?

If you have high or borderline high blood pressure, the Dash (Dietary Approaches to Stop Hypertension) diet can be helpful. Dash foods are rich in the minerals potassium, calcium and magnesium and the diet focuses on vegetables, fruits and wholegrains. It includes fat-free or low-fat dairy products, fish, poultry, beans and nuts and limits foods that are high in salt, sugar and saturated fat.

Drink 2-4 coffees a day

What can I do to manage blood pressure from a young age?

It's underestimated how important it is to manage stress. "I'm not saying that you must avoid stress because that's impossible but it's about having a toolkit to deal with it," Varnava says. Note any physical and psychological triggers from an early age. "People get symptoms like palpitations, they get checked and everything is medically fine, so we know that's a physical sign of stress," Varnava says. "Then it's about dealing with it, whether that's through yoga, meditation or something else." In 2020 a study published in the American Journal of Cardiology found that meditating was associated with a 35 per cent lower risk of high cholesterol, high blood pressure (14 per cent), diabetes (30 per cent), stroke (24 per cent) and coronary artery disease (49 per cent).

When do I need to start worrying about atrial fibrillation?

Risk rapidly accelerates over the age of 70. The most effective way to diagnose an arrhythmia is with an electrical recording of your heart rhythm called an electrocardiogram (ECG), according to the NHS. For those who have palpitations that last a few minutes or longer, Varnava advises buying a cardiac rhythm monitor (this is not the same as a heart rate monitor — most fitness trackers can monitor heart rate). Devices from a brand called Kardia record medical-grade heart rhythm data. Otherwise, the latest Apple Watch has an ECG facility.

Varnava also advises people to intermittently check their pulse, particularly if they have risk factors such as high blood pressure. A normal resting heart rate should be between 60 and 100 beats a minute. In atrial fibrillation it may be over 140 beats a minute.

How can I safeguard my heart health in midlife?

Varnava advises being mindful not only of putting on weight around your middle but also of where that weight is distributed. For women, a waist measurement of more than 35in (89cm) signals an unhealthy amount of belly fat; for men it's more than 40in (102cm).

"A high waist circumference is a risk factor for diabetes but also for peri-organ fat, which can result in more fat cells on the arteries around your heart," Varnava says. "This in turn causes inflammation. In time we're going to find that a lot of coronary heart disease is triggered by low-grade inflammation." There are 2.3 million people in the UK living with coronary heart disease, about 1.5 million men and 830,000 women. It occurs when the heart's blood supply is blocked or interrupted by a build-up of fatty substances in the arteries and can cause symptoms including chest pain.

GETTY IMAGES

Planks are good for the lining of the arteries

Should I be wary about drinking at any age?

Alcohol is directly toxic to the heart muscle, even if you drink within the NHS guidelines (no more than 14 units a week). So if you have heart failure or any heart muscle problem, you should consider abstinence, Varnava says. Excessive consumption can also increase your risk of atrial fibrillation and high blood pressure. "If you have high blood pressure, then significantly reducing your alcohol intake can be very beneficial."

Should I wear a fitness tracker?

"We've picked up 'complete heart block' in a few patients thanks to their Apple Watches, and they've ended up requiring a pacemaker, despite feeling quite well," Varnava says. However, she adds that because of data from trackers people can get overly worried about their heart rate variability when it isn't a cause for concern.

"Just because your heart rate is 90 compared to most people's being 70 or 80 doesn't mean you must go and see the doctor." People need to understand the data they're accruing. "If they have a faster resting heart rate but it's not clearly in the abnormal range it can reflect a lack of fitness, poor sleep or a low-grade anxious state."

How much coffee can I drink?

Drinking two to four coffees a day is, on balance, a positive thing for the antioxidant and anti-inflammatory properties. In a study published in 2022 in the European Journal of Preventive Cardiology, researchers found that people who drank two to three cups of coffee a day had a lower risk of cardiovascular disease and early death than those who didn't. The study included about 450,000 people with an average age of 58. "The only time I'm cautious about caffeine is when people have a tendency towards simple fainting, which is known as vasovagal syncope," Varnava says. "I see a lot of young people with intermittent dizziness, lightheadedness and nausea, many of whom are not drinking enough water while consuming too much caffeine."

> If you have high blood pressure, reducing your alcohol intake can be very beneficial

Should I be on a statin if I'm over 75?

"It would be surprising if your cardiovascular risk score, known as QRISK3, wouldn't have reached the 10 per cent threshold for a statin by the age of 75," Varnava says. QRISK3 takes into account various risk factors for CVD, including age, gender, ethnicity, high blood pressure, cholesterol level, body mass index (height and weight), smoking, migraine, severe mental illness and certain medical conditions such as diabetes, lupus, erectile dysfunction, rheumatoid arthritis and chronic kidney disease. Low risk is a score of less than 10 per cent, which means that you have less than a one in ten chance of having a stroke or heart attack in the next ten years. If it's 10 per cent or above, the recommendation is to take a statin, which results in "at least a 25-35 per cent reduction in stroke or heart attack", Varnava says.

At what age should I start taking my blood pressure?

According to the British Heart Foundation, about five million adults in the UK have undiagnosed high blood pressure and the only way to check is to have a test. You can do this at a surgery, a pharmacy or at home and the NHS advice is to do so at least every five years. "Certainly by the time you hit your forties, you should have had your blood pressure checked and then do so every year thereafter," Varnava says. Expect to spend about £20 to £30 when purchasing a home blood pressure monitor, and always opt for ones that wrap around the upper arm not the wrist. A good brand is Omron. "Do your reading set with your legs uncrossed a couple of times," she notes. In the UK the recommendation is that the average of your readings should be less than 135/85mmHg. In the US, they advise aiming for an average reading of less than 130 over 80, which Varnava urges anyone under 50 to aim for.

What should men in midlife be conscious of when it comes to their heart?

Erectile dysfunction (ED) can be a symptom of an underlying condition such as atherosclerosis (narrowing of the arteries), which increases your risk of heart attack. If arteries in the body are affected by atherosclerosis, this causes a reduction in the blood flow, which can mean problems getting or maintaining an erection. Because the arteries in the penis are so narrow, erectile problems can be one of the first warning signs. "From midlife onwards, erectile dysfunction is most likely related to reduced penile flow," Varnava says. "The probable reason is cholesterol build-up, which impairs blood flow to the penis. And so erectile dysfunction can be an early warning sign of cardiovascular risk."

Make sure that blood pressure and cholesterol are controlled. Smoking is also a huge risk factor for ED. PDE5 inhibitors can help two thirds of men with the condition.

What if a young person has high cholesterol?

First, it's important to differentiate between high and very high. Varnava says that cholesterol above 7.5 with a bad cholesterol (LDL) of 4.5 may suggest a genetic condition called familial hypercholesterolaemia, particularly if they have a family history of early heart disease. This affects one in 250 people. They should be referred to a lipid clinic for genetic testing where they can be advised about the best treatment. However, if they have moderately raised cholesterol, it will depend on their age and other risk factors as to whether they should go straight on to lipid-lowering treatment. "This involves a statin, which will reduce cholesterol by 40 per cent," Varnava says.

There are also other newer therapies such as inclisiran, an injection that was approved for use on the NHS in 2021 after clinical trials showed it can cut levels of LDL cholesterol by about 50 per cent. "If you're overweight, reducing your weight may reduce cholesterol by 8 to 10 per cent," she adds. "But if you're not overweight and you just change the constituents of your diet, you only make an impact of 2 to 4 per cent. Most cholesterol problems are determined by our genes, not our diet."

I'm a menopausal woman on HRT — have I put my heart health at risk?

Some previous studies suggest that HRT may be harmful to the heart but Varnava says that is no longer the case. There's no reason to stop someone going on HRT, Varnava says, adding that she anticipates that there may soon be data to prove that HRT can actually be beneficial to the heart. "While HRT wouldn't be prescribed for the heart, it's at least neutral for most people," she says.

A daily glass of beetroot juice can reduce inflammation

Do I need to limit my salt intake if I'm otherwise young and healthy?

"When you're under 30, you don't need to worry about salt too much," Varnava says. However, she adds that for most people, avoiding excessive salt is a good idea. The recommended daily salt intake for adults is less than 6g a day, which is about one level teaspoon. "The exception is if you have low blood pressure and are prone to fainting or feeling lightheaded," she notes. In this case you may be advised to increase the amount of salt in your diet.