

Heart Matters

Summer 2025

Life after a transplant

Sanjana and her husband are grateful for the gift of a heart that saved her life

Blocked arteries explained

What are the signs and symptoms?

Worst foods for high cholesterol

Swap high-fat foods for healthy alternatives



British Heart Foundation

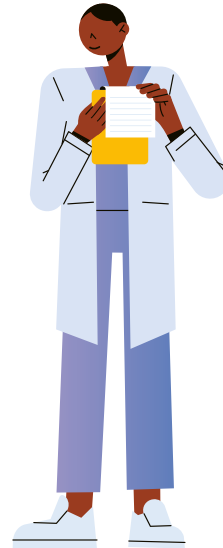
Welcome

Get information, inspiration and support

A magazine you can trust

We put together each issue of Heart Matters with the help of people with heart conditions and healthcare professionals including doctors, nurses and allied health specialists. Every article is triple-checked by our cardiac nurses and dietitians, as well as our research and statistics teams.

We also take pride in being editorially independent, meaning our information will never be influenced by British Heart Foundation (BHF)'s partners, or any other third parties. So you can feel confident that what you're reading is medically accurate, unbiased and up to date.



Got a question or concern?

Contact our cardiac nurses for free on the BHF Heart Helpline:

- ▶ Call **0808 802 1234** weekdays 9am to 5pm (apart from bank holidays).
- ▶ Email **hearthelpline@bhf.org.uk**
- ▶ Live chat on our website: **bhf.org.uk/helpline**

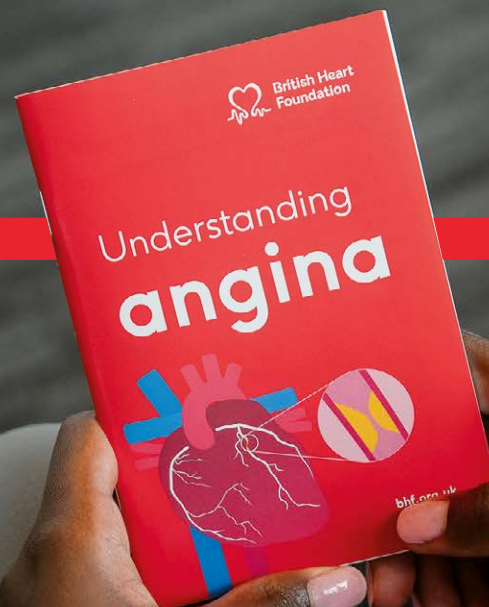
Connect with other people affected by heart conditions and circulatory diseases on our online community:

- ▶ HealthUnlocked: **bhf.org.uk/healthunlocked**

Find more heart health resources

We have lots of information about looking after your heart. You can read and order our booklets for free at **bhf.org.uk/publications**

Our heart health and lifestyle information is available in other formats too. Listen on the go, read our Braille or easy read booklets, or find health information in your language. Search **bhf.org.uk/infoforall** to find out more.



Meet our experts

We hear from some of this issue's trusted contributors

Dr Maria Koumi-Elia, psychologist (DPsych)

On **page 36**, Dr Koumi-Elia shares tips on dealing with PTSD after heart problems. She works in cardiac rehab at Royal Free London NHS Foundation Trust. She says: **"There's a link between mental and physical health, and it's important to work on improving both."**



Professor Martin Bennett, cardiologist

Is a consultant at Royal Papworth Hospital NHS Foundation Trust and a BHF-funded professor at the University of Cambridge. He researches blocked arteries and on **page 14** warns: **"You might not have symptoms for years but if your arteries become too narrow this can lead to chest pain, and even a heart attack or stroke."**



Hara Markos, exercise specialist

As a cardiac rehab exercise physiologist at Mid and South Essex NHS Foundation Trust, Ms Markos includes balance training for course participants. On **page 34** she explains why: **"Improving your balance helps you feel more stable and can help reduce the risk of falling."**



Editor's letter...

Summer often brings a feel-good factor, with sunny days and a break from our routines. This summer, Heart Matters has embraced that positivity with a fresh new look.

As you flick through these pages, you'll find all your favourites, such as recipes and real-life stories, looking better than ever. Our Behind the headlines feature is now Fact or fiction? (**page 42**) and exposes heart health misinformation more broadly.

We've also introduced a new section called Get involved (**page 8**) that showcases a range of BHF activities and events, including Heart Matters Live, where you can ask our nurses and scientists questions in real-time. We hope you like our new look, and would love to hear your thoughts via our survey (**page 7**) so we can continue to make Heart Matters the best magazine for you.

Rachelle Beaven



Support us

Your generosity funds BHF's lifesaving research and helps us create this magazine.

- ▶ To donate, visit **bhf.org.uk/HMdonate** or send a cheque payable to British Heart Foundation to **BHF, 2300 The Crescent, Birmingham, B37 7YE.**

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What we've learned this issue

- 1 Having **PTSD** can put you at higher risk of developing heart and circulatory diseases and risk factors, such as high blood pressure, so it needs to be treated. **See page 36.**
- 2 The same hormone that's mimicked by **weight-loss drugs** like Wegovy also helps control your heart rate and blood pressure. **See page 40.**
- 3 Just like us, **mushrooms** can produce vitamin D if exposed to sunlight. You can buy vitamin D mushrooms, or just put them on a windowsill for an hour or two. **See page 25.**



Your say

We love to read your emails, letters and tips, so please write to us



The great cheese conundrum

Your article about cheese (Winter 2024/25, page 26; bhf.org.uk/cheeseboard) advises only having small portions of cheese because it is high in fat. However, at a pre-diabetic cooking course, I was told that cheese and cream were now fine to eat on a low-cholesterol diet. Please could you advise?

Sheila Walker, Hampshire

**Tracy Parker,
Senior Dietitian, BHF says:**

Dairy foods are a good source of calcium, protein, vitamins and minerals. However, cheese contains unhealthy (saturated) fats which if eaten regularly can raise LDL (bad) cholesterol, and can also be high in salt. Stick to around 30g (a matchbox-sized portion). See page 26 in this issue for more information.

"My neck pain was angina"

I started to get extreme pain in my left shoulder and in my left arm last year. As I have 'wonky' hips my physio was convinced the pain was coming from my neck. I was finally diagnosed with angina after blood tests and scans following a horse-riding accident. I'm astonished it took nearly nine months to get a diagnosis.

Now I'm riding and going to the gym again, and I attend the local hospital's cardiac rehab course.

Sue Scott, Suffolk

Post-surgery positives

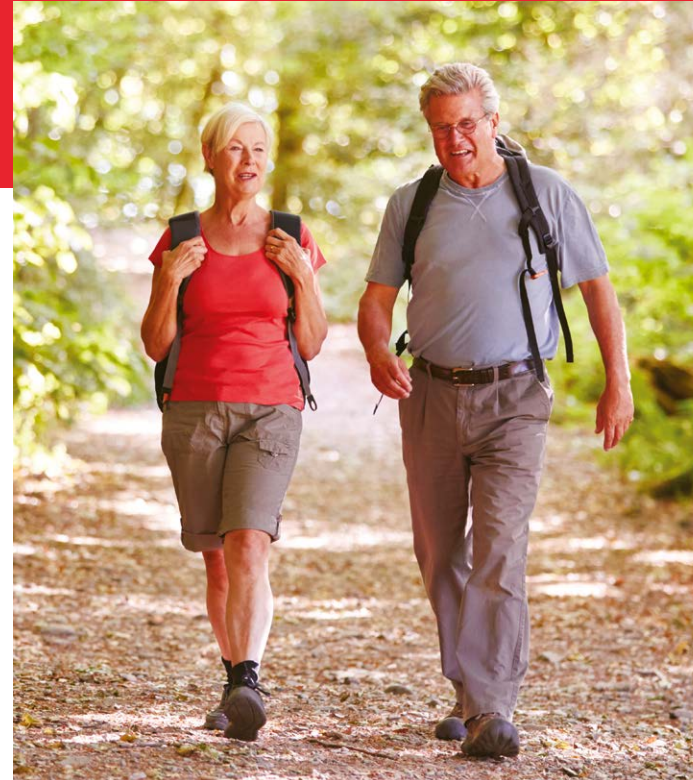
In 2024 I had a bleed on my brain (haemorrhage from a burst aneurysm) and had emergency surgery, which left me with poor thinking skills. Your recipes have been a fantastic help in my recovery as they are easy to follow. They have got me interested in cooking again. Thank you.

**Karen O'Condell,
Lancashire**

On the home stretch

The stretching exercises (Summer 2024, page 36, bhf.org.uk/stretches) were just what I needed after being laid up for many months following heart surgery.

Peter Smith, Lancashire



Walking to wellbeing

I love walking, and your article on the benefits of walking (Summer 2024 issue, page 32, bhf.org.uk/walkbenefits) has inspired me to try walking hills and increasing my speed to improve my breathing. Thanks for your encouragement.

**Greta Krusch,
Ontario, Canada**

What's the science behind sourdough?

I read your article (Winter 2024/25, page 24, bhf.org.uk/anti-inflammatory)

on anti-inflammatory foods for a healthier heart and wondered if sourdough bread could be considered in the list of fermented foods that fight inflammation?
**Charles Shrosbree,
Lincolnshire**

**Tracy Parker,
Senior Dietitian,
BHF says:**

Sourdough bread is made by fermenting a mixture of flour, water, and salt. While sourdough starters do contain probiotics, they are killed off by heat in the baking process.

Have an opinion?

We want to improve your experience of Heart Matters. Take our short survey to tell us what you think about this issue, and what you'd like to read. Go to bhf.org.uk/heartsurvey to take the survey. It will take about 10 minutes and we'll use your answers to shape future articles in the magazine.

Have your say by 30 August 2025.

However, the baked bread does contain prebiotics (plant fibres such as beta glucans that help feed healthy bacteria in the gut). This is why sourdough is good for gut and immune health.

Meat-free magic

When making the Marry me chicken recipe (Winter 2024/25, page 21, bhf.org.uk/marry-me-chicken), I used vegetarian chicken as a meat-free alternative. It was a lovely sauce, which I will make again for other protein dishes.

Bibi Bugg, Derbyshire

Flavourful frittata

Your recipe section is my favourite, so I had to try the Mediterranean vegetable frittata (Spring 2025, page 24, bhf.org.uk/vegfrittata). I made it for my husband and he loved it. I might add some chilli next time to spice it up.

**Debbie Smith,
West Midlands**



Tell us what you think

If you have tried a recipe, benefited from a tip, or learnt something that supports your health and wellbeing, please let us know.

► Email: hmeditor@bhf.org.uk

► Write: **Heart Matters, British Heart Foundation,
180 Hampstead Road, London NW1 7AW**

Get involved

Discover how BHF saves and improves lives and help support our work through fundraising, campaigning, volunteering and events



Learn a superpower in 15 minutes

Did you know that most out-of-hospital cardiac arrests happen at home and giving CPR (cardiopulmonary resuscitation) and using a defibrillator can more than double the chance of survival?

You can learn or refresh these lifesaving skills in just 15 minutes with British Heart Foundation's (BHF) free digital training course, RevivR.

You will learn how to recognise a cardiac arrest, practise an emergency 999 call, perfect your CPR technique and learn how to use a defibrillator.

Krystalla Panayi-Davidson, pictured with husband Lee and daughter Martha, knows first-hand that this skill can save a loved one. She helped save Lee's life when he had a cardiac arrest at home at night.

"I heard an almighty crash and found him on the bathroom floor," she says. "I went into autopilot and knew I needed to dial 999 and start CPR immediately."

Krystalla learnt CPR through her work as a teacher, but anyone can learn with RevivR.

Visit bhf.org.uk/revivr

Boost your happiness by volunteering

Volunteering can be good for you. A BHF survey of 770 people found:

- ▶ **83%** said it improved their overall happiness
- ▶ **80%** said it helped them meet new people
- ▶ **52%** said it helped them overcome loneliness.

We have plenty of volunteering opportunities including in our charity shops or even ways you can help from home. We offer travel expenses, a discount card for BHF shops, learning opportunities and discounts on shopping, cinema tickets and more. Find out more today at bhf.org.uk/volunteer



Help at a fun event near you

Our charity volunteers play a vital role in making events a success, whether it's by handing out medals, cheering on participants, or promoting events locally.

As a BHF events volunteer you could be a part of the amazing atmosphere our events generate, supporting and encouraging the swimmers, runners and riders who are raising funds for vital research.

From off-road bike rides and kilt walks to epic swims and marathons, you can find an event near you to support by visiting bhf.org.uk/myvolunteer

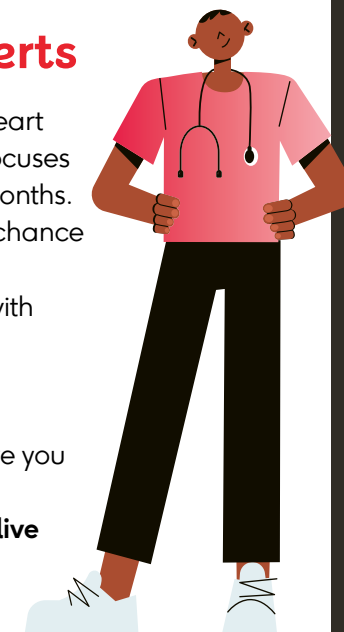
Meet leading heart experts

Join us for our new series of online Q&As, Heart Matters Live. Each Q&A is free to join and focuses on a different heart condition every three months.

During Heart Matters Live, you'll get the chance to put your own questions to:

- ▶ Someone with experience of living well with their heart condition
- ▶ A BHF health professional with specialist knowledge of the heart condition
- ▶ A leading BHF-funded scientist who'll give you a sneak peek into the future of treatment.

Find out more at bhf.org.uk/heartmatterslive



Take part in an event

7 September 2025

Aj Bell Great North Run

Join 60,000 runners in the world's biggest half marathon, from Newcastle to South Shields. bhf.org.uk/hmnorthrun

20 September 2025

London to Brighton Off Road

Join over 2,000 riders taking on 61 miles of superb views and technical terrain in Europe's biggest charity mountain biking event. bhf.org.uk/hmoffroad



12 October 2025

Royal Parks Half Marathon

For this half marathon, join over 16,000 runners and discover world-famous landmarks in four of the capital's Royal Parks. bhf.org.uk/hmroyalparks

19 October 2025

Aj Bell Great South Run

Take on this 10-mile event filled with inspiring history, music and stunning sea views in the historic streets of Portsmouth. bhf.org.uk/hmsouthrun

Find out more

▶ Call **0300 222 5721** (weekdays 9am to 5pm) for more information.

“Now I have a second chance”

A shock diagnosis of heart failure and diabetes inspired **Denis Collen**, 60, from Greater London to overhaul his unhealthy and stressful lifestyle



“My diagnosis came when I was struggling with another health problem. In January 2010 I had a chest infection that would not go away. I went through three lots of antibiotics, but I was still unwell.

At that time, however rough I felt, I thought it was more important to show up at work than to take time off. But by April I could barely walk down the road. My

feet and ankles were so swollen I couldn't get my shoes on.

When I did see my doctor, he very quickly said he thought I had heart failure and I needed to see a specialist as soon as possible.

“It's like a slow puncture”

The way I describe the onset of heart failure is like you've got a slow puncture. It happened gradually

and crept up on me. Before 2010, my life meant travelling for work, staying in hotels, eating badly and constantly drinking sugary drinks. I did little or no physical activity.

My wife Sue, a headteacher, and I were managing a busy household. I was saying 'yes' to too many projects. I was chair of Harrow swimming club, where my daughters, Gaby and Frankie,

Denis now eats three healthy meals a day with no snacking

swam competitively, chair of Harrow Community, Sport and Physical Activity Network (CSPAN), and a member of the London Swimming Board in the run up to the 2012 London Olympics.

All of this was taking a toll on my health. I was putting on weight and needing to pee more often. My ankles were swelling and I constantly felt unwell.

The hardest conversation

But I didn't take any notice of these warning signs and when the doctor said, 'heart failure', it was a big shock. After tests, a cardiologist confirmed the diagnosis. He explained that my heart was not pumping oxygen-rich blood around my body as well as it should.

The hardest conversation was going home to tell the girls how unwell I was. They were only teenagers, and they have always seen me as the papa bear figure who puts his arms around them and makes everything OK. They were shocked, and Frankie started regularly coming home from school at lunchtimes to check up on me.

Letting go of work

The cardiologist put me on beta blockers to reduce how hard my heart had to work. He gave me diuretics to get rid of the excess water in my body. At the same time, I was told I had type 2 diabetes. So suddenly I was on a cocktail of tablets a day. It was a challenge.

PHOTOGRAPHY: OLLIE HOLDER



“Fixing myself had to be my focus”

At this point I was running to the loo constantly, I was very tired and would fall asleep on the sofa for hours. I found out later that my mum was coming over to sit with me while I was asleep.

My director at work was amazing and told colleagues I would be off work for eight weeks and all messages for me would



“It was important to write in my journal how I was feeling”



a bike and tried to get out for short rides, starting with 10 minutes and gradually increasing the distance.

I began to eat more healthily, and I stopped drinking any alcohol. The combination of medication and lifestyle changes meant my heart function started to show signs of improvement.

From day one I started keeping a journal. It was a record of the medicines I was taking, my sleep, food and drink and how far I was cycling and walking. There was a lot of mental stress from having to deal with something like this, and writing about how I was feeling helped me to process it.

My lifestyle improvements have stuck. Gone are the unhealthy habits of the past. Now, I eat three meals a day and I do not snack. I exercise every day. I still start every

Thanks to Denis, by 2014 every park in Harrow had a green gym

day by reviewing the previous day's journal to check I'm on track.

Loving a new lifestyle

By September 2010 I was well enough to go back to work, starting with three half days. I felt very nervous about returning to an office and worrying about needing to find a toilet on the way to the London Underground. But the fear reduced, and I started feeling better mentally the more journeys I made.

In 2016 Sue and I discovered Nordic walking, which is walking with poles for a total body workout, and a way of getting out with a group. We found that an hour's

“I started with just 15 minutes a day, walking to the park and back ”

Nordic walking gave us a sense of wellbeing from being outdoors, it was cardio exercise, and it was a chance to be sociable.

We both became Nordic walking instructors and in 2017 we even started a small business. We have turned it into a very sociable community group. We recently did a programme in our local park for people with diabetes and high



As part of a healthier lifestyle, Denis set up a local Nordic walking group



blood pressure. It's brilliant for people who are inactive or maybe feeling a bit socially isolated.

Giving back with green gyms

Between 2010 and 2014 I remained chair of CSPAN, and I wanted to do something for the wider community. I spoke to a councillor to see if we could introduce green gyms. A green gym is outdoor equipment which you can use free of charge in your local park. The aim is to make exercise accessible and convenient. By 2014 every park in Harrow had a green gym.

I no longer live in that world where I think it's OK to drive for

hours after five hours' sleep while knocking back energy drinks. I am forever grateful to lots of people who helped me. The unconditional love and support from my mother, wife, children and director got me through this really difficult time.

My journey has shown me that I've had a second chance, and every day I live my life the best way I can.” ●

Get more info and support

► Read more about heart failure:

bhf.org.uk/heart-failure

► Get tips for being more active:

bhf.org.uk/staying-active

Blocked arteries



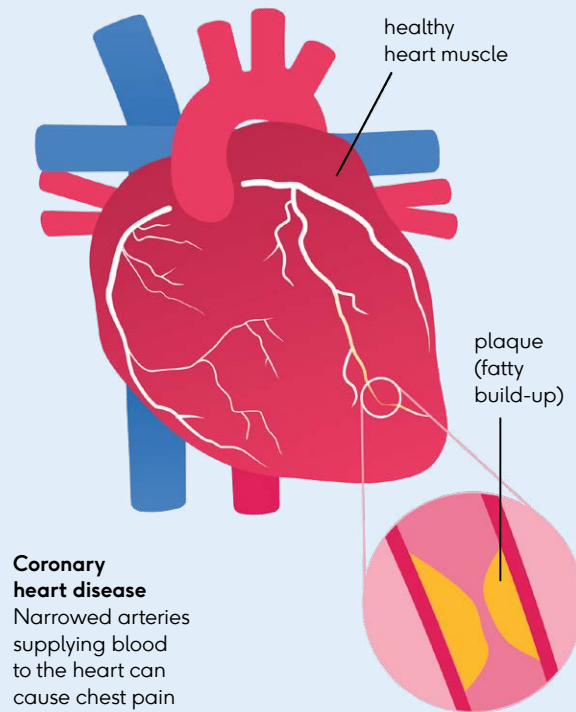
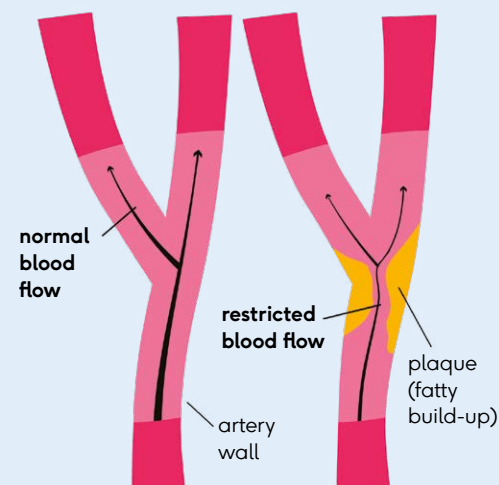
Professor Martin Bennett
BHF Professor of Cardiovascular Sciences, University of Cambridge

Fatty material building up in the arteries can be dangerous. But what causes clogged arteries, and can they be cleared?

Your arteries carry oxygen-rich blood from the heart to organs and tissues around the body. But if the walls of the arteries become damaged by something like high blood pressure, this can cause inflammation (your body's response to injury) and can lead to fatty material building up.

Your body tries to clear this inflammation by creating a seal over the fatty material. This eventually forms a hardened plaque, which makes your artery narrower.

Blood flow problems
Plaques restrict blood moving through the arteries



Coronary heart disease
Narrowed arteries supplying blood to the heart can cause chest pain

What are the symptoms?

Plaques take a long time to build up, so you may not have any symptoms for many years. But over time, the artery can become so narrow that not enough oxygen-rich blood can get through. This can cause pain or discomfort, especially during exercise.

Coronary heart disease is when the coronary arteries supplying blood to your heart become narrowed, which often causes chest pain (angina).

If a plaque ruptures (breaks), then blood flowing through the artery forms a blood clot around it, which can block the artery or break off. If a blood clot forms in the coronary arteries, it can cause a heart attack. And if it happens in an artery supplying blood to your brain, it can cause a stroke.

What causes blocked arteries?

High cholesterol, high blood pressure, smoking and diabetes can all increase the risk of fatty material building up. You're more likely to have clogged arteries as you age, but they can still happen in younger people, especially if you have any of the risk factors.

How are they diagnosed?

If you're aged 40 to 74 and live in England, you can have a free NHS health check, which includes tests that can show if you are at risk of blocked arteries. If you live in Northern Ireland, Scotland or Wales, check with your GP about getting these tests.

A doctor or nurse will measure your blood pressure and levels of cholesterol, and ask you about your medical history. You can also ask to get your blood sugar checked if you have a family history or symptoms of diabetes. They will use this information to work out your risk of having a heart attack or stroke due to blocked arteries.

If you've already had a heart attack or stroke, or you have symptoms like chest pain, doctors may perform other investigations, such as an angiogram, to see if your arteries are blocked or narrowed. During an angiogram, a special dye is injected into the bloodstream and an X-ray is taken of your heart to see if there are any blockages or narrowed sections in the coronary arteries.

“Leading a healthy lifestyle can slow down the build-up of fatty material”

How are blocked arteries treated?

Medicines

Many medicines can reduce the risk of blocked arteries. They include statins to reduce cholesterol, nitrates to widen and relax blood vessels, ACE (angiotensin-converting enzyme) inhibitors or ARBs (angiotensin receptor blockers) to lower high blood pressure, and antiplatelets, like aspirin, and anticoagulants, like warfarin, to prevent blood clots.

Surgery

If you have coronary heart disease or you've had a heart attack, then you may be treated with angioplasty. This is where a tiny balloon is inserted and blown up to widen the blocked artery.

A metal mesh tube called a stent is often also put in place to hold the artery open after the balloon is removed.

If many coronary arteries are severely narrowed, you may need coronary bypass graft surgery. This involves attaching a healthy blood vessel from a different part of your body onto the blocked artery so blood can bypass the blockage.

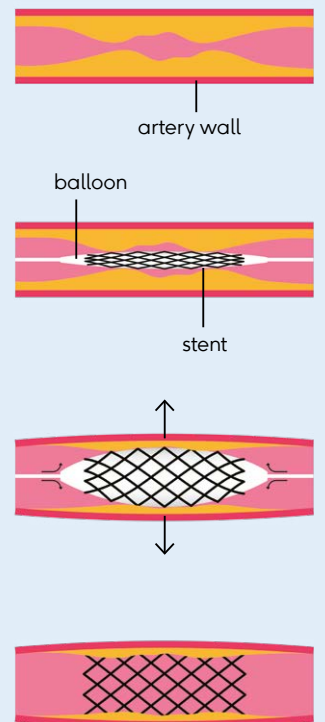
Lifestyle changes

Leading a healthy lifestyle and managing your risk factors can slow down the build-up of fatty material in the arteries.

This will help to prevent symptoms such as chest pain and reduce your risk of having a heart attack or stroke.

Eating a balanced diet with fewer processed foods that are high in sugar, salt or saturated fat, staying active, quitting smoking and regularly getting your blood pressure and cholesterol checked can all help to lower your risk. ●

Angioplasty and stenting
A balloon and mesh tube widen the blocked artery



Ask our nurses

Cardiac care specialists answer your questions on living with a heart condition or a risk factor



Q: How often should I see my cardiologist?

A: How often you see your cardiologist will depend on your condition, or the procedure or surgery that's planned or has been performed.

Many people will have their first cardiologist appointment following a referral from their GP. This could be because of symptoms such as chest pain (angina), an abnormal heart rhythm (arrhythmia) or a family history of a particular heart problem.

Others will see a cardiologist if they have just been diagnosed with conditions like heart failure and congenital heart disease, or after procedures like angioplasty, ablation or heart surgery. Or after being admitted to hospital,

either for an emergency like a heart attack, or for a planned procedure or test.

Some people will see a cardiologist for check-ups, for example if you have a persistent abnormal heart rhythm, high blood pressure that's not controlled with medicines, heart valve disease or heart failure.

You will also likely be seen by other members of the hospital cardiology team. This includes other doctors, specialist nurses and specialist pharmacists.

They will follow national guidelines on managing heart symptoms and conditions. The guidelines allow them to tailor care to you, so they can decide how often they need to see you based on your condition, your symptoms, and how you feel.



Julie Ward
Senior Cardiac
Nurse, British
Heart Foundation

Q: Are heart attacks hereditary?

A: If someone in your family has a heart attack, you might worry you are at risk of having one too. Heart attacks are usually caused by coronary heart disease, which is when the arteries supplying your heart become narrowed by a build-up of fatty material.

Both your family history and your genetics can increase your risk of developing coronary heart disease.

Your 'family history' is any health condition that affects your family, both those living and those who have died. It's important to know about as families often share similar habits which can be risk factors for heart attacks. These include smoking, not being physically active, living with excess weight and having an unhealthy diet.

Genetic or inherited conditions are also part of your family history. They are caused by changes in your genes, which are called variants, that can increase your risk of developing certain heart conditions.

While you cannot change your family history, or your genes, there are things you can do to reduce your risk of having a heart attack. These include staying active, maintaining a healthy weight and diet and avoiding alcohol. If you smoke or use tobacco products, you should think about stopping.

If you have a family history of heart and circulatory disease, it's important your doctor is aware so you can have any necessary assessments.



Ruth Goss
Senior Cardiac
Nurse, British
Heart Foundation

Ask our guest expert

Q: What is aortic stenosis and how is it treated?

A: Aortic stenosis is when the aortic valve in the heart becomes narrowed. It means your heart must work harder to pump blood, which can cause chest pain, breathlessness and tiredness. It mainly affects older people, but some people are born with it.

It can cause an extra sound in your heartbeat called a heart murmur. If your GP listens to your chest and hears a murmur, they may refer you for an ultrasound of the heart called an echo (echocardiogram).

If you have severe aortic stenosis you may be offered open-heart surgery to replace the valve with a mechanical valve or one created from animal or human tissue. You will usually stay in hospital for a week.

Or you may be offered a transcatheter aortic valve implantation (TAVI). A replacement valve is delivered to the heart through a blood vessel, often in the groin. Most people go home one or two days later. If a replacement valve becomes re-narrowed, you can have another TAVI to put a new valve inside the first one. ●



Dr Vitaliy Androshchuk
Clinical Research
Fellow, Guy's and
St Thomas' NHS
Foundation Trust



Get your questions answered

- Find more answers from our experts online at bhf.org.uk/ask-expert including: **Are hay fever medicines safe if you have heart disease? What is a silent heart attack?**
- Send your questions to hmeditor@bhf.org.uk
- Go to **page 2** for more ways to contact us.



Dr Kelly Victor (PhD)
Consultant Clinical
Scientist and Lead for
Echocardiography,
Cleveland Clinic
London



During a TTE,
or standard echo,
a probe is moved
over the chest

How to read an echo report

No idea what EF, LVSD and LVH mean? Here's a guide to some terms you may see on your echocardiogram results

An echocardiogram (or echo) is an ultrasound scan that uses sound waves to create images of your heart. It looks at your heart's structure, how well it pumps blood around the body, and the blood vessels around it.

There are several types of echo. A transthoracic echocardiogram (TTE), often called a 'standard echo', is performed by moving a probe over your bare chest.

A transoesophageal echocardiogram (TOE) involves a small tube being gently inserted down your throat to get more detailed images of your heart.

Your results will usually be sent to your GP surgery or the doctor who referred you. You may also be able to access them on your online health record or NHS app. However, you may see some terms you're not familiar with. Find out what they mean on the opposite page.

5 common terms and acronyms explained

1 Ejection fraction

Your heart pumps blood around the body by filling up with blood and then squeezing it back out again. However, not all the blood in your heart is pumped out with every beat.

Ejection fraction (EF) is the percentage of blood your heart squeezes (ejects) out of its largest chamber with each beat. Measuring your EF helps your doctor understand how well your heart is pumping.

A normal EF is over 50 per cent. If your EF is below 49 per cent, it's a sign your heart is not pumping as well as it should be.

2 Left ventricular systolic dysfunction

The left ventricle is the largest chamber of your heart. It pumps oxygen-rich blood out of the heart and around your body.

'Systolic' describes the part of the heartbeat where the heart contracts to pump out blood.

Left ventricular systolic dysfunction (LVSD) means that the left ventricle is pumping out less blood than it should. This is accompanied by a lower EF. It can cause breathlessness and swelling around the feet, ankles and stomach due to fluid build-up in the body.

3 Left ventricular diastolic dysfunction

The opposite to 'systolic' is 'diastolic'. This describes the time when the heart relaxes between beats and refills with blood.

If the left ventricle does not relax properly, it fills up with less blood. Less blood is then squeezed out of the heart and pumped around the body.

This is known as left ventricular diastolic dysfunction (LVDD) and can cause the same symptoms as LVSD.

4 Left ventricular hypertrophy

Left ventricular hypertrophy (LVH) is when the walls of the left ventricle become thickened and stiff, making it harder for the heart to pump blood around the body.

It's often caused by conditions that make the heart work harder, such as high blood pressure, or by an inherited heart condition such as hypertrophic cardiomyopathy.

5 Regurgitation and stenosis

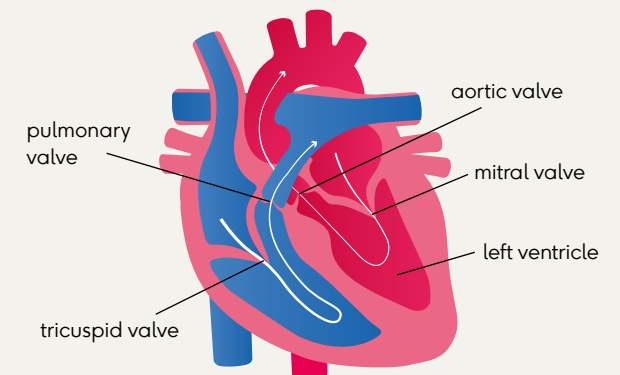
The four valves in your heart— aortic, mitral, tricuspid and pulmonary— open and close to keep blood flowing in the right direction. If a valve does not completely close, some blood flows backwards. This is called regurgitation. While mild regurgitation is not usually a cause for concern, severe regurgitation puts more strain on the heart.

Stenosis means the valve does not open as wide as it should. This reduces the amount of blood that flows through the heart, so the heart must work harder.

In some cases, the extra strain can lead to heart failure, where your heart cannot pump blood around your body as well as it should. ●

Blood flowing through the heart

The heart's four valves keep blood moving in one direction



Eat well



Inside:

- ▶ Heart-healthy salads
- ▶ The lowdown on cholesterol
- ▶ Reasons to love mushrooms
- ▶ Secrets of healthy stir fries

Energy KJ:1199 Kcal: 287	14%
Carbs 22.3g	
Fibre 8.5g	28%
Fat 13.4g	19% Low
Saturates 2.5g	13% Low
Sugar 19.6g	22% Low
Salt 0.48g	8% Low

How to read the nutrition labels

- **g** = per portion
- **%** = proportion of an adult's recommended daily intake, per portion
- **traffic light colours:** green (low), amber (med), red (high) are based on the amount of nutrient there is in 100g of the recipe.

Thai mango and prawn salad

A fresh, vibrant, zesty salad that's jam-packed with healthy ingredients and perfect for a summer's day.

Preparation time: 15 minutes
Serves 2 | Not suitable for freezing

Ingredients

- 2 carrots
- 2 courgettes
- 2 spring onions, thinly sliced
- 1 medium mango, diced
- ½ red pepper, finely sliced or diced
- ½ lime, juiced
- ½ tsp grated fresh ginger
- A little fresh red chilli, finely chopped
- ½ clove garlic, crushed
- 1 tbsp olive oil
- Mint or coriander leaves, a few
- 150g (5oz) king prawns, cooked
- 25g (1oz) toasted almonds or cashews

- 1 Using a potato peeler, peel the carrot and courgettes, then shred them into thin strips and place in a bowl with the spring onions, mango and red pepper.
- 2 Mix the lime juice, ginger, chilli and garlic together with the olive oil and drizzle over the salad.
- 3 Roughly tear in a few mint or coriander leaves and top with the prawns and nuts. Toss together and serve chilled.

Red cabbage slaw

This slaw has a tangy dressing, but if you prefer something creamier, add 0% fat Greek-style yogurt.

Preparation time: 15 minutes
Serves 4 | Not suitable for freezing

Ingredients

- 200g (7oz) red cabbage, finely sliced
- 1 large apple, coarsely grated
- 1 large carrot, coarsely grated
- 2 tsp olive oil
- 2 tsp white wine vinegar
- ½ tsp honey
- Juice of ½ lime
- Freshly ground black pepper
- 1 tsp fresh parsley, chopped

- 1 Place the red cabbage in a bowl, then grate the apple and carrot in and mix everything together until combined.
- 2 Mix together the oil, vinegar, honey, lime juice and black pepper and stir into the slaw with the parsley.
- 3 This will keep in the fridge for up to 36 hours to enjoy as a delicious snack or to add as a side garnish to your meals.

Cook's tip

Adding chopped walnuts (25g or 1oz) and dates (50g or 1oz) gives this fresh dish a crunchier texture and a sweeter flavour. ►



Energy KJ:220 Kcal: 52	3%
Carbs 8.3g	
Fibre 2.5g	8%
Fat 1.9g	3% Low
Saturates 0.3g	2% Low
Sugar 8g	9% Med
Salt 0.02g	0% Low

How we made it healthier

With just a little olive oil, plus lime juice for flavour, it's lower in fat and salt than most shop-bought slaws.

Quinoa salad

This salad is gluten-free, high in fibre and packed with flavour.

Preparation time: 15 minutes

Cooking time: 20 minutes

Serves 2 | Not suitable for freezing

Ingredients

100g (3½ oz) quinoa

1 tsp olive oil

Juice ½ lemon

1 tsp red wine vinegar

2 tbsp fresh parsley, chopped

1 clove garlic, crushed

½ red onion, finely chopped

1 small yellow or green pepper, deseeded and diced

100g (3½ oz) cherry tomatoes, halved

80g (3oz) pomegranate seeds

1 Place the quinoa in a small pan with 250ml cold water, bring to the boil, then lower the heat and simmer for 10 minutes until all the water is absorbed. Turn off the heat, cover with a lid and leave to steam for 10 minutes. Then tip the quinoa into a bowl and leave it to cool down completely.

2 Mix the oil, lemon juice and vinegar together with the parsley and garlic and stir into the quinoa with plenty of ground black pepper. Add the onion, pepper, tomatoes and pomegranate seeds. Stir and serve chilled. This will keep for two days.

Cook's tip

We used red, white and black (tricolour) quinoa, but any will work. Get creative and add peas, broccoli, peppers, spinach, cooked chickpeas or a handful (50g or 2oz) of blanched almonds or walnuts. ●

Tell us what you think

We'd love to hear your thoughts on our recipes, and any tweaks you made to them.

► Email us with photos of your dishes to hmeditor@bhf.org.uk

► Go to **page 2** for more ways to contact us.

Energy KJ: 1060 Kcal: 252	13%
Carbs 42g	
Fibre 8.1g	27%
Fat 5.5g	8% Low
Saturates 0.7g	4% Low
Sugar 11.4g	13% Low
Salt 0.05g	1% Low

How we made it healthier

Quinoa has all the essential amino acids you find in animal protein, and it's low in fat.

Ask our dietitian

Our expert answers your questions on eating and drinking for a healthy heart



Tracy Parker
Senior Dietitian,
British Heart
Foundation



Q: Are mushrooms good for you?

A: Mushrooms are low in calories and saturated fat and are a good source of plant-based protein and fibre.

A unique benefit of mushrooms is that if they are exposed to sunlight or ultraviolet (UV) light, they can produce vitamin D. Mushrooms are often grown in the dark, but you can buy vitamin D mushrooms, or put them on a windowsill for an hour or two before using, to increase their vitamin levels.

Mushrooms also contain polyphenols that are linked to better gut and heart health. As a result, there has been a rising trend in products like medicinal mushroom-infused teas and coffees, powders and capsules. However, the evidence supporting the health claims of these is not strong.

Fresh or dried mushrooms are a better choice for getting the full benefits. If you're thinking about taking supplements, talk to your doctor first.

Mushrooms are not a magic bullet, but they can be a healthy addition to your overall diet. ●

Get your questions answered

► Find more answers from our dietitians online at bhf.org.uk/ask-dietitian, including:

Are decaf tea and coffee bad for you?

► Send your questions to:

hmeditor@bhf.org.uk

Foods to avoid to keep cholesterol in check

Our dietitian **Tracy Parker** answers your questions on which foods to cut back on for healthy cholesterol levels

Alarminglly, about half of adults in the UK have total cholesterol levels above the recommended healthy limit of 5mmol/L. What you eat can play an important role if you want to lower your cholesterol levels.

Should I worry about cholesterol in eggs?

The types of cholesterol found in your body are different from the type found in food (dietary cholesterol).

Research shows that dietary cholesterol has a minimal impact on blood cholesterol levels. This means that most of us can enjoy foods high in dietary cholesterol, like eggs and shellfish, as part of a healthy diet. However, if you have familial hypercholesterolaemia (FH), it's still wise to be cautious.

Which foods can cause high cholesterol?

Instead of worrying about foods like eggs, it's more important to focus on reducing the amount of saturated fat in your diet, as this is known to increase 'bad' (LDL) cholesterol



Tracy Parker
Senior Dietitian,
British Heart
Foundation

in your blood. UK guidelines recommend no more than 30g of saturated fat per day for men and 20g for women.

An easy way to spot foods high in saturated fat is to check the traffic light labelling on the pack. Red means the food is high in saturated fat, so it's best to avoid or eat it sparingly.

Which foods are high in saturated fat?

Certain foods contain high levels of saturated fat and you should try to eat less of them.

► **Red and processed meat:** This includes beef, lamb, and pork, as well as processed meats like sausages, bacon, salami and pâtés. The recommendation is to eat no

more than 70g a day. That's about one and a half pork sausages or five tablespoons of mince or two rashers of bacon.

► **Butter, lard and ghee:** These are about 50 per cent saturated fat. One teaspoon has 5g of saturated fat, which is a large proportion of the daily recommended limit. Instead, use sunflower, olive and rapeseed oils or spreads made from them.

► **Palm and coconut oil:** Palm oil is about 50 per cent saturated fat, and coconut oil a whopping 85 per cent. While these oils are fine to use occasionally, for daily cooking choose unsaturated oils like olive or rapeseed oil.

► **Full-fat dairy:** Whole milk, cheese and cream are significant sources of saturated fat in most people's diets. Watch out for creamy coffees, milkshakes and smoothies. By choosing lower-fat versions, you can reduce how much saturated fat you're having but still get essential nutrients like protein and calcium. ►

“Focus on reducing the amount of saturated fat in your diet”



► **Baked goods:** Pastries, pies, biscuits and cakes contain a lot of saturated fat from added butter or palm oil. Meaty or cheesy pie fillings can add even more. Choosing pies with only a top crust can cut saturated fat by 40 per cent.

► **Chocolate:** All chocolate is high in saturated fat from added cocoa butter. While cocoa has antioxidants, the saturated fat outweighs the health benefits. Enjoy a couple of squares rather than a whole bar and get antioxidants from nuts and berries instead.

What foods should I eat instead?

Eating fewer cholesterol-raising foods can help you improve your cholesterol levels. But it's not just about cutting out the bad. It's also about adding cholesterol-lowering foods to your diet. Swap saturated fats for lean proteins, lots of fruits and vegetables, whole grains, and healthy fats from nuts, oily fish, and olive and rapeseed oils. Together, these changes will have the biggest impact on your cholesterol levels. ●



Simple swaps to help lower your cholesterol

Rather than just cutting out cholesterol-raising foods, replace them with healthy alternatives for more benefits



4 secrets

to a healthy stir fry

Stir fries are delicious but can be high in salt, sugar and unhealthy fats. Go mad with veggies and follow guest dietitian **Mei Wan**'s tips for a healthy stir fry



Cook with healthy fats

Frying in butter, coconut oil, ghee or lard will add unhealthy fat to your meal. Instead go for heart-healthy unsaturated fats such as rapeseed and sunflower oils. Measure the oil you use—with a non-stick pan or well-seasoned wok, two teaspoons should be enough for a stir fry for four people. For more healthy fats, add a handful of nuts and seeds, which will also give your stir fry extra crunch.

Try fibre-rich carbs

Think about swapping from white rice or noodles to versions with more fibre. Brown, red, black or wild rice are all great options, and will add a lovely nutty texture. Or why not try buckwheat soba noodles, which have more fibre and protein than white noodles. If you are trying to manage your weight, think about having a smaller amount of rice or noodles and adding more vegetables.

Go easy on the salt

Stir fry sauces like soy sauce, oyster or hoi sin are high in salt. Too much salt in your diet can lead to high blood pressure, so the recommendation is that we eat no more than 6g of salt a day (about a teaspoon). Stick to reduced-salt sauces, and use no more than one tablespoon in a recipe for two. You can always amp up the flavour with extra garlic, ginger, chilli, spring onions and coriander.

Choose lean proteins

Beef, pork or duck tend to have more unhealthy saturated fat, so cut off any visible fat or choose extra-lean minced versions. Chicken or turkey are leaner proteins, but it's still worth removing the skin. White fish such as cod or haddock will provide lean protein, as will tofu (firm or extra-firm so it holds its shape). Nuts or beans, such as black beans or kidney beans, are also a great source of protein and fibre. ●

“It was literally like a switch clicked”

Sanjana Kochhar, 31, from Liverpool, needed a heart transplant in her 20s. Now a GP, she reflects on how grateful she is for a second chance at life, and how her experience makes her a better doctor



“I first started getting palpitations and feeling out of breath when I was 20 and in my third year of studying to be a doctor in Liverpool.

My GP booked me to have an ECG (electrocardiogram) to look at my heart rhythm and the results showed a lot of scarring and damage to my heart. From that point I had numerous tests as doctors tried to work out what was causing the problem.

We discovered I had heart failure, which means my heart was not pumping blood around my body as well as it should, and I was getting runs of fast heart rhythms. Doctors thought I could be at risk of a cardiac arrest. So in 2014, I had an ICD (implantable cardioverter defibrillator) fitted, which would shock my heart back to a normal rhythm if that happened.

Transplant was my last chance

Over the next few years my heart kept deteriorating. I continued with my medical training, but by October 2022, when I was 29, I had very bad chest pains, pins and needles in my left arm and hand, and I was struggling to walk. I was admitted to hospital, and I became very, very poorly. My heart wasn't pumping well at all, my lungs were full of fluid and then my kidneys and liver stopped working.

I was transferred straight to the transplant centre in Newcastle as a new heart was my last chance. On 31 October, I was put on the urgent

transplant list. In those few weeks of waiting, I couldn't walk or eat, and I needed oxygen. And that's when I got the offer of a heart.

Thankful to have a new heart

I was awake the day after my heart transplant and spent about a month in hospital recovering. It was literally like a switch clicked and my body was working again. Suddenly I had energy, I could eat again, I was walking around. By Christmas Eve I



Real life

It's “amazing to be able to do yoga and play badminton”, says Sanjana



“My body was working again. Suddenly I had energy and could eat and walk around”

was well enough to be discharged and I had Christmas Day at home.

My recovery was tricky at first. Some days I had a lot less energy, and the medicine I was put on to help stop my body rejecting the new heart had side effects like excess hair growth, and a puffy ‘moon’ face. But I felt guilty worrying about such superficial things when I was so thankful to have a new heart.

One of the hardest things was accepting the fact that

PHOTOGRAPHY: TIM BEKIR

Sanjana and Paul
married in May
2025 and enjoy lots
of walks together

someone died for me to get a heart. That's a really difficult thing to process because as a doctor my job is to help people get better. I was getting flashbacks and waking in the middle of the night. I had some counselling with a clinical psychologist. I actually found the best thing was talking about it all and getting it all out into the open. That helped me process it.

Being a GP is so rewarding

Doctors are still trying to figure out what caused my heart failure. The current theory is that it was caused by sarcoidosis.

It's a rare genetic condition that causes lumps of swollen tissue called granulomas to form in the organs of the body.

In my case it caused scarring and damage to my heart.

After my transplant I spent eight months finishing my GP training and qualified in July 2024. Since then, I've been working full time at the practice I trained at. It's busy but I find it so rewarding.

The gift that keeps giving

Because of what I've been through, I understand so much better how patients might be feeling.

When I speak to them, I know what they're going through and can empathise with them when they've got concerns.

For people with heart conditions, they've got all the uncertainty that can come with a chronic disease,



“I wrote to my donor's family to thank them for such a selfless gift in their worst possible moments”

and they have worries about the future. I'm in a unique position being a doctor and a transplant recipient and I want to use that to help other people whenever I can.

I wrote to my donor's family to thank them for such a selfless gift in their worst possible moments and to tell them how much it meant to

me and my family. I had the chance, along with my partner Paul, to meet them, too.

Paul and I married at the end of May. It was a celebration of the people in our lives and a thank you to everyone who was there for us.

My parents, sister, Paul and some fantastic friends kept me going through the really difficult times when I was waiting for a heart.

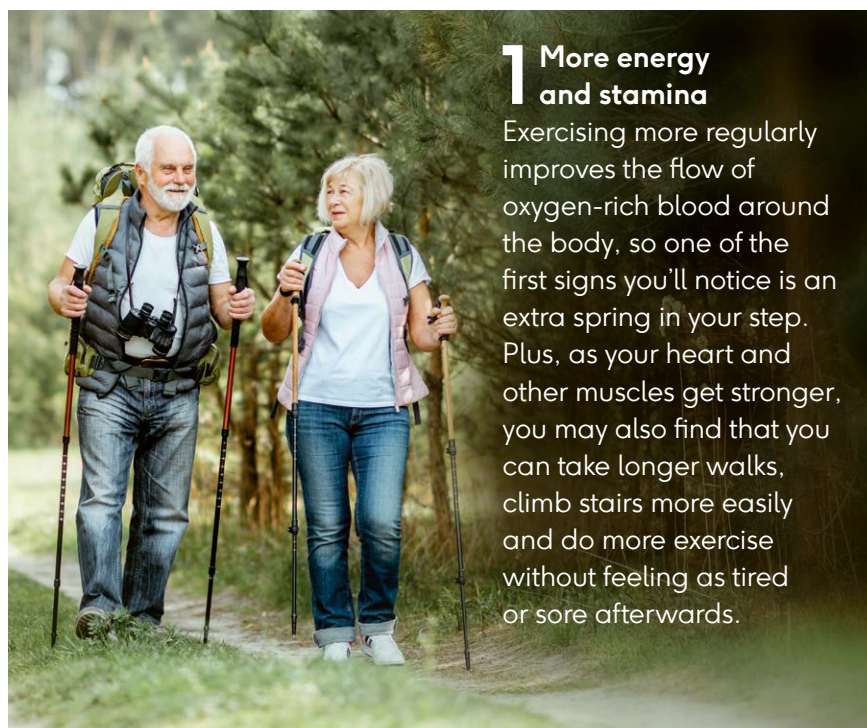
Now Paul and I go for lots of walks together. We play badminton every week, and I go to yoga twice a week.

For years I was so desperate to do all those things, and it just feels amazing that now I can.” ●

5 signs

your fitness is improving

Starting a new exercise routine can be very challenging. To keep yourself motivated, look for these signs that your fitness journey is paying off

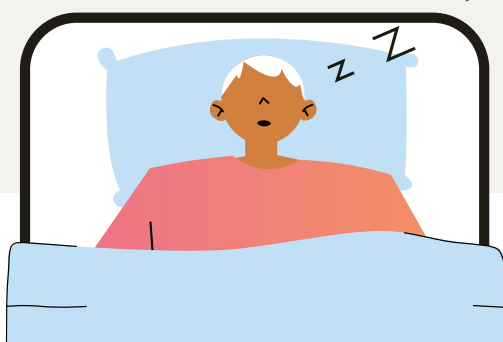


1 More energy and stamina

Exercising more regularly improves the flow of oxygen-rich blood around the body, so one of the first signs you'll notice is an extra spring in your step. Plus, as your heart and other muscles get stronger, you may also find that you can take longer walks, climb stairs more easily and do more exercise without feeling as tired or sore afterwards.

4 Improved sleep

As you improve your fitness, you may find that it helps to regulate your sleep patterns, making it easier to fall asleep and stay asleep throughout the night. And you'll probably find yourself waking up feeling more rested and refreshed.



2 Increased strength

You might notice that you can lift heavier objects, do more repetitions of an exercise, or find it easier to carry bags of shopping. This means your muscles are getting stronger. This can reduce the strain on your heart during daily activities, and improve your balance, which can prevent falls.

3 Feeling happier

When you exercise, your body releases endorphins. These are chemicals that trigger a positive feeling in the body, boosting your mood and reducing stress. If you notice you feel happier, less stressed, and more positive, your fitness routine may be helping your mental wellbeing.

5 Better flexibility

If you can stretch further, move more easily and have fewer aches and pains, it's a sign your flexibility and mobility are improving. This can help to prevent injuries when you're doing everyday tasks.



Simple exercises

to improve your balance

Feeling less steady on your feet?
Try these simple exercises you can
do at home to improve your stability

Improving your balance helps you feel more stable and coordinated when you're moving around, which can help reduce the risk of falling and hurting yourself. This is important as you get older because balance can get worse with age.

If you've had a stroke, have nerve damage (peripheral neuropathy), or take multiple medicines, balance training can benefit you too.

Try to do the following exercises at least twice a week. Perform them sitting down, standing up or holding on to the back of a secure chair you can lean on if you feel wobbly. Focus your gaze on a fixed point in front of you to help you keep your balance while you exercise.

Speak to a doctor before starting any new exercise if you have a heart or circulatory condition, diabetes or high blood pressure.



Hara Markos
Cardiac
Rehabilitation
Exercise
Physiologist,
Mid and South
Essex NHS
Foundation Trust

Static exercise

This stationary balance can improve your ability to hold yourself in one position



PHOTOGRAPHY: TIM BEKIR

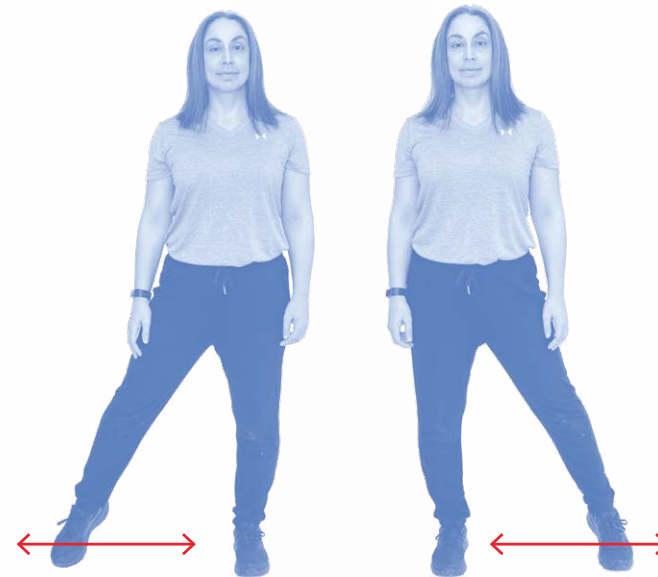
Single leg stance

- 1 Stand with your feet hip-width apart, holding onto the back of a chair if needed.
- 2 Lift one leg off the ground with your foot pointed behind you.
- 3 Try to hold your foot off the ground for 8 to 12 seconds.
- 4 If you feel wobbly, keep your foot closer to the ground.
- 5 Slowly lower your foot and repeat on the other side.

Next step: Try to hold the balance without leaning on the back of a chair.

Dynamic exercises

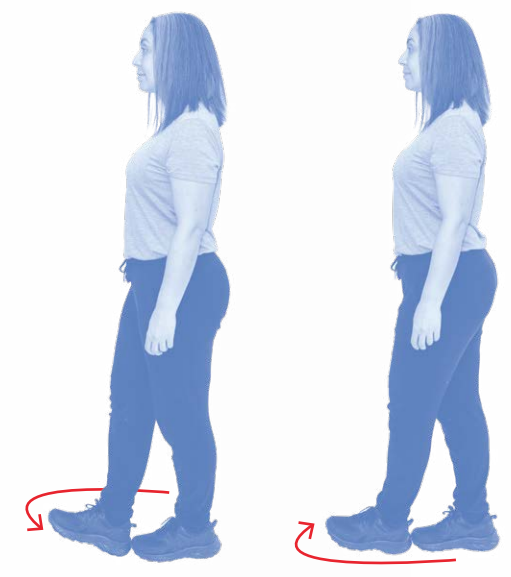
These balances can improve your ability to stay upright while moving around



Side taps

- 1 Sit or stand with your feet together.
- 2 Step your right foot out to the right side.
- 3 Bring your left foot right next to it so your feet are back together.
- 4 Step your left foot out to the left side.
- 5 Bring your right foot next to your left so your feet are back together.
- 6 Repeat 5 to 10 more times.

Next step: Take larger steps out to the side.



Heel-to-toe walk

- 1 Stand with your feet together, holding onto a wall or walking aid if needed.
- 2 Put your right heel directly in front of your left foot, so the heel touches the top of the toes.
- 3 Keep your weight in the right heel and then shift your weight to the toes.
- 4 Move your left heel in front of the right foot.
- 5 Repeat by bringing the right foot back to the front.

Next step: Repeat so you walk 5 to 10 steps forward. ●



Discover more online

► For more exercises to improve your balance, scan the QR code, left, with your phone or visit bhf.org.uk/balance

Tell us what you think

► Did you find these exercises useful? Are there other exercise tips you'd like to see? Let us know—either email hmeditor@bhf.org.uk or write to the address on [page 7](#).

PTSD

after heart problems



Dr Maria Koumi-Elia (DPsych)
Psychologist, Royal Free London NHS Foundation Trust

Trauma specialist **Dr Maria Koumi-Elia** (DPsych) explains how distressing experiences such as heart attacks or surgery can cause PTSD symptoms and shares tips for coping

PTSD (post-traumatic stress disorder) is often associated with being exposed to events such as military conflicts and road accidents. But it can also develop in people who've had health problems such as a heart attack, stroke, cardiac arrest or surgery. Sometimes PTSD develops months, or even years, later.

After something distressing happens, it's normal to experience fear, anxiety and a sense that the traumatic event is happening again. This is known as 'reliving'. But if you notice that these feelings are not lessening over time and they're affecting your daily life, it's a good idea to speak to a GP or trained mental health professional.

Asking for psychological support may feel daunting. But remember, you're not alone in asking for help. Asking for the support you need can be the starting point on your journey to feeling less overwhelmed.



The brain and PTSD

There are three parts of the brain involved in the development of PTSD:

- ▶ **Amygdala:** This is a pea-sized area which acts like a fire alarm, warning us when there's danger. In PTSD, the amygdala is constantly 'on' making the person hypervigilant and always looking out for danger.
- ▶ **Hippocampus:** Which helps us recall memories, miscommunicates with the amygdala in people with PTSD. Instead of using memories to help the person remain calm, it brings up past trauma, making the person think it's happening all over again.
- ▶ **Prefrontal cortex:** Is responsible for managing emotions and impulses. In PTSD, it also fails to work well, leading to an overwhelming sense of fear.

What are the symptoms?

Each person will experience PTSD in their own way. You may have many or only a few of the following symptoms:

- ▶ **Hypervigilance:** If you have PTSD, you may often feel alert or on edge.
- ▶ **Flashbacks, intrusive thoughts and re-experiencing body sensations:** You might feel your heart is fluttering and worry you're going to have another heart attack. Or you may have flashbacks to a particular moment. This can be brought on by a trigger such as the sound of an ambulance, going past a hospital, or even smelling or tasting something you ate or drank on the day it happened.
- ▶ **Avoiding situations:** You might avoid doing things that remind you of your experience. Or you might avoid exercise, even if you know it's good for your heart health, because you're worried about your heart rate going up.
- ▶ **Nightmares, disrupted sleep and 'brain fog':** You might find it difficult to concentrate, for example, struggling to watch a TV programme through to the end.
- ▶ **Changes to your appetite and emotions:** You might have a larger or smaller appetite than usual. You might feel more easily upset or irritable, angry or fearful. You might develop negative ideas about yourself or the world around you, for example blaming yourself for your heart problems. ▶

“You might feel your heart is fluttering and worry you're going to have another heart attack”

How is PTSD treated?

If after four weeks these symptoms are not lessening and they are affecting your daily life, it's a good idea to:

- ▶ Speak to your GP, cardiologist, or clinical nurse specialist.
- ▶ Or speak to the in-house psychologist working in your cardiac rehab programme or cardiology department, if there is one. They can help refer you to trained mental health professionals who can give you a diagnosis and offer treatment. Or, in England, you can self-refer for therapy—search online for “NHS talking therapies”.

You will normally meet a mental health professional for an initial 50-minute appointment. They will ask about any pre-existing mental health difficulties, and you'll be given a questionnaire about your

thinking, feelings and behaviours related to PTSD. Once you have a formal diagnosis, there are a few treatment options, including medication. There are two main options for treating PTSD, which are recommended by NICE (National Institute for Health and Care Excellence) which sets guidelines for best treatment in the UK:

- ▶ Trauma-focused cognitive behavioural therapy (TF-CBT) is a talking treatment.
- ▶ Eye movement desensitisation reprocessing (EMDR) is a treatment that uses rhythmic eye movements to reprocess traumatic memories.

“Writing down your feelings can help you express your experience”

Go to tinyurl.com/PTSD-NHS to find out more about TF-CBT and EMDR.

You should be given information about the different treatment options and be able to choose which you think will work best for you. Typically, you might have eight to 12 weekly sessions but the number can vary.

Treatments cannot erase the memory of the traumatic event. But they can work to lessen the distress and physical sensations you have in response to it.

Why it's important to treat PTSD

Living with PTSD symptoms can make it difficult for you to get used to your health condition, to get back to work, and to do the things you used to do before. It can also make it harder for you to do things that are good for your heart health, such as

taking your medicines, exercising, eating healthily and sleeping well.

Research has found that people with untreated PTSD are at higher risk of developing conditions such as atrial fibrillation, stroke and heart attacks, and risk factors such as high blood pressure. If you've already had a major event like a heart attack or cardiac arrest, having untreated PTSD may make it more likely that you'll have another event. That's why it's so important to get help if you think you have PTSD.

Also, it can be difficult to tell apart PTSD symptoms, such as feeling like your heart is racing, from symptoms related to your heart health. Psychological treatment can help you to tell the difference, making sure you get the appropriate treatment for both. ●

6 self-help tips

While waiting for formal treatment, or alongside formal treatment, there are things you can do to soothe your PTSD symptoms and build up greater resilience.

1 Create a compassionate box

One way of quietening agitated senses is to make a compassionate box or bag full of things that will soothe you.

This could be something with your favourite scent, something with a taste you enjoy, something that lets you listen to your favourite music, and perhaps a postcard or picture that transports your mind to a calm place—whatever feels helpful.

2 Be kind to yourself

Try to be patient with yourself and treat yourself kindly. Make space for the things you enjoy doing, whether that's spending time with loved ones, watching joyful TV, listening to music or doing gentle activities such as walking or gardening.



3 Grounding techniques

Grounding techniques bring you back to the present, helping you manage anxiety. A commonly used one, called 5-4-3-2-1, uses your senses. To do this, you look around the room you are in and name:

- ▶ 5 things you can see
- ▶ 4 things you can touch
- ▶ 3 things you can hear
- ▶ 2 things you can smell
- ▶ 1 thing you can taste.

You can also do an imagined version of this, called a 'calm space exercise', where you imagine a place that makes you feel safe and comfortable. For example, for some people, this might be a beach. You imagine what you might see, hear, smell, touch and taste there.



4 Connecting with other people

Being part of a group who have gone through similar experiences can allow you to share stories and feelings, and this can help your recovery. This could mean connecting with people who are in cardiac rehab with you or finding a local heart support group.

5 Breathing techniques

When you are feeling anxious, you tend to take shallow, gulping breaths. Go to bhf.org.uk/breathing-exercises for how to do techniques, such as box breathing, that can help to slow your breath down and calm your mind.

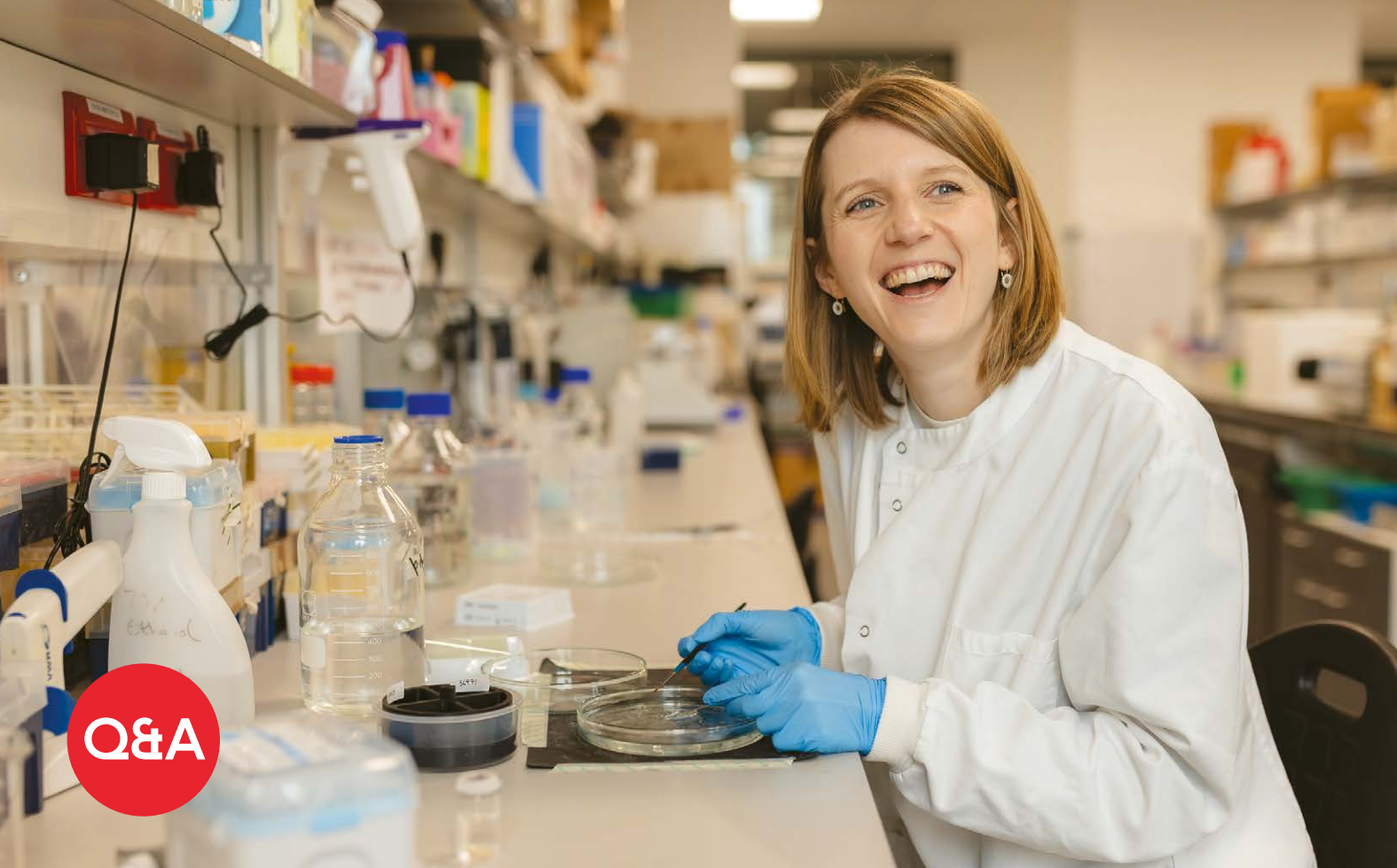
6 Journal writing

Writing down what you're feeling and thinking can help you to express what you experienced.

Writing can help release difficult feelings, but it can also be helpful to write positive thoughts that can help you to feel better.

Get more info and support

- ▶ See ptsduk.org for more on symptoms and treatment.
- ▶ Visit mind.org.uk or call their helpline on **0300 102 1234** (9am to 6pm, Monday to Friday) for mental health support.
- ▶ Join our online community on healthunlocked.com/bhf to talk to others with heart conditions.



Q&A

What's next in ... **heart and mental health research**

BHF-funded research by **Dr Marie Holt** (PhD) at the University of Warwick is shedding light on the complex relationship between our hearts and minds

Q: What do scientists already know about the heart-mind connection?

A: People with mental health problems such as anxiety and depression are more likely to experience heart attacks, strokes and abnormal heart rhythms as well as the risk factors for them, such as high blood pressure and raised cholesterol. For years, scientists focused on the idea

that mental health problems lead people to make less healthy lifestyle choices, which puts them at a greater risk of heart disease.

But research now suggests there's also a biological connection.

Q: How is the brain connected to the heart?

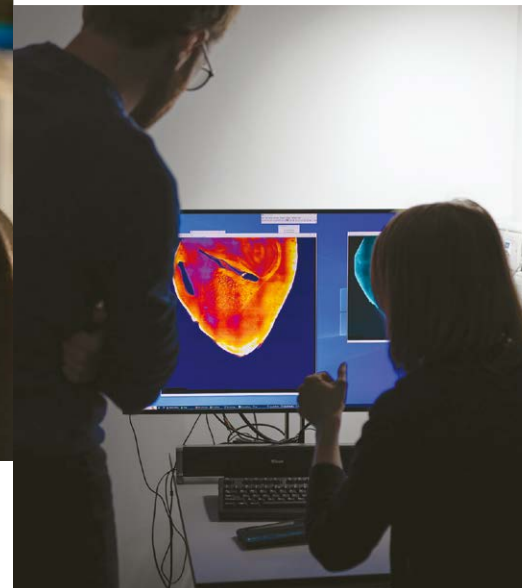
A: There's a part of the brain called the lower brainstem that sends

signals which control heart rate and blood pressure. This is important because if we're faced with a threat, such as a tiger, we need to act quickly. One way the brain gets us ready is to raise our heart rate and blood pressure, so more blood is pumped to our muscles.

But when people have anxiety or face chronic stress, we think the lower brainstem is getting 'confused'



Dr Holt's research uses brain cells and state-of-the-art neuroscience tools to investigate the role of specific brain pathways in mental and physical health



and sending signals to raise our heart rate and blood pressure when it does not need to.

Q: Tell us about your research

A: I'm Assistant Professor and BHF Research Fellow at the University of Warwick. I'm exploring how another part of the brain, the hypothalamus, is sending signals to the lower brainstem.

The hypothalamus acts like a master control centre for our response to stress. One way it does this is by releasing a hormone called CRH (corticotropin-releasing hormone).

We've shown that cells that release CRH in the hypothalamus send signals to cells in the lower

“Science like this can help reduce the stigma around mental health problems”

brainstem that release another hormone called GLP-1, which stands for glucagon-like peptide-1.

GLP-1 is probably best known as being the hormone that is mimicked by weight-loss injections such as Wegovy. The cells in the brain that make GLP-1 also control heart rate and blood pressure. We are looking at the pathway between CRH cells in the hypothalamus and GLP-1 cells in the lower brainstem in mice when they are exposed to stress. And we are investigating what happens when we block this pathway between CRH and GLP-1 cells.

Q: How might this help in future?

A: If we can pin down the biological pathway that links the stress

response in the brain with how the brain regulates blood pressure and heart rate, this will allow us to develop new medicines targeting the specific hormones.

Work like this raises awareness about the biological basis of stress and mental health problems. It can also help reduce the stigma and encourage people to seek treatment, just as they would for a physical health condition.

Q: What other exciting research is happening in this area?

A: Some researchers are looking at this question from the opposite direction, exploring how the brain senses and responds to physiological changes in the body. Some studies have shown that increasing someone's heart rate experimentally can be perceived as unpleasant by the brain, creating a feedback loop that worsens stress responses.

There's also lots of promising research looking at the gut's connection to both heart health and mental health problems. ●



Science

PHOTOGRAPHY: OLLIE HOLDER

Fact or fiction?

We fact-check media reports on heart health so you have the full story

Do weight-loss injections cut or raise the risk of disease?

Weight-loss injections like Wegovy and Mounjaro may lower the risk of many diseases, but increase the risk of low blood pressure and vomiting, according to widely reported research.

Originally designed to lower blood sugar levels in people with type 2 diabetes, these types of drugs—known as GLP-1 agonists—help people lose weight by reducing their appetite.

Researchers behind the study, published in the journal *Nature Medicine*, wanted to learn more about how they affect the body.

They compared 215,000 people who had type 2 diabetes and were having weekly injections of GLP-1 agonists to 1.2 million people with diabetes who received their usual medicines to reduce blood sugar.

After an average of 3 to 4 years, people taking GLP-1 agonists

had a lower risk of developing 42 different diseases than those taking non-GLP-1 medicines.

This included several heart and circulatory conditions, with the study showing the injections reduced the risk of cardiac arrest by 22 per cent, heart failure by 11 per cent, heart attack by 9 per cent, and ischaemic stroke by 7 per cent. The researchers suggested that, as well as weight-loss, GLP-1 agonists may reduce inflammation, which could lower the risk of many diseases.

However, people receiving the injections also had a higher risk of 19 conditions including vomiting, arthritis and low blood pressure.

They were over twice as likely to develop medicine-induced acute pancreatitis (when the pancreas becomes inflamed).

This type of study is observational, so it cannot

prove cause and effect. Also, the findings may have been different in people without type 2 diabetes.

Most newspaper headlines focused on the study's findings on the health benefits of weight-loss injections. The *Daily Mail* did highlight the increased risk of pancreatitis. However, The *Telegraph* did not mention the important fact that all the people in the study had type 2 diabetes.

OUR VERDICT

We know living with obesity increases your risk of many diseases, but we're still learning more about GLP-1 agonists like Wegovy and Mounjaro.

Speak to your doctor if you're thinking about taking weight-loss injections. Eating a balanced diet and regularly exercising can also help you to manage your weight.

“People taking the injections had a lower risk of 42 different diseases”



Is coffee better for you in the morning?

You might drink coffee to feel more awake in the morning, but is it also good for your heart? According to a study in the *European Heart Journal*, people who mainly drink caffeinated or decaf coffee before midday are around one third less likely than non-coffee drinkers to die from a heart or circulatory disease, like a heart attack or stroke after 10 years.

However, people who drink coffee throughout the day do not have a significantly lower risk of dying than those who drink none, the study found.

The researchers from the United States said the findings suggested that coffee may contain anti-inflammatory substances that are particularly effective in the morning, when inflammation—which can raise the risk of heart and circulatory diseases—is thought to be highest.

They added that drinking caffeinated coffee later in the day may disrupt people's sleep, which has also been linked to an increased risk of heart and circulatory diseases.

Although the study was large, with around 40,000 participants, it was observational, so it cannot prove cause and effect.

The study was reported in *The Guardian*, the *Daily Mail*, *The Times* and *The Telegraph*.

But, while all of them said the findings may have been caused by coffee disturbing sleep, only *The Guardian* mentioned that the study included decaf coffee, which would not have had this effect.

OUR VERDICT

While we cannot say for certain coffee in the morning reduces your chances of dying from a heart or circulatory disease, it's unlikely to be harmful and could benefit your heart health. Switch to decaf after 12pm to avoid sleep disruption. ●

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Science news

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Hot weather and your heart

With British Heart Foundation (BHF) support, Dr Andrew Holmes at the University of Birmingham is investigating how cells in the neck's main blood vessel respond to heat stress. This could lead to new therapies for those at risk of dangerous levels of stress during heat waves.



Sex hormones and SCAD

SCAD (spontaneous coronary artery dissection) can lead to heart attacks. Over 80 per cent of people who have SCAD-related heart attacks are women. Dr David Adlam at the University of Leicester is studying the link between female sex hormones and the condition.

Who should have ICDs?

University College London's Dr Anish Bhuva is using the power of AI and 300,000 patient records to look at who benefits most from ICDs (implantable cardioverter defibrillators), so that better guidelines can be developed on who should have them.