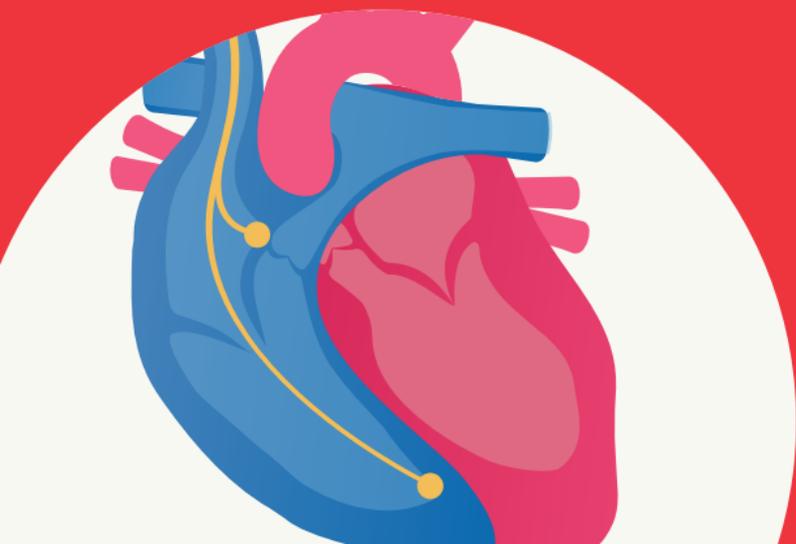


bhf.org.uk



Understanding implantable cardioverter defibrillators (ICDs)



About this booklet

Having an implantable cardioverter defibrillator (ICD) fitted can improve your quality of life and for some people, it will save their life. This booklet can help you:

- understand what an ICD is and why you need it
- prepare for what happens during an ICD fitting and your recovery
- learn how to live well with an ICD.

Please use this booklet as and when you need it. You do not have to read it all at once. We're here to support you and your loved ones.



Call 0808 802 1234 (freephone)
to speak to a cardiac nurse.
Our helpline is open weekdays
9am to 5pm (excluding bank
holidays).

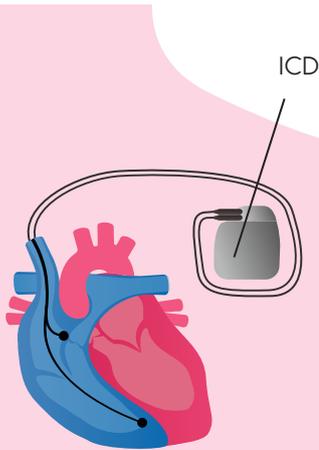
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What is an ICD?

An implantable cardioverter defibrillator (or ICD) is a small electrical device that's put under the skin in your chest, near your collarbone.

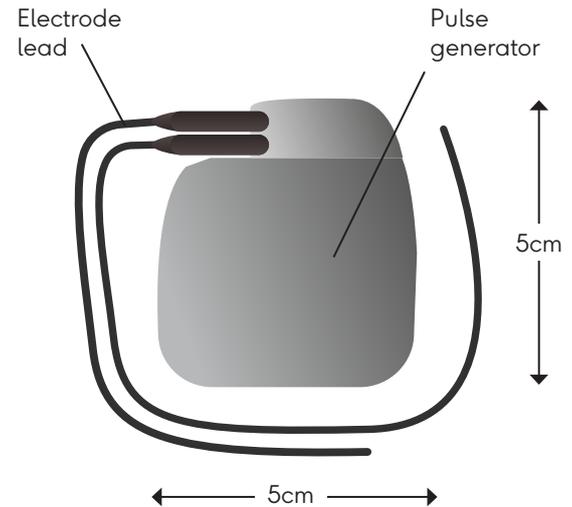
It's used to treat ventricular arrhythmia, a type of abnormal heart rhythm.



What does an ICD look like?

An ICD is a small box. It contains a battery and an electric circuit, called a pulse generator. An ICD has one or more leads coming off it.

ICDs are similar in size to the face on a men's watch and they weigh about 70 grams.



Why do I need an ICD?

You may need an ICD if:

- you've had ventricular arrhythmia before
- you've had a cardiac arrest
- you're at risk of ventricular arrhythmia in the future
- other treatments for your ventricular arrhythmia have not worked.

You may be more likely to have ventricular arrhythmia if you have:

- heart disease
- had a heart attack
- heart failure
- disease of your heart muscle (cardiomyopathy)
- an inherited heart condition, like long QT syndrome (LQTS) or Brugada syndrome.

Find more information on these conditions on our website at [bhf.org.uk/conditions](https://www.bhf.org.uk/conditions)

It's rare, but sometimes doctors do not know why someone has ventricular arrhythmia.

What is ventricular arrhythmia?

Ventricular arrhythmia is a type of abnormal heart rhythm where your heart beats abnormally quickly.

Some abnormal heart rhythms can happen suddenly, without warning and can be life-threatening.

There are two main types of ventricular arrhythmia:

- **Ventricular tachycardia (VT)** is when your heart beats too fast which can lead to dangerously low blood pressure and cardiac arrest. You may feel dizzy, sick, breathless, sweaty or have chest pain and collapse.
- **Ventricular fibrillation (VF)** is when your heart beats too fast and starts fibrillating (quivering or twitching). When this happens, blood does not get pumped around your body and you'll be in cardiac arrest.

What is cardiac arrest?

Cardiac arrest is when your heart stops pumping blood around your body. Someone in cardiac arrest will usually be unconscious and may not be breathing normally.

Call 999 for an ambulance and start CPR if you think someone is in cardiac arrest.

If you have VT or VF you may have a higher risk of cardiac arrest.

Find out more at [bhf.org.uk/cardiacarrest](https://www.bhf.org.uk/cardiacarrest)

What are the benefits of having an ICD?

Having an ICD can improve your quality of life.

It can help make daily activities easier, like walking up stairs or staying active.

It should also improve any symptoms like feeling breathless or dizzy. And having an ICD can help you to stay out of hospital and live longer.

For some people, it can save their life.

How does an ICD work?

Your ICD checks your heart rhythm. If your ICD notices an abnormal heart rhythm it will:

1. Send a small burst of electrical impulses to try and get your heart to beat at a normal rhythm (called **pacing**).
2. If this does not work, it may also send one or more small electric shocks to get your heart to beat at a normal rhythm (called **cardioversion**).
3. It can also give one or more larger shocks to get your heart to beat at a normal rhythm (called **defibrillation**). This can feel like a sharp thump or kick in your chest or back.

Are there other types of ICD?

Depending on your condition and the type of heart rhythm you have, you may have a different type of ICD.

- **Subcutaneous ICD (or S-ICD)** is an ICD that's put under the skin in your chest. It does not have leads into your heart. S-ICD only gives defibrillation treatment.
- **Cardiac resynchronisation therapy with a defibrillator (or CRT-D)** is a device that combines a pacemaker and an ICD. It helps the chambers of your heart to beat at the same time. It can also deliver shocks if needed, like a standard ICD.

Your doctor will explain if either of these ICDs are suitable for you. If you're not sure which type of ICD you have, check your ICD identity card (see page 35) or ask your doctor.

Is it a safe procedure?

It's normal to feel worried before having a medical procedure. But having an ICD is a common and safe procedure.

Your risk will depend on your individual circumstances, for example any other conditions you have and your general wellbeing. Any individual risks will be discussed with you before you have the treatment.

If you're worried about having an ICD fitted, speak to your doctor. You can also talk to one of our cardiac nurses.



Call 0808 802 1234 (freephone)
or email hearthelpline@bhf.org.uk
Our helpline is open weekdays,
9am to 5pm (excluding
bank holidays).

How do I prepare for an ICD fitting?

Preparing for your procedure can help you feel more in control and less nervous about what's going to happen.

You could:

- Organise transport to and from the hospital.
- Organise time off from work.
- Wear clothes that are loose and comfortable on the day.
- Take things to keep you busy and comfortable, like books, podcasts and music.
- Do a food shop before and prepare a few healthy freezer meals.

- Arrange for someone to look after children or pets while you're in hospital.
- Sort support for when you're home, such as a partner, friend or family.

If you need help getting to and from the hospital, call the number on your hospital letter.

Find healthy recipes on our website at [bhf.org.uk/recipes](https://www.bhf.org.uk/recipes)

What happens before my ICD is fitted?

You'll have tests before your ICD is fitted, which may include:

- an electrocardiogram (ECG)
- a 24-hour electrocardiogram (ECG)
- an implantable loop recorder (ILR)
- an echocardiogram (echo)
- an electrophysiological study (EPS)
- a chest X-ray
- blood tests.

If you've got an appointment to have an ICD fitted, you'll have these tests days or weeks beforehand.

You'll also have an appointment with a nurse called a pre-assessment appointment.

The nurse will tell you if you need to stop eating or drinking before your procedure and if there's anything else you can do to prepare.

If you have any questions about having an ICD fitted, speak to them at this appointment.

If you're having an ICD fitted as an emergency, you may have some of these tests on the same day.

Find out what happens during these tests on our website at [bhf.org.uk/tests](https://www.bhf.org.uk/tests)

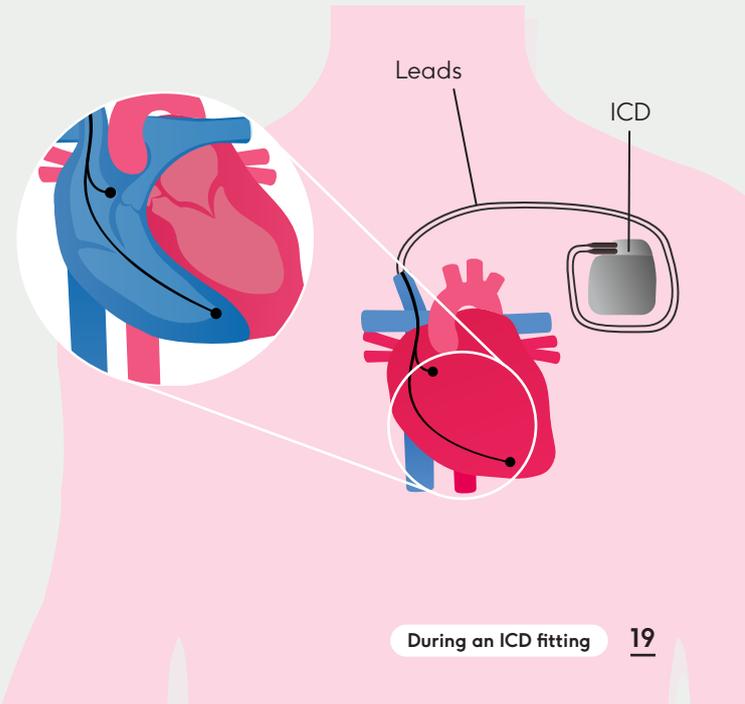
How is an ICD fitted?

Having an ICD fitted is a common procedure and should not hurt. It's normal to feel a bit nervous.

The procedure takes one to three hours. It can take longer if you're having other procedures or surgery at the same time.

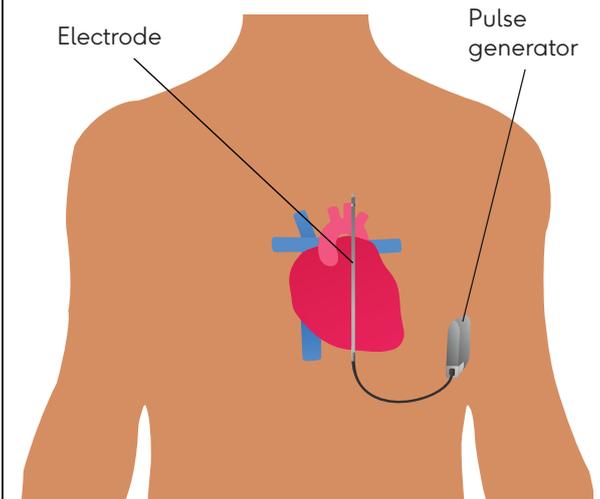
1. You'll be given local anaesthetic to numb the area. This means you're awake but should not feel any pain. You may also be given sedative medicine to help you relax and feel sleepy.
2. A small cut, about five to six centimetres, is made on the left side of your chest.
3. The leads that connect the ICD to your heart will be put into a vein and guided to your heart. The leads will touch the wall of your heart muscle so they can check your heart rhythm.

4. The ICD is then fitted into a small space in your chest, between your skin and your chest muscle. The leads and the ICD will be connected.
5. The cut will be closed with a special type of glue or stitches.



Fitting a S-ICD

If you're having a S-ICD the leads will be put under the skin in your chest. The box of the S-ICD will be put under the skin on the left side of your chest, under your armpit.



How long will I be in hospital?

Most people will stay overnight after having an ICD fitted and go home the next day. You'll need to stay longer if you've had a cardiac arrest.

You'll usually have your heart rhythm checked for a few hours after your ICD is fitted. A nurse will also take your blood pressure and check the cut on your chest.

The nurses can give you something to eat and drink. They will also help you get up and out of bed after the procedure. This can help you feel more confident about moving around once you get home.

Your ICD will be checked before you leave to make sure it's working properly.

What happens when it's time to go home?

Before you leave hospital, someone will have a chat with you about your recovery and what you can and cannot do.

They should explain:

- how to look after the cut (wound) on your chest
- whether you need stitches removing and who does this
- who to contact if your ICD delivers one or more shocks
- who you should contact with any questions or concerns.

You'll also be given an ICD identity card (see page 35).

Speak to your hospital team about any extra support you may need when you go home.

You'll need to arrange for someone to pick you up from hospital and take you home.

If you have questions when you get home, you can also speak to our cardiac nurses.



Call 0808 802 1234 (freephone)
or email hearthelpline@bhf.org.uk
Our helpline is open weekdays,
9am to 5pm (excluding
bank holidays).

What will the first few days at home be like?

Recovering takes time and everyone recovers at different speeds. Take it easy for the first few days and make sure you have enough rest.

It's normal to feel tired afterwards but most people find that they're back to normal after a few days.

Having someone with you at home for the first few days will help to build your confidence.

Many people find it helps them to get up, washed and dressed. Doing light activities can also help build up your confidence, such as:



making drinks and snacks



walking around the house or garden



very light chores, like washing up.

Do not try to do too much too soon and listen to your body. If any of these activities make you feel unwell, contact your GP.

Can I move my arm and shoulder?

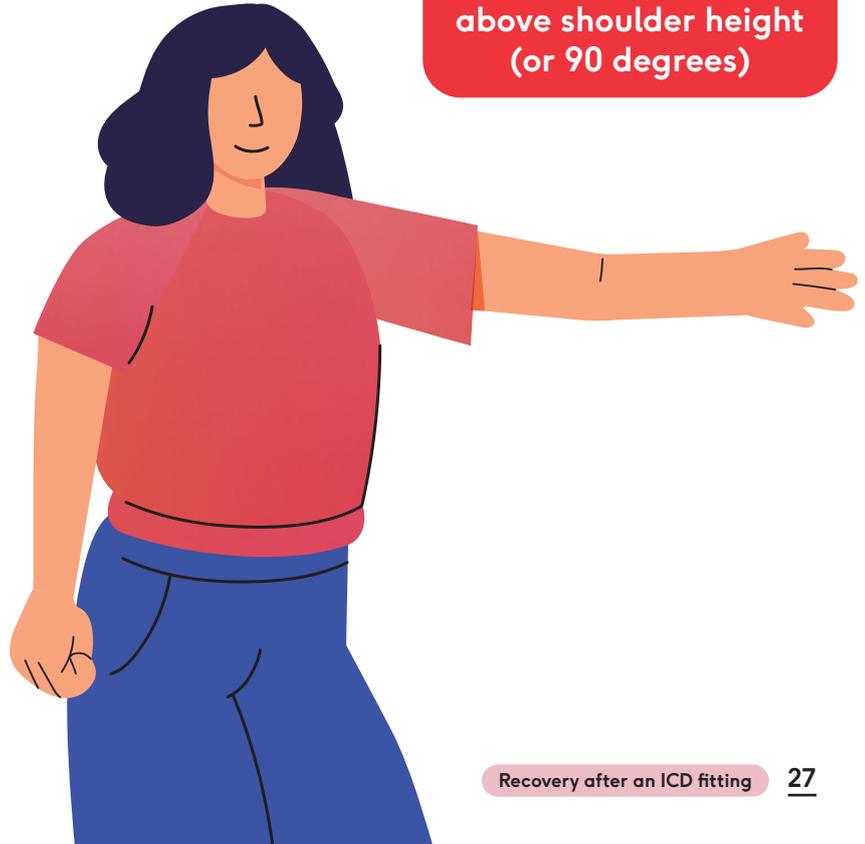
You'll need to avoid lifting your arm above your shoulder level on the side you had your ICD fitted for four to six weeks.

This includes things like hanging out washing, carrying children or pets, weights and lifting things above your shoulder.

However, it's important to keep your shoulder and arm moving. Gently rotate your shoulder at a low level and move your head from side to side to avoid stiffness in your neck, shoulder and arm.

If you're not sure what movement is safe, speak to the nurses before you leave hospital. You can also call your GP or our cardiac nurses (see page 57).

Do not lift your arm above shoulder height (or 90 degrees)



How do I look after my wound?

You'll have a cut (wound) on the left side of your chest. It will be covered with a dressing (material pad) after the procedure. Dressings help keep any cuts clean and dry.

You'll need to keep the cut dry and clean while it heals. It will be sore and a bit bruised for a few days.

After 24 hours you can usually remove any dressings and shower normally. You may need to avoid soaking the wound for longer, for example by not having a bath.

Clothes and bras

After the procedure you may find some clothes uncomfortable or difficult to wear. You may want to buy soft, stretchy tops or clothes that fasten at the front so they're easier to get on and off.

If you wear a bra, you may want to buy one that's comfortable before you have an ICD fitted.

It can help to wear a bra that:

- ✓ has wider straps
- ✓ fastens at the front
- ✓ is made of soft material
- ✓ has soft straps that do not pull on your shoulder.

What follow-up appointments will I have?

You'll normally have a hospital appointment four to six weeks after having your ICD fitted. It's important to go to your appointment, even if you feel well. The hospital team will check your ICD is working properly.

Some people will also be invited to cardiac rehabilitation. This is a programme of exercise and education sessions to help you recover and live well. Find out more at bhf.org.uk/cardiacrehab

You should be given a hospital appointment every 3 to 12 months, depending on the type of ICD you have and your condition. If you're not sure when your next appointment is, you can call your cardiology department. The number should be on your hospital letter. You can also contact your GP.

In the future you may need to have the battery of your ICD changed (see page 36).

Checking your heart rhythm from home

In some cases, your doctor may be able to check your heart rhythm and how your ICD is working from your home.

They will give you a device called a transmitter when you leave hospital. This sends information about your ICD to your clinic.

You will still have appointments at the hospital and it's important to go to them.

What does it feel like when the ICD gives you treatment (a shock)?

You should not be able to feel your ICD working most of the time. Sometimes you can get a fluttering feeling in your chest and feel your heart beating.

If your ICD delivers a bigger electrical shock, it's likely that you have collapsed or you're unconscious when it happens. If you're awake when the shock is delivered, it may feel like a hard thump in your chest or back.

Call 999 for an ambulance or ask someone to take you to your nearest A&E if you feel unwell afterwards.

Most ICD clinics will also want to know if your ICD has delivered treatment.

Can other people feel the shock?

If someone is touching you when your ICD delivers a shock, they may feel a slight tingling sensation, but it's not dangerous to them.

They may be frightened if you cry out or jump when the shock is given. It can help to prepare friends and family in case this happens and reassure them that it means your ICD is working.

Will I be able to feel or see the ICD?

Some people can feel or see the outline of the ICD under their skin. But you should get used to this soon after having it fitted.

It may be uncomfortable to lie in certain positions after having the ICD fitted. This feeling should go away.

If you find it very uncomfortable, speak to your GP. You can also call our cardiac nurses for help and support.



Call 0808 802 1234 (freephone)
or email hearthelpline@bhf.org.uk
Our helpline is open weekdays,
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bank holidays).

What is an ICD identity card?

After having an ICD fitted you should be given an ICD identity card. Sometimes it's called a registration card.

This has information about the type of ICD you have. It's important to carry it with you in case of an emergency. You could put it in your purse or wallet and take a picture of it and keep it on your phone.

It helps healthcare professionals and other professionals, like your dentist, know about your ICD.

How long does my ICD last?

The battery in an ICD usually lasts four to six years. After this you will need to have the battery changed, sometimes called a box change.

You will have plenty of warning before the battery runs out and you will have regular checks of your ICD. Some ICDs will vibrate or make a noise if the battery is low. The ICD clinic will invite you for an appointment before the battery runs out.

The procedure for changing the battery is simpler than when your ICD is fitted. You'll be given local anaesthetic. This means you'll be awake but should not feel any pain.

Your ICD box will be removed, but the leads stay in place. A new box is put in your chest and the cut will be closed with stitches or a special glue. Most people go home the same day.

Can my ICD be turned off?

Your ICD can be switched off (deactivated) if needed, for example if you need to have surgery or if it's not working properly. It's then turned back on when you need it.

Your doctor can tell you more about this and explain any situations where you may need it to be turned off.

What problems should I look out for?

Call 999 for an ambulance if you have chest pain.

Contact your GP or your ICD clinic if you have any of the following symptoms:

- breathlessness
- dizziness
- fainting
- feeling weak all the time
- a swollen arm on the side of your ICD
- hiccups that take a long time to go away
- a high temperature (38°C or above)
- pain, swelling and redness where your ICD is fitted
- your heart is pounding, fluttering or beating quickly (palpitations).

Life with an ICD

If you've had an ICD fitted, your doctor may also recommend making some lifestyle changes.

These changes can help you look after your heart health and reduce your risk of heart problems in the future.

It can feel overwhelming to think about changes to your daily life. But you could make small swaps over time to build up healthier habits.

Changes could include:



getting more exercise



stopping smoking



**having less salt, saturated fat
and sugar in your diet**



maintaining a healthy weight



**reducing the amount of alcohol
you drink.**

There are lots of ways to do this. Why not order our free booklet **Understanding your heart health** for simple swaps and heart health tips? Order it online at [bhf.org.uk/publications](https://www.bhf.org.uk/publications)

Exercise

You'll need to avoid lifting your arm above your shoulder level on the side you had your ICD fitted for four to six weeks. You'll also need to avoid strenuous exercise and contact sports.

For four to six weeks, you should avoid activities like:

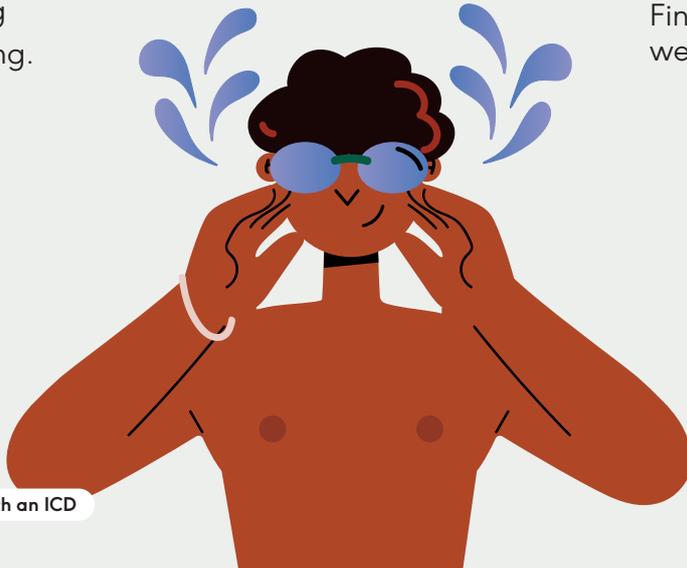
- hanging out washing
- weights
- lifting things above your shoulder
- picking up children, grandchildren and heavier pets
- some stretches
- running, tennis, rugby, football and golf.



Once you're recovered, staying active can help you to live a happier and healthier life. This will usually be after six weeks or your first check-up at the ICD clinic.

Most people should be able to return to activities they enjoy, such as:

- the gym
- cricket
- golf
- yoga and Pilates
- climbing
- swimming.



You'll need to avoid contact sports, like rugby, football and boxing, even after you've recovered because they can cause damage to your ICD.

You may also need to avoid some strenuous exercises. The ICD clinic can tell you more about what you can and cannot do.

It's normal to worry if you should exercise. But there are lots of ways to be active that are enjoyable and safe for you.

Find an exercise that suits you on our website at [bhf.org.uk/activity](https://www.bhf.org.uk/activity)



Sex

You can continue to enjoy a healthy sex life after having an ICD fitted. For the first four to six weeks while you're recovering you should avoid positions that put pressure on your arms or chest.

Some people find they're able to have a more active sex life after having an ICD as they have more energy.

It is very rare to get a shock from your ICD during sex. Your device is programmed so a normal increase in heart rate, such as during exercise and sex, is ok.

Talking about sex is not always easy, but many people feel reassured when they do. Our cardiac nurses can help answer your questions (see page 57).

Read more on our website: [bhf.org.uk/sex](https://www.bhf.org.uk/sex)

Work

You may be able to return to work one week after having an ICD fitted.

It's important to remember that everyone is different. When you go back to work will depend on the type of work you do and how you're feeling. If you're doing heavy lifting or you drive a vehicle for work, you may need more time off.

These times are just a guide, and everyone is different. You should talk to your doctor or nurse about your own situation.

Read more on our website at [bhf.org.uk/work](https://www.bhf.org.uk/work)

Driving

You will need to stop driving for a period of time after having an ICD fitted. It will depend on why you need an ICD and if your ICD has delivered treatment.

- **Dangerous heart rhythms (VT and VF)** – if you've had an ICD fitted because you've had dangerous heart rhythms, you may need to stop driving for one to six months.
- **Your ICD has delivered treatment** – if your ICD has delivered treatment (a shock) you may need to stop driving for one to six months.
- **You're at risk of having a dangerous heart rhythm** – if you've had an ICD fitted because you may have a dangerous heart rhythm in the future, you'll usually need to stop driving for one month.
- **Battery changes** – if you have a battery change you must not drive for one week.

You need to tell the DVLA and your car insurance provider if you've had an ICD fitted. But you do not need to tell them if you have the battery changed.

Speak to your doctor about when you can start driving and if you have any questions about driving.

Read more on our website at [bhf.org.uk/driving](https://www.bhf.org.uk/driving)

Seatbelt tip

If you find wearing a seatbelt is painful after the surgery, try putting a soft jumper or small pillow between your wound and the seatbelt.

Holidays and flying

You can go on holiday after having an ICD fitted. Speak to your doctor or ICD clinic to find out when it's safe to fly.

If you have another heart condition or you have symptoms, check with your doctor that you are fit enough to travel.

You can find more information on flying and holidays at [bhf.org.uk/holidays](https://www.bhf.org.uk/holidays)

There are things you can do to keep safe while traveling:

- ✓ Keep any medicine in your hand luggage if you are flying to your destination. Some people keep a supply in their suitcase too.
- ✓ Keep your ICD identity card and a list of any medicines you take in case you need it for airport security or if you lose any.
- ✓ Know the emergency numbers of the country you're travelling to and your travel insurance provider.
- ✓ Look up where your closest pharmacy and hospital are on holiday in case you need them.

Travel and life insurance

If you're diagnosed with a heart condition or you've had a procedure, you need to tell your life and travel insurance provider.

Many people can live well after treatment for a heart condition. But it's important to make sure your insurance provider knows about your condition in case you need to claim in the future.

If you're having trouble getting travel insurance after having an ICD fitted, call our cardiac nurses for help (see page 57).

Find out more about travel and life insurance at [bhf.org.uk/practicalsupport](https://www.bhf.org.uk/practicalsupport)

Mobile phones and smart watches

It's safe to use a mobile phone, but you'll need to keep it more than 15cm (or 6 inches) away from your ICD. This is because mobile phones contain magnets that may interfere with your ICD.

When taking phone calls, you could use headphones, speakerphone or use the ear on the opposite side to your ICD. Try not to put your phone in your chest pocket or leave it near your chest.

If your phone does get too close to your device, try not to panic. ICDs are designed to return to their normal settings after the phone has been moved away.

It's not currently clear whether new devices, like smartwatches and rings, interfere with ICDs. Speak to your doctor to find out whether they're safe to use.

Airport and health scans

Airport scanners and metal detectors should not cause a problem. Take your ICD identity card with you and tell the airport staff you have a device.

If you have a health scan, like an MRI, let them know you have an ICD before you have the test. Most ICDs are compatible with health scans but it's important to let the person doing the test know.

Household electrical items

Most electrical items around your house, including microwaves, air fryers, food mixers and hairdryers, should not affect your device. You should try to keep them at least 15cm (6 inches) from your ICD.

You can also use household tools such as drills, lawn mowers and electric screwdrivers, as long as they're in good condition.

Hearing aids are safe to wear if you have an ICD. If your hearing aid has any wireless accessories, these will need to be kept at least 15cm (6 inches) away from your ICD.

Devices to avoid if you have an ICD

If you have an ICD, you should avoid these devices:

- ✗ abdominal stimulators (used for building muscle)
- ✗ body fat composition scales
- ✗ magnetic mattress pads or pillows
- ✗ welding equipment (with currents above 130 amps).

If you have an induction hob you will need to stay 60cm away from it when cooking.

These devices give off electrical signals that can interfere with your ICD.

If you feel dizzy when using an electrical device, move away from it and check your heartbeat has returned to normal.

Speak to our cardiac nurses if you're not sure what devices are safe to use (see page 57).

Worries about your health

It's normal to feel worried or anxious about your health. But sometimes, this can get in the way of living your life.

If you feel anxious and sad a lot of the time, and it's affecting your daily life, talk to your GP. Do not be afraid to ask for help. Sometimes you need to put yourself first.

You can also refer yourself to the NHS for talking therapies, like cognitive behavioural therapy (CBT) or counselling. Search '**NHS talking therapies**' for more information.

You can also get in touch with Mind, a charity offering support to anyone affected by their mental health. Visit **mind.org.uk**

Support for you and your loved ones

Being told you need an ICD can be worrying. It can make you concerned about your heart and the future. By having an ICD fitted you can live well with your condition.

It can help to talk things through with loved ones.

On the following pages, you'll find some of the ways British Heart Foundation can help.

Call the Heart Helpline

If you want someone to talk to, you can speak to our cardiac nurses. Your friends and family can also call if they want to understand what's happening or have questions.

Call **0808 802 1234** (freephone)
or email **hearthelpline@bhf.org.uk**
Our helpline is open weekdays,
9am to 5pm (excluding bank holidays).

You can also speak to our nurses using the live chat feature. Find out more at **[bhf.org.uk/helpline](https://www.bhf.org.uk/helpline)**

Join Heart Matters

Discover the benefits of Heart Matters, your free heart-health membership.

Join to receive our free magazine or email newsletter, featuring expert tips, heart-healthy recipes, inspiring stories, and the latest updates backed by BHF-funded science.

Guided by our team of experts, Heart Matters helps you to make small changes for a healthier heart.

bhf.org.uk/heartmatters

Find an online community

Our community on HealthUnlocked is a free online space for people with heart and circulatory conditions to share experiences and get support from one another.

Visit **healthunlocked.com**

Get information in another format

We have lots of information about looking after your heart. Find helpful tips and easy swaps for a healthier heart in our booklet

[Understanding your heart health](#).

You can read and order our booklets for free at **bhf.org.uk/publications**

We also have information in audio, easy read, braille and other languages. Read or listen to our information online at **bhf.org.uk/infoforall**

We are British Heart Foundation



Through research, information and support we're here for everyone affected by heart and circulatory conditions.

Get help

Speak to one of our experienced cardiac nurses for more information and support. They can help answer your questions, big or small.

You can call **0808 802 1234** (freephone). Our helpline is open weekdays, 9am to 5pm (excluding bank holidays).

Support our work

If you've found this information helpful and would like to support our work, please scan the QR code or visit bhf.org.uk/support-us



Scan here with
the camera
on your phone

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