

Your patent foramen ovale closure





Contents

• What is a patent foramen ovale (PFO)?	3
• What is a patent foramen ovale (PFO) closure?	3
• Benefits of PFO closure	5
• Risks of PFO closure	5
• Alternative treatments	6
• Before your PFO closure	7
- Pre-admission appointment	7
- Do I have to attend a pre-admission appointment?	8
• Preparing to come into hospital	9
• What to bring into hospital	10
• Date of your PFO closure	10
• Bed confirmation	10
• Arriving at hospital	10
• Preparing for your PFO closure	12
• Having your PFO closure	12
• After your PFO closure	13
• Going home	16
• Follow-up care	17
• Frequently asked questions	17
• Contact us	18

This leaflet explains what happens when you have a patent foramen ovale (PFO) closure, the benefits, risks and alternative treatments. It does not replace personal advice from a qualified healthcare professional. If you have any questions, please ask your doctor or nurse.

What is a patent foramen ovale (PFO)?

A patent foramen ovale (PFO) is a hole in the heart. During pregnancy, babies naturally have this hole in the heart. The hole usually closes after birth.

However, in up to 1 in 4 people the hole does not close completely and remains 'patent' which means open – see Picture 1 on page 4.

The hole is in a wall called the atrial septum that divides the upper 2 chambers of the heart – the right and left atrium. Although the hole does not cause any problems for most people, in some people it can increase the risk of having a stroke.

A stroke is a life-threatening condition that happens when the blood supply to part of the brain is cut off.

If you have a hole in the heart, it is possible for a blood clot to move from the right side of the heart to the left through the hole. The clot can then travel to the brain, blocking the blood supply.

Your consultant has recommended that this hole should now be closed using a small device.

What is a patent foramen ovale (PFO) closure?

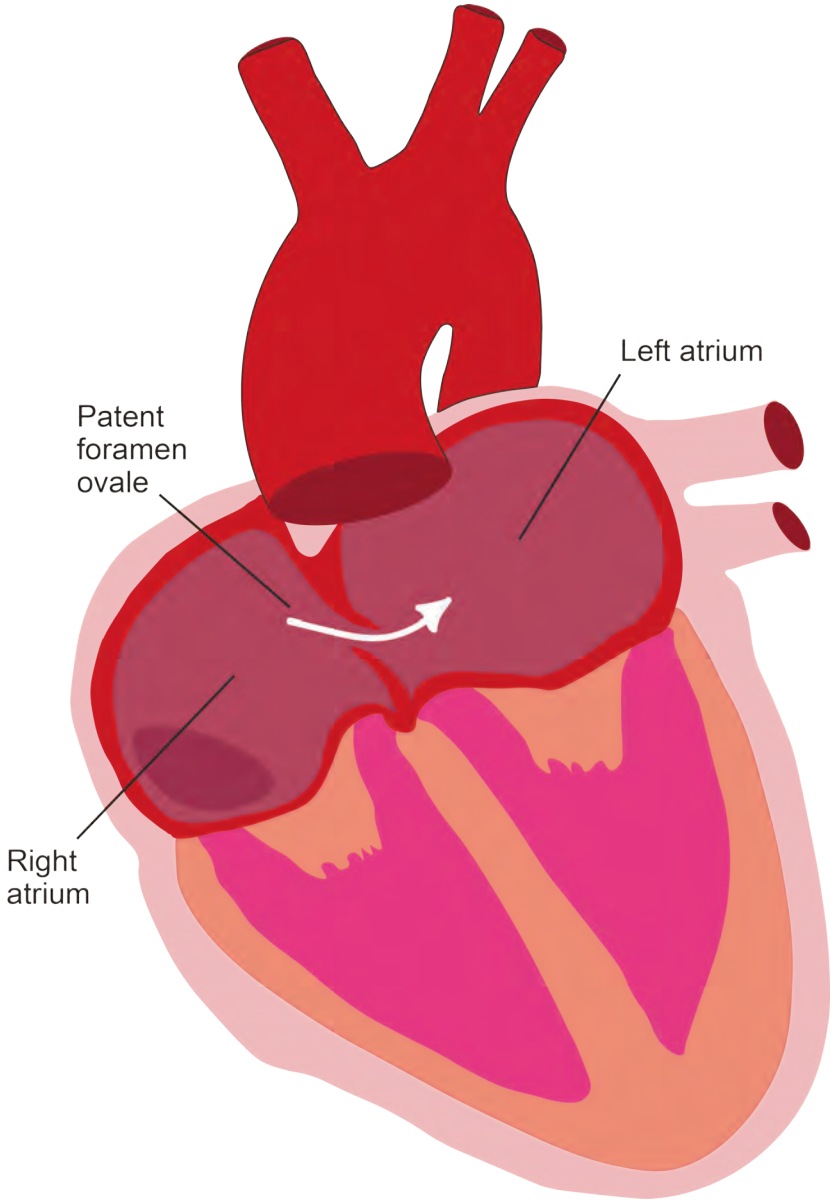
A patent foramen ovale (PFO) closure is a procedure which uses a small device to close the hole in the heart.

The device is placed in the heart using a catheter (thin flexible tube) which is inserted into a vein in the groin (top of the leg).

A PFO closure procedure takes around one hour and is usually carried out under general anaesthetic (you are asleep), but sometimes under local anaesthetic (you are awake, but you do not feel pain). Your doctor will discuss this with you.



Picture 1: A heart with a patent foramen ovale (PFO)



Benefits of PFO closure

There is evidence from research trials to show that PFO closure reduces the chance of certain patients having strokes in the future. You are one of those patients.

Risks of PFO closure

Every medical procedure carries some risks and risks are different for each person. Your doctor will discuss the risks with you before you decide to go ahead with an PFO closure.

Common risks

Bruising

1 to 5 in 100 people may have bruising at the groin caused by the insertion of the catheter. Sometimes the bruising is painful for a few days but disappears over time.

The bruising may cause blood to build up under the skin to form a lump (haematoma). The lump gradually disappears and does not normally need any treatment.

Bleeding

1 to 5 in 100 people may have problems with bleeding from the vein when the catheter is removed. Bleeding is controlled by applying firm pressure.

Arrhythmia (irregular heartbeat)

1 to 5 in 100 people develop an irregular heartbeat. This can be treated with medicine, or an electrical shock may be used to restore the heart's normal rhythm.

Other risks for less than 1 in 100 people are:

- stroke or TIA ('mini' stroke) These are usually treated with 'clot-busting' medicines
- injury to blood vessels or the heart muscle



Rare risks

Emergency open heart surgery

Fewer than 1 in 1,000 people may need to have open heart surgery for device-related complications such as:

- The device used to close the hole in the heart fracturing (breaks)
- The device moving out of position after it is placed in the heart. This is called device embolisation.

Damage to the food pipe

1 in 10,000 people may have damage to their food pipe (oesophagus) from the TOE probe such as damage to teeth, throat or gullet. See more about TOE on pages 12 and 13.

Alternative treatments

Your doctor will discuss alternative (other) treatments with you before the procedure.

Conventional treatment for a PFO following a stroke includes anti-platelet drugs such as aspirin or clopidogrel / ticagrelor, or blood-thinning medicines such as warfarin or one of the direct acting anticoagulant agents (DOACs) such as rivaroxaban.

What are the options or alternatives to this treatment?

- Continuing to take oral anticoagulants (blood-thinning medicines)
- No treatment of any kind

There may be some reasons why this procedure cannot be carried out:

- presence of blood clots in the vein used for the catheter

- presence of an active infection
- inability to take blood-thinning medicine

Your doctor will discuss these with you if they apply and any alternatives.

Before your PFO closure

Pre-admission appointment

About 1 to 2 weeks before you are due to be admitted for the procedure, you have a pre-admission appointment. We check your general health and fitness, make sure the necessary tests have been done and answer any questions you may have.

The appointment is carried out using a secure web-based video platform. You will find details in your pre-admission appointment letter.

Do not worry if you are unable to access the video platform.


If we do not see you on the video platform, we will automatically try to telephone you.

We try to keep to your appointment time as closely as possible. Please wait if your appointment is a little later than the arranged time.

A nurse consultant or clinical nurse specialist (CNS) carries out the appointment. We will ask you to discuss your health record, allergies and medicines.

Before the appointment, please make sure you have:

- an up-to-date prescription list as we will ask for the names and doses of any medicines you are taking
- details of your height and weight in metres and kgs

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- a pen and paper ready to write down any extra information we give you

During the appointment, we give you:

- advice about any medicines you need to stop taking before coming into hospital.
- information about the procedure and answer any questions you may have.

If you do not speak fluent English, please have someone with you who will be able to translate.

Blood tests need to be taken no more than 6 weeks before you are due to be admitted into hospital. If you have not had any recent blood tests taken, we will arrange for you to come to Harefield Hospital to have them done.

You will need to have a test for MRSA (meticillin resistant staphylococcus aureus). MRSA is a common infection. If you have MRSA, we need to treat it before your PFO closure. If we need to delay your PFO closure, for any reason, we will explain what happens next.

Do I have to attend a pre-admission appointment?

Yes. The appointment is part of your admission to hospital. Sometimes we may also find problems that need treatment before to your admission to hospital – from an abnormal blood test, for example.

Unfortunately, if you do not attend your pre-admission appointment, we will have to rebook the appointment which may delay your admission to hospital.

Preparing to come into hospital

Medicines

The nurse at your pre-admission appointment will give you advice on your current medicine.

Please bring all your medicines with you when you come into hospital for your procedure. This includes any medicines you take for other conditions, such as inhalers.

Continue to take your medicine as usual when you are admitted to the hospital for your procedure unless a nurse or your doctor asks you not to.

Female patients

The PFO closure procedure uses X-rays that may be harmful to an unborn baby. If you think you may be pregnant, please contact the patient pathway schedulers on **01895 828 963**.

If you have not had a period in the 10 days before your PFO closure, we will carry out a pregnancy test when you come into hospital.

Shaving

Please do not shave or remove hair from your chest, arms, legs or groin before coming into hospital. If needed, shaving is done in hospital just before your procedure.

Hygiene

It is very important that you have a thorough shower or bath the night before you come into hospital for the procedure. Please pay special attention to washing under skin folds such as under the breasts, the groin and genital area.

When you attend for your blood tests, we will give you an antiseptic body wash to use the night before and the morning of your admission. Alternatively, this is posted to you.



What to bring into hospital

Remember to bring:

- your completed hospital forms
- all your medicines
- a dressing gown
- slippers that fit well and have a good grip
- something to read

Date of your PFO closure

If you have any questions about the date of your PFO closure procedure, please contact the patient pathway schedulers on **01895 828 963**.

Bed confirmation

Your admission letter tells you to go to the Acute Cardiac Care Unit (ACCU) or the Cherry Tree day case unit for your PFO closure.

If you are going to:

- ACCU – call the ward before you leave home to make sure a bed is available
- Cherry Tree day case unit – you do not need to call the unit to make sure a bed is available.

Arriving at hospital

Please go to the main reception and ask for the admission office. An admissions officer will process your paperwork and direct you to the ward.

What to expect when you come into hospital

You will be asked to arrive at 7am on the day of the procedure.

Please do not eat anything after 12 midnight but drink a glass of water at 6am, and take your usual morning medicine, unless the doctor or nurse has asked you not to take it.

You can expect to go home the same afternoon but please bring an overnight bag in case you need a longer recovery period.

On the ward

When you get to the ward, a nurse shows you your bed, where you wait for your procedure. The nurse checks that nothing has changed since your pre-admission appointment.

You have a cannula (thin flexible tube) inserted into a vein in one of your arms or hands so we can give you medicines during the procedure.

You are asked to sign a form to say you agree (consent) to the procedure. You will have plenty of time to ask any further questions you may have about the procedure.

On ACCU – male and female patients usually share the same ward but have separate bays and bathrooms. There are exceptions.

The Cherry Tree day case unit is a mixed-sex ward. We do try to separate male and female patients on the unit, although sometimes that is not possible.

We try to keep waiting times to a minimum, but sometimes there are delays when other patients need to be seen in an emergency. We will keep you informed of any changes.

If you have any questions, please ask us.



The anaesthetist

On the ward, you will see an anaesthetist. Anaesthetists are doctors who specialise in pain relief and care of patients who have procedures.

The anaesthetist will ask about your general health and any medicine you are taking, any allergies you have and any previous anaesthetics you have had.

Please tell your anaesthetist, doctor or nurse if you are taking:

- anticoagulants (medicines to prevent blood clots)
- diabetes medicine
- antidepressants

The anaesthetist will plan your pain relief, and your care and recovery immediately after your procedure.

If you have any questions, ask the anaesthetist, or a nurse on the ward.

Preparing for your PFO closure

You will have your PFO closure procedure in the cardiac catheterisation laboratory (cath lab). Before you are taken to the cath lab, you will be asked to remove your own clothes and change into a hospital gown.

When you arrive at the cath lab, staff check your identification and which procedure you are having. The anaesthetist then gives you a general anaesthetic or local anaesthetic.

Having your PFO closure

The cardiologist makes a small cut and inserts a catheter into a vein in your groin (the top of the leg).

Pictures of the heart are then be taken using a transoesophageal echocardiogram (TOE) which involves putting

a thin ultrasound probe into your mouth, down your throat and swallowing tube (oesophagus).

The cardiologist may also look at the heart using another type of ultrasound called ICE (intra-cardiac echocardiogram), which is inserted through a catheter in the groin.

The small PFO closure device made up of 2 umbrella-shaped discs joined at their centres is closed (folded) so it can fit into the catheter. The device is then guided into position across the PFO in your heart – see Pictures 2 and 3 on pages 14 and 15. The TOE probe in your throat and X-rays are used to correctly position the device which is then opened so one disc covers each side of the PFO blocking the hole and keeping it closed.

Sometimes the device does not completely close the hole leaving a small leak. However, this section of the hole may close on its own following the procedure. We will discuss this with you at your follow-up appointment.

After your PFO closure

We ask you to rest in bed for 2 hours when you return to the ward after having the procedure.

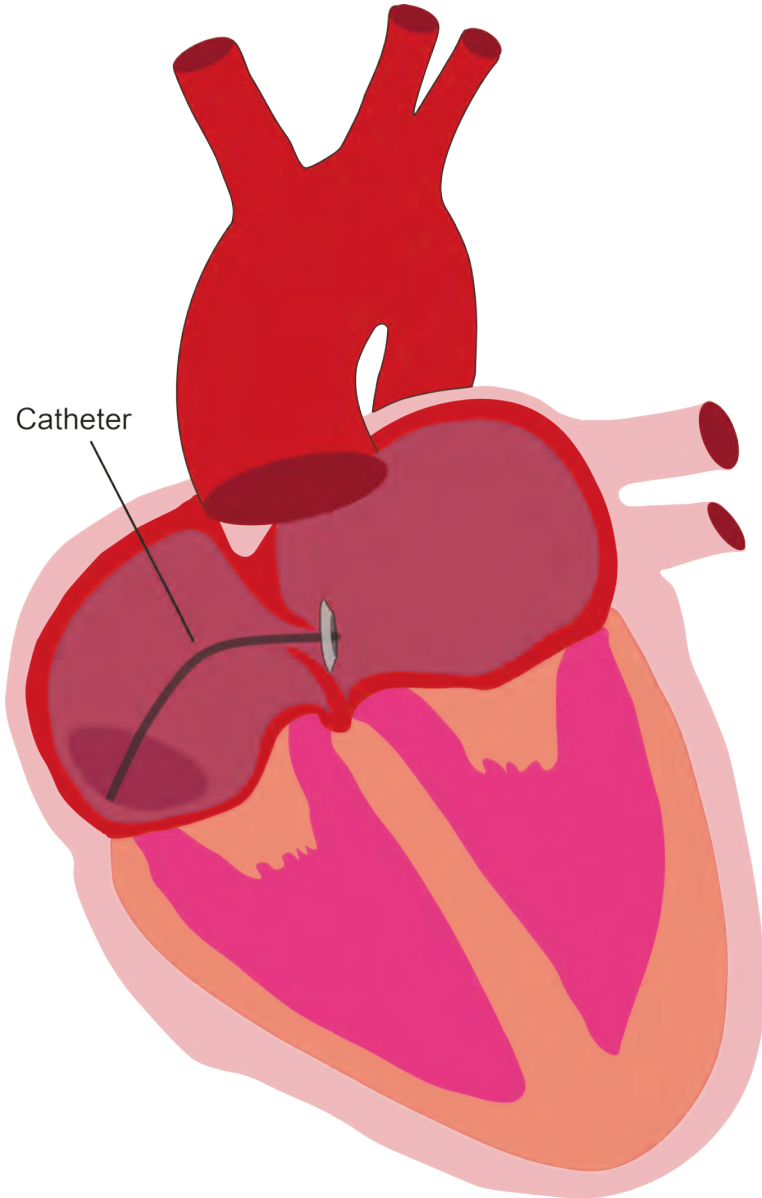
You will have a small dressing over the wound in your groin. A nurse checks your condition regularly during this time.

A heart monitor will continue to be used to measure your heart rate and rhythm for a few hours.

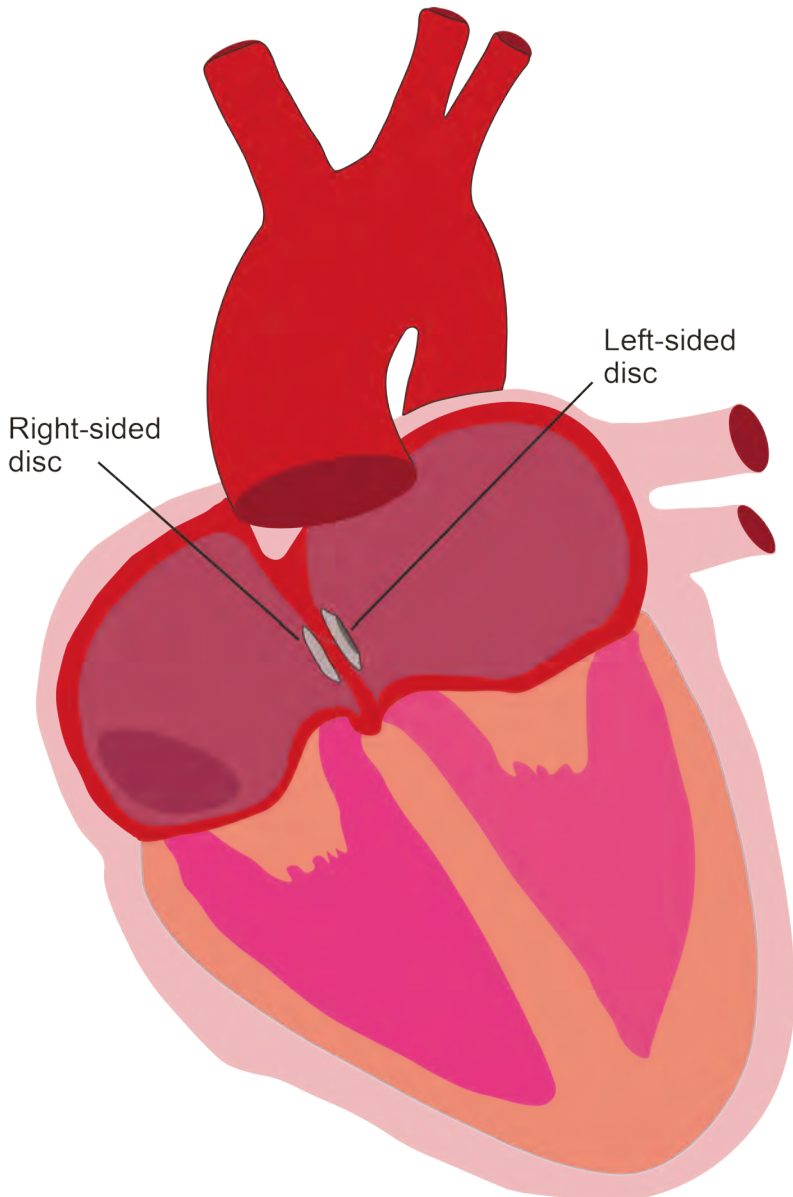
If you had a general anaesthetic, you need to wait until the anaesthetic has worn off before you can eat and drink. If you had a local anaesthetic, you may eat and drink when you feel ready.

Some patients have a sore throat from the TOE probe and some tenderness in the groin. Sometimes the bruising on the wound in the groin may be painful for a few days, but it will disappear with time.

Picture 2: The catheter containing the PFO closure device is guided into position in the heart



Picture 3: The device is then opened so one disc covers each side of the PFO





Visiting times

Please contact the ward that you are going to be admitted to for details of visiting times.

Going home

Most people go home the same day as the procedure. You will need to arrange for someone to take you home after your PFO closure because you will not be able to drive for the first 24 hours. When you go home you need to limit physical activities and heavy lifting for a few days.

You have a dressing on your wound when you go home. You can take the dressing off the next day.

You may have some bruising and a little tenderness around the wound. Remember to keep the area clean and dry. It is okay to have a shower, but do not have a bath for 24 hours after your procedure.

You will be prescribed blood-thinning medicine:

- aspirin 75mg to be taken once a day for 6 months
- and clopidogrel 75mg to be taken once a day for 3 months (or prasugrel or ticagrelor).

If you are on warfarin or DOAC (direct oral anticoagulant) you will need to continue to take this for a minimum of 6 months.

The length of time you need to take these medicines varies from person to person. Your doctor will discuss this with you.

Going back to work

Patients usually take 2 to 3 days off work after a PFO closure. We will discuss this with you before you leave the hospital.

Follow-up care

You will have a follow-up appointment in the outpatient's clinic 3 months after the procedure. You will have an echocardiogram carried out before you attend the appointment.

If you feel unwell after your PFO closure and think you need treatment urgently, contact your GP or go to the nearest accident and emergency (A&E) department.

Please remember that Royal Brompton and Harefield Hospitals do not have an accident and emergency (A&E) department.

Frequently asked questions

Can I go through metal detectors?

Yes. The device used for your PFO closure is not magnetic and will not set off metal detectors.

Can I have MRI scans (magnetic resonance imaging)?

Yes. The device used for your PFO closure will not be affected by an MRI (magnetic resonance imaging) scan. However, the picture taken by the MRI may look "fuzzy". If an MRI is needed, please tell the staff taking the MRI that you have a device.



Contact us

ACCU	01895 828 667 or 01895 828 648 (24 hours)
Cherry Tree day case unit	01895 828 658 (Monday to Friday, 7.15am to 8.00pm)
Pre-admission co-ordinators	01895 878 827 (Monday to Friday, 8am to 4pm)
Patient pathway schedulers	01895 828 963 (Monday to Friday, 8am to 4pm)

If you have concerns about any aspect of the service you have received in hospital and feel unable to talk to those people responsible for your care, call the Patient Advice and Liaison Service (PALS) on:

- Royal Brompton Hospital – 020 7349 7715
- Harefield Hospital – 01895 826 572

You can also email pals@rbht.nhs.uk. This is a confidential service.

Your notes

Royal Brompton Hospital
Sydney Street
London
SW3 6NP
Phone: 0330 12 88121

Harefield Hospital
Hill End Road
Harefield
Middlesex
UB9 6JH
Phone: 0330 12 88121

Website: www.rbht.nhs.uk

Royal Brompton and Harefield hospitals are part of Guy's and St Thomas' NHS Foundation Trust

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Brosurteki bilginin Türkçe tercemesi için tedavi görüyor olduğunuz bölüme bas vurunuz. Bölüm personeli tercemenin gerçekleşmesini en kısa zamanda ayarlayacaktır.

