Having a patent foramen ovale (PFO) closure

This leaflet aims to answer your questions about having the hole in your heart closed. It explains the benefits, risks and alternatives to having the procedure, as well as what you can expect when you come to hospital. If you have any further questions or concerns, please speak to a doctor or nurse caring for you.

What is a PFO?
You have been diagnosed with a patent foramen ovale (PFO). This is a hole that babies have in their heart when they are in the womb which usually closes naturally after birth. However, in as many as one in four people it does not close completely and remains ‘patent’ (open). The hole is in the wall that divides the upper two chambers in the heart which collect the blood returning from the body. In most people the hole does not cause any problems, but in some people it can lead to strokes.

What happens during a PFO closure?
A small device made up of two umbrellas joined at the centre is put into the hole to close it up. The procedure normally takes around an hour and is performed under a general anaesthetic which means that you will be asleep during the whole of the operation. A specially trained doctor, called an anaesthetist, will see you before your surgery to ask about your health and explain the different ways in which pain can be prevented and controlled after your surgery.

You should also be given the leaflet, Having an anaesthetic. If you do not have a copy, please ask us for one. This leaflet explains more about when you need to stop eating and drinking (fasting).

Before the surgeon starts to repair the hole, the doctors will assess it using a small ultrasound probe that is put down your throat. This probe is known as a ‘transoesophageal echocardiogram’. At times we may also look at the heart using another type of ultrasound called ‘ICE’, which is inserted into a vein in your groin using a catheter (fine tube).

Once the team is happy that they can close the hole, a catheter will be inserted into a vein in your groin. If you already have a catheter in your groin because you have had an ICE ultrasound, we will put the catheter in your other leg. The catheter is then passed to your heart. Inside the catheter there is a tiny balloon that the team will use to measure the exact size of the hole so that they can choose the best device to close it.

The device is folded so it can fit through a long tube called a sheath. It is then put through the catheter in your groin and passed to your heart. We use the probe in your throat and X-rays to make sure the device is in the correct position, so that the two umbrellas open on either side of the hole in the heart and close it.
Occasionally the hole may not be closed completely by the device, leaving a small leak. This may close on its own and we will discuss this with you at your follow-up appointment.

**Asking for your consent**
We want to involve you in decisions about your care and treatment. If you decide to go ahead with your procedure or treatment, you will be asked to sign a consent form. This states that you agree to have the treatment and understand what it involves.

If you need more information before signing the consent form, for example if you have questions about recovering after an operation or about side effects of treatment, please speak to a member of staff caring for you.

**Why should I have a PFO closure?**
This procedure will help reduce the risk of having a stroke.

**What are the risks?**
The device may not hold in place. When the device is opened and released, there is a small chance it may dislodge because the tissue/rim around the hole is floppy. This happens in less than 2 in 100 people. If this does happen we will try to retrieve the device, but it may be difficult to withdraw it fully back into the sheath. If we cannot retrieve the device, you may need to have an open heart operation to remove it from the heart, and the hole would be closed at the same time by the normal surgical method.

During any procedure of this kind, there is the risk of a stroke caused by a blood clot or air passing from the sheath, through the bloodstream and to the brain. This occurs in less than 1 in 100 people. We minimise this risk by giving heparin during the procedure to keep the blood thin. Other precautions are also taken to reduce the likelihood of air passing through the heart.

You may get some bruising after the procedure, which could extend down your thigh. Some bruising is normal but if you are concerned you should seek medical advice.

**What are the alternatives?**
In the past, the only way of closing these holes was by an open heart operation. During an open heart operation the function of the heart and lungs is taken over by a bypass machine and the surgeon closes the hole directly with stitches or patch material.

Surgery is a very successful and safe method, but it does leave a scar on the chest. In women, the surgeon may perform the operation through a cut across the lower chest, producing a better cosmetic result in the longer term.

In the last few years, the method described in this leaflet (operating through a catheter placed in your groin) has become available as an alternative to surgery.

You are free to choose between the surgical and the non-surgical methods to close the hole. Your decision will not affect the care you receive in our hospitals.
How can I prepare for my PFO closure?
You will be contacted by a member of the cardiac team to arrange your admission.

Information about what you need to do and what you should bring with you can be found in the information sheet which will be sent to you before your admission. Your admission letter should give you instructions about taking your medicines before you come into hospital. You will be given aspirin and clopidogrel medication to thin your blood which you will need to take as prescribed to you. If you do not get these instructions or have any further questions please email: cardiaccatheterdayunitnurses@gstt.nhs.uk

Will I feel any pain?
The procedure takes place under general anaesthetic, so you will not feel any pain during the procedure. After the procedure, you may experience some very mild discomfort in your groin (where the catheters were inserted) but this should quickly pass.

What happens after the procedure?
For the first few hours after your procedure you will be attached to a cardiac monitor. This is a machine that is mounted on the wall behind your bed. You will have stickers on your chest that will be wired up to the monitor. This allows us to see your heart rate and rhythm. We will also monitor the oxygen level in your blood using a small electrical sensor attached to your finger. After we have closed the hole you will need to have a heart scan known as an ‘echo’. If all is well you can then go home on the day of the procedure. On some occasions you may need to spend one night in hospital to recover.

You will need to arrange to have somebody to escort you home and stay with you for the next 24 hours.

What do I need to do after I go home?
You will be given a letter to give to your GP. This will detail what has happened to you in hospital and which tablets you are on. You will need to continue to take aspirin and clopidogrel to thin your blood and stop large clots forming on the device. How long you need to take these for will vary. Please make sure you know how long you should continue taking these medicines for before leaving hospital. You will be given a card explaining why you are taking this combination, and for how long you should take them.

In the first 24 hours after your procedure you should not

- drive or ride a bicycle/ car
- operate machinery or do anything requiring skill or judgement
- cook
- drink alcohol
- take sleeping tablets
- sign legal documents, make any important decisions, or sign contracts.

When you go home you should be back to full activity, including driving, after 3 days. If you have a physical job we will advise you on when you can go back to work and you should avoid heavy lifting for 1 week.
Will I have a follow-up appointment?
We will invite you back to the clinic 3 months after the procedure. If all is well, you will then need to come back for yearly check-ups (which will include placing an ultrasound probe in your throat). If you have any questions, please do not hesitate to ask us.

Contact us
If you have any questions or concerns about your PFO closure, please contact the following staff/wards, Monday to Friday, 9am-5pm:

Secretary to consultant cardiologist, t: 020 7188 1049
Becket Ward, 5th floor, East Wing, t: 020 7188 8839
Stephen Ward, 7th floor, East Wing, t: 020 7188 8843.

If you have any queries outside of these hours please contact your GP or NHS 111.

For more information leaflets on conditions, procedures, treatments and services offered at our hospitals, please visit www.guysandstthomas.nhs.uk/leaflets

Pharmacy Medicines Helpline
If you have any questions or concerns about your medicines, please speak to the staff caring for you or call our helpline. t: 020 7188 8748, Monday to Friday, 9am-5pm

Your comments and concerns
For advice, support or to raise a concern, contact our Patient Advice and Liaison Service (PALS). To make a complaint, contact the complaints department.

PALS: t: 020 7188 8801 e: pals@gstt.nhs.uk
Complaints: t: 020 7188 3514 e: complaints2@gstt.nhs.uk

Language and accessible support services
If you need an interpreter or information about your care in a different language or format, please get in touch. t: 020 7188 8815 e: languagesupport@gstt.nhs.uk

NHS 111
This service offers medical help and advice from fully trained advisers supported by experienced nurses and paramedics. Available over the phone 24 hours a day.
t: 111  w: www.111.nhs.uk

NHS website
This website gives information and guidance on all aspects of health and healthcare, to help you take control of your health and wellbeing. w: www.nhs.uk

Was this leaflet useful?
We want to make sure the information you receive is helpful to you. If you have any comments about this leaflet, we would be happy to hear from you, fill in our simple online form, w: www.guysandstthomas.nhs.uk/leaflets, or e: patientinformationteam@gstt.nhs.uk.

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