What we think about: Patent Foramen Ovale (PFO) closure

Stoke Association

What we think

Stroke survivors who’ve had a stroke caused by a PFO should have access to all appropriate treatment options, including a PFO closure, to reduce their risk of further strokes.

A PFO is a hole, covered by a flap, between the left and right chambers of the heart. This hole is normal and exists in everyone before birth, but should naturally close shortly after you’re born.\(^1\)

If the PFO does not close, it increases your risk of stroke. This is because it’s possible for a blood clot to move from the right side of the heart to the left through the open PFO. This clot can then travel to the brain, blocking the blood supply and causing a stroke.\(^2\)

While it’s hard to know exactly how many people with a PFO will go on to have a stroke, we do know that:

- A quarter of all strokes have an unknown cause.
- Research has shown that in just under half of these strokes the patient will have a PFO.
- We also know that the age group most at risk of a PFO-related stroke are those under 55.\(^5\)

It is estimated that 25% of the whole population have a PFO\(^3\) but not everyone with a PFO will have a stroke.\(^4\)
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The risk of stroke from a PFO can be managed through medication, or through a procedure known as a PFO closure. There has been some debate around the most effective way to treat a PFO and prevent strokes. Previous research wasn’t clear so didn’t support PFO closure. This led NHS England to stop funding PFO closure in April 2013. However, the procedure is available in Wales, Northern Ireland and Scotland (for patients under 60) to prevent recurrent stroke.

Newer, more robust research has shown that PFO closure is better at preventing another stroke than medication for people aged 60 and under. It’s therefore the best treatment option for many stroke survivors.

As with all operations, there are risks to the procedure. For some stroke survivors, such as older people or those with multiple health conditions, it may be safer and more effective to treat their PFO with medication rather than PFO closure. It’s also much harder to confirm PFO as the cause of a stroke in older people. We’ll continue to monitor research on this but it’s vital that stroke survivors are offered all options and are able to talk through the risks and benefits with their doctors to decide what is best for them.

People who have had a PFO-related stroke tell us it is not just the impact of the initial stroke that affects them. Those who haven’t had the PFO closed emphasise their fear of having another stroke and the restrictions this puts on their day to day life.

A stroke survivor we spoke to told us: ‘I am also very nervous about “pushing” myself physically due to the fear of having another stroke’.

In contrast, a stroke survivor we spoke to who had the closure said ‘I’m able to enjoy my life again... my quality of life has improved since it was done’.

Another said having the PFO closure has given them: ‘peace of mind... if it wasn’t for me having the closure I would be living my life in fear and possibly have had another stroke.’

Stroke survivors should get the best possible treatment based on the latest evidence to help rebuild their lives. That’s why we supported NHS England’s decision in July 2019 to provide this treatment to stroke survivors aged 18-60 whose stroke has been confirmed as having been caused by a PFO. Stroke is a devastating condition, changing people’s lives in an instant. All stroke survivors should be given the best possible chance of preventing another stroke and any further devastating impact.

Eligible stroke survivors should have the option of a PFO closure, not only to help prevent further strokes, but to give them peace of mind, reduce anxiety about another stroke, and improve their overall quality of life.
Q&A

How do doctors know if I have a PFO?

If you have a stroke, doctors will do tests to see if you have any risk factors, such as high blood pressure, atrial fibrillation, or diabetes that may have caused it. If they can’t find a cause for your stroke, they may carry out tests to see whether you have a PFO.

• One of these is an Echocardiogram to show the structure of your heart and see whether you have a PFO.

• This might also include a Colour Flow Doppler. This uses sound waves which bounce off blood cells moving through your heart and change pitch, and can detect the flow of blood between the PFO.

• Doctors may also undertake a saline contrast study (bubble study) if the previous tests don’t confirm a PFO.

It’s unlikely you will be tested for a PFO unless you have had a stroke or Trans Ischaemic Attack (TIA). If you are worried, you should speak to your GP.

How is a PFO closed?

A small device, made up of two umbrellas joined at the centre, is put into the hole to close it up.

First, a catheter will be inserted into a vein in your groin, which is then moved up to your heart. The umbrella device, which will close the PFO, is folded so that it can fit within the catheter, and then put through the catheter up to your heart.

Doctors will use a probe in your throat and x-rays they have taken before the procedure, to make sure the device is in the correct position. They will then open the two umbrellas either side of the hole in the heart, blocking the hole and keeping it closed.

What was the new research into PFO?

More recent research has been done which was based on more detailed criteria for choosing patients and using randomised control trials, which help to remove bias. This research has shown that a PFO closure procedure is better at preventing another stroke than taking medication. For example, the CLOSE trial found that PFO closure would result in one stroke avoided at five years after surgery for every 20 patients who had the operation.
Is PFO closure available across the whole of the UK?

Yes. In all countries you must have your stroke confirmed as being caused by a PFO. However there are different criteria for who is eligible for PFO closure in different countries.

- In Scotland, as has been proposed in England, PFO closure is only available for patients who are 60 and under.
- In Wales, there are no set restrictions on who is eligible for PFO closure. Instead, the multi-disciplinary team are responsible for ensuring the procedure is safe and successful.
- In Northern Ireland, there is also no upper age limit for PFO closure.

What medication can be taken to manage the risk of recurrent PFO stroke?

Antiplatelet and anticoagulants can be taken to help reduce the risk of a PFO stroke.

Anticoagulants work by interrupting the creation of blood clots. They’re sometimes called “blood-thinning” medicines, although they don’t actually make the blood thinner. Platelets are tiny blood cells that bind together and help blood to clot. Antiplatelet medication helps to prevent this happening.

You can take a look at this British Medical Journal support aid to understand all the options for managing the risk of stroke with a PFO, alongside discussions you’re your doctor.

When will this policy be reviewed?

August 2020
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1. NICE ‘Percutaneous closure of patent foramen ovale to prevent recurrent cerebral embolic events’ Available: https://www.nice.org.uk/guidance/ipg472

10. NHS Conditions Echocardiogram Available: https://www.nhs.uk/conditions/echocardiogram/
When stroke strikes, part of your brain shuts down. And so does a part of you. Life changes instantly and recovery is tough. But the brain can adapt. Our specialist support, research and campaigning are only possible with the courage and determination of the stroke community. With more donations and support from you, we can rebuild even more lives.

Donate or find out more at stroke.org.uk

Contact us

We’re here for you. Contact us for expert information and support by phone, email and online.

Stroke Helpline: 0303 3033 100
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