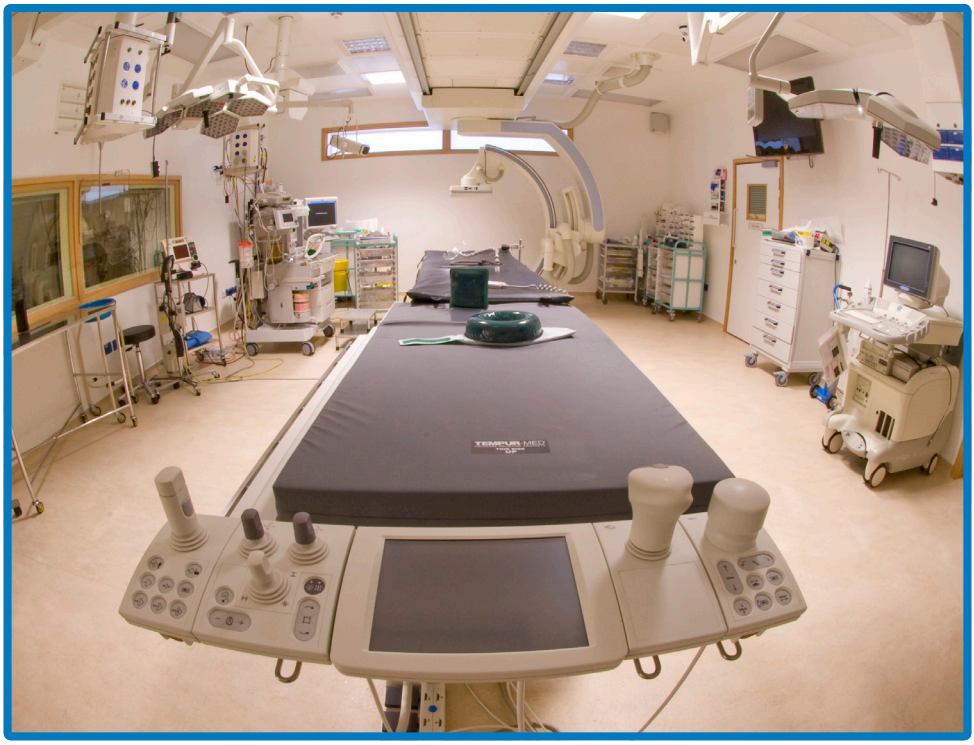
University Hospitals Bristol
NHS Foundation Trust

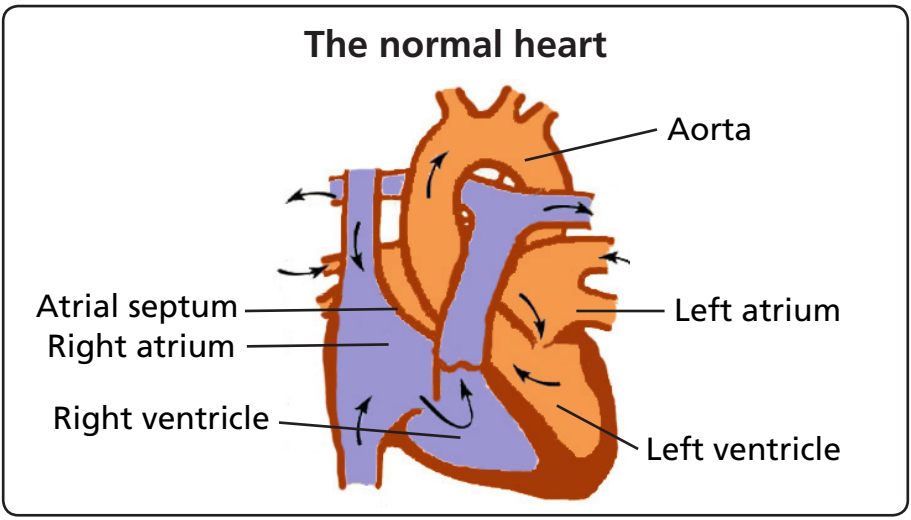
Patient information service
Bristol Heart Institute

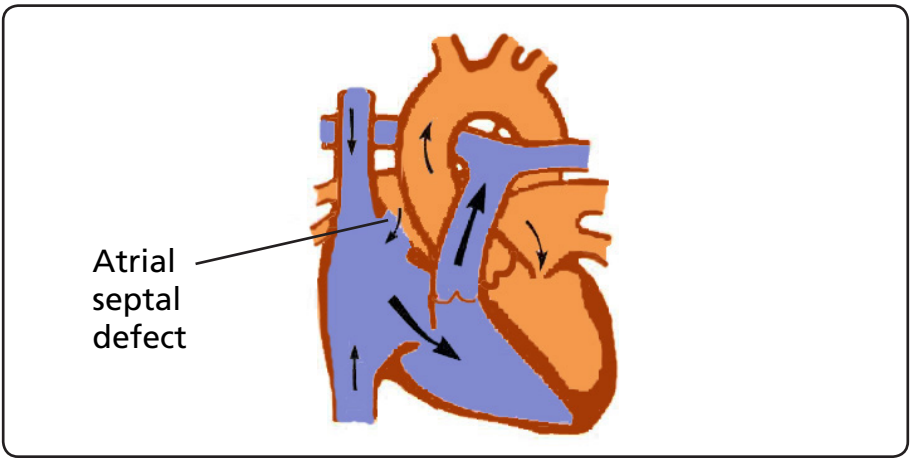
Closing your atrial septal defect without surgery



What is an atrial septal defect (ASD)?

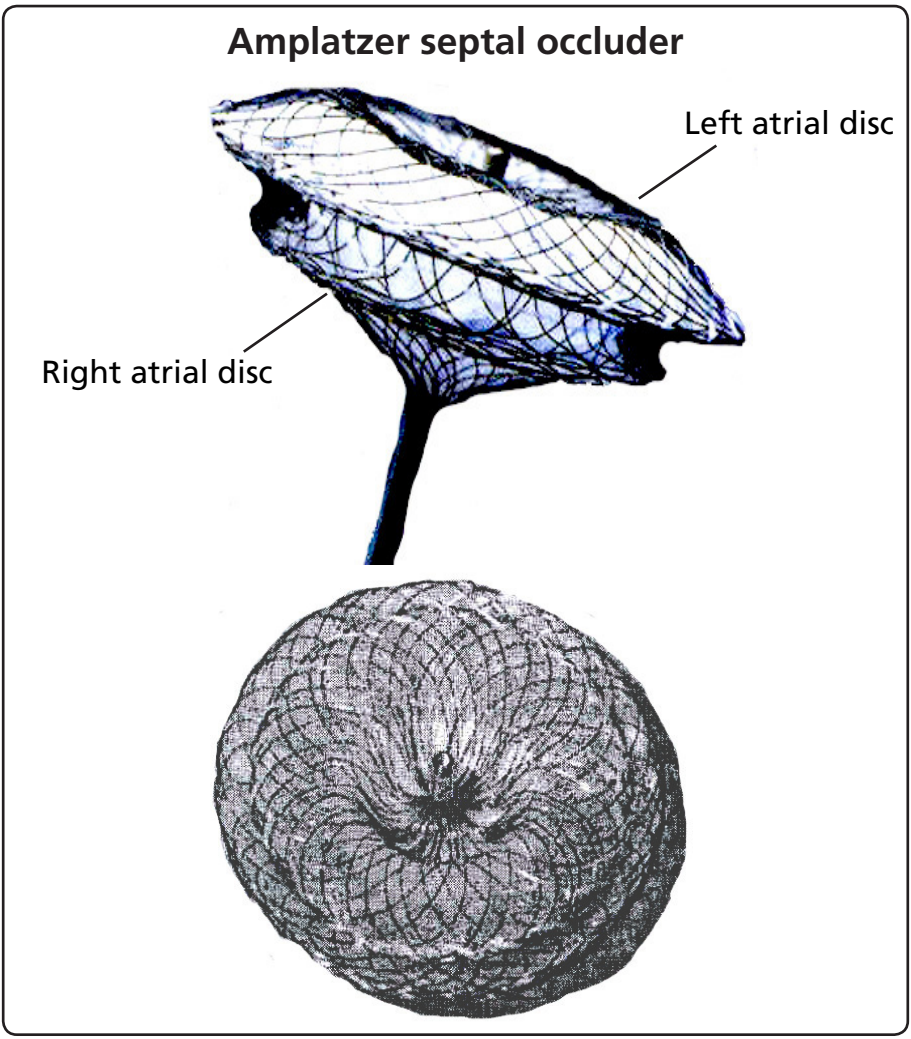
An atrial septal defect is a hole in the dividing wall between the two upper chambers (atria) of the heart. These defects are present from birth, usually vary in size from 5mm to 40mm in diameter, and may lead to damage to the heart and lungs if left uncorrected. Stroke is more common in older patients with an atrial septal defect.





What are ASD septal occluders?

ASD septal occluders are a double button design (Amplatzer septal occluder) made of a special metal called nitinol. These occluders can be inserted through a tube from the leg and implanted in the heart to close the defect.



Preparation for the procedure

A special echocardiogram, called a transoesophageal echo (TOE), is required to determine the size of the defect and if it is suitable for occluder closure.

When the results are available, you will meet with your cardiologist for a review of the procedure and have the opportunity to ask any questions you may have. The potential risks and alternatives will be discussed.

If you decide to proceed, you will be placed on a waiting list. You will receive an appointment for the pre-admission clinic two to three weeks before the procedure, where you will have an ECG, chest X ray and routine blood tests taken in preparation for the procedure, and you will be able to ask the nurse specialist any further questions you may have.

Your admission to hospital

You will need to stay in hospital for one night.

You will meet one of the cardiologists and will be asked to sign your consent.

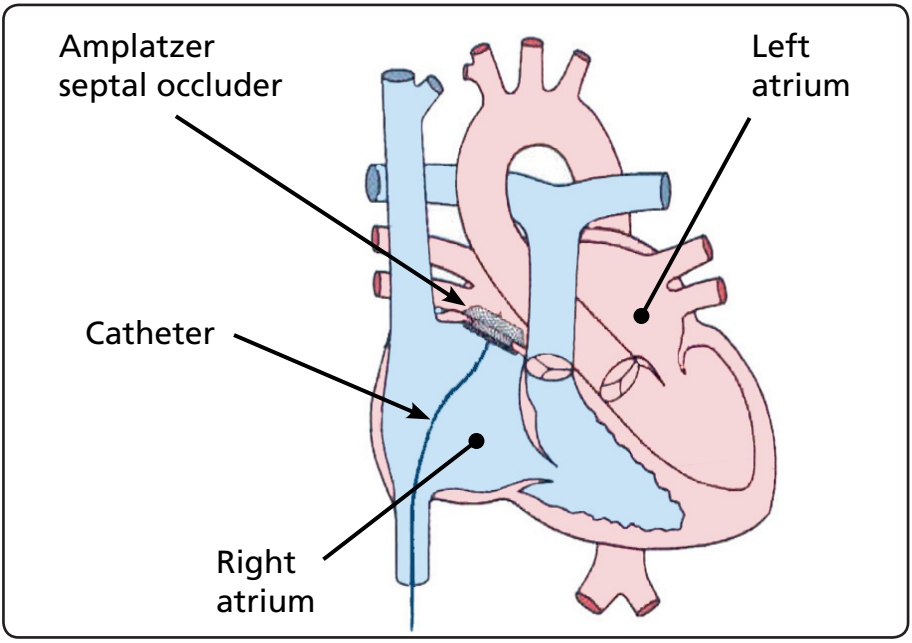
The anaesthetist will also visit you before the procedure.

How the procedure is performed

The procedure is carried out under a short general anaesthetic so that we may use transoesophageal echo to guide implantation of the occluder without any discomfort to you. A small catheter or tube is passed into the vein at the groin site and passed into the right atrium on the right side of the heart and through the defect to reach the left atrium.

The size of the defect is measured very accurately using a special inflatable balloon, which is positioned in the defect. The size of the occluder is then chosen to fit your defect exactly. The occluder is attached to a delivery system and folded so that it may fit within the tube positioned in the heart. The folded occluder is passed through the tube until it passes through the defect. The button is opened on the left atrial side of the defect, and the other button is opened on the right atrial side. This completely covers the hole like a patch, with the central stem joining the two buttons actually plugging the defect.

Once you are asleep, the procedure usually takes one to two hours. You are then woken up in the cardiology laboratory and returned to the ward. The cardiologist will come and discuss the procedure with you later on in the ward.



After the procedure

The doctor or nurse will apply firm pressure to your groin area for approximately 10 minutes to stop the bleeding as the sheath is removed.

It is very important to remember to keep your head flat on the pillow and to keep your affected leg straight and relaxed on your bed immediately after the procedure. This is to make sure that the wound heals.

The nurse looking after you will decide how long you must remain on bed rest. Usually, this involves lying flat for two hours and then sitting up for two hours. This will also depend on the way your wound has been closed.

If your groin starts to bleed, do not panic; call for help.

You can have something to eat and drink when you return to the ward area. If you want to go to the toilet, the nurse will bring you a urinal or a bedpan while you are on bed rest.

After the procedure the doctor will see you to discuss the results and possible treatment with you.

Discharge from hospital

You will be discharged from the hospital late in the morning after the procedure. You will have a pre-discharge ECG, surface echocardiogram and chest X ray.

Follow-up after discharge

Your cardiologist will see you at four to six weeks after your procedure, then at six months, 12 months and thereafter. Routine ECG, surface echocardiograms and chest X rays will be done as part of your follow-up.

If you do not receive an appointment, please contact our outpatient co-ordinator on **0117 342 6502**.

Discharge advice

Check the procedure site for any signs of a growing lump over the next two to three days. If a lump or pins and needles develop in the leg, you should return to hospital to get it checked. Your GP, the ward or nurse specialist will also be able to advise you.

Bruising around the puncture site may get bigger as gravity pulls it down the leg. Unless it is painful, do not worry about it.

If bleeding occurs from the wound site, lie down and press firmly on the puncture site with a clean dressing. If the bleeding continues, please return to the hospital.

Avoid heavy lifting and pulling for the next two to three days.

Strenuous exercise should be avoided for four to six weeks to allow the tissue to grow around the device and allow it to become secure in its position. Strenuous exercise includes heavy lifting, competitive sport, vigorous activity and running.

The DVLA has no specific recommendations following an atrial septal defect repair. It is recommended to avoid driving for 48 to 72 hours or until the leg wound is comfortable.

No driving for 48 hours. You cannot drive yourself home.

You may take paracetamol if you feel discomfort in your puncture site. You may take two 500mg tablets every four hours up to four times a day. **Do not exceed this amount.**

It is safe to fly with Amplatzer occlusion device, and it usually does not trigger security systems. Most medical equipment will not interfere with your device, but it is wise to inform hospital staff before you undergo a procedure. MRI scans are generally acceptable; there are no known hazards when using a 3-tesla MRI.

Discharge medications

Most patients will be discharged on blood thinning tablets (aspirin and clopidogrel) for the first three to six months.

Warfarin may be prescribed in specific circumstances, for example stroke or atrial fibrillation.

Patients on warfarin will need to have their blood clotting times measured regularly by their GP.

After six to 12 months, the inner lining of the heart will have coated the occluder and there is no longer a need for a blood thinner in the majority of patients.

Results of the procedure

The results will be reviewed in detail when you meet your cardiologist. We have had excellent results with the occluder we currently use. Most patients have a complete seal of the defect. A small number have had minor leaks around the occluder, but these are of little or no importance to the patient, and often seal after a few months. We have had no major complications in implanting these occluders.

If you experience chest pain, numbness, weakness, dizziness, fainting, shortness of breath or a rapid heartbeat, an urgent echocardiogram should be performed.

Palpitations

Some people have palpitations or skipped heartbeats for a few days or weeks after the procedure. These may be treated if they become troublesome.

Exacerbation of migraine headaches

The development of migraines with occasional visual disturbance can occur and be troublesome for two to three months. There is some evidence to say migraines improve over the long-term period.

Complications

Serious complications are rare. Occasionally the occluder can injure the wall of the heart.

Erosion is a rare serious condition caused by the device rubbing against the wall of the heart. The risk of this is 0.1 to 0.3 per cent. Symptoms include shortness of breath, chest pain, fainting and irregular heartbeat.

Occasionally, a small leak across the defect is noted right after implant. This usually seals off over the next few weeks to months.

Any unexpected illness or chest pain in the first few months should be reported to your GP or cardiologist.

Contact information

If you have any queries about your admission, please contact the cardiology waiting list co-ordinator on **0117 342 6557**.

Adult congenital heart nurse specialists

Sheena Vernon
Email: sheena.vernon@uhbristol.nhs.uk
Telephone: 0117 342 6599

Wendy Visser
Email: wendy.visser@uhbristol.nhs.uk
Telephone: 0117 342 6600

Caryl Evans
Email: caryl.evans@uhbristol.nhs.uk
Telephone: 0117 342 6657

Useful website

https://health.sjm.com/amplatzer-septal-occluder

Notes

Please note that if for any reason you would value a second opinion concerning your diagnosis or treatment, you are entirely within your rights to request this.

The first step would usually be to discuss this with the doctor or other lead clinician who is responsible for your care.

Smoking is the primary cause of preventable illness and premature death. For support in stopping smoking contact **NHS Smokefree** on **0300 123 1044**

As well as providing clinical care, our Trust has an important role in research. This allows us to discover new and improved ways of treating patients.

While under our care, you may be invited to take part in research. To find out more please visit: **www.uhbristol.nhs.uk/research-innovation**

For access to other patient leaflets and information please go to the following address:

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Hospital switchboard: 0117 923 0000

Minicom: 0117 934 9869

www.uhbristol.nhs.uk

For an interpreter or signer please contact the telephone number on your appointment letter.

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