



Device closure of Atrial Septal Defect (ASD)

Reviewed: March 2025
Next review: March 2026
Version 2

About this leaflet

This leaflet provides information about Device Closure of Atrial Septal Defect (ASD), what you can expect from your procedure, and advice around going home and follow-up care.

What is ASD?

An ASD is one of the most common congenital (present from birth) heart defects which can often remain undiagnosed until adulthood. An ASD is an abnormal opening (defect) in the wall (septum) between the upper chambers (atria) of the heart.

What effect does an ASD have on the heart?

An ASD permits blood to flow between the upper chambers of the heart. As the pressure in the left atria is usually higher than the right atria, blood typically flows from the left side to the right side which results in too much blood flow to the lungs. Over time, this may cause enlargement of the right side of the heart and eventual complications.

Complications from an ASD will tend to develop over time. Symptoms include shortness of breath, abnormal heart rhythms, stroke and pulmonary hypertension (high blood pressure in the lungs). The aim of closing an ASD is to prevent further enlargement of the heart and minimise the risk of developing these types of problems in the future.

What are your treatment options?

Whilst medications can be used to treat symptoms associated with an ASD, there are no medications that will close the hole. Therefore, the treatment options available to close an ASD include open heart surgery or device closure of ASD using a catheter-based keyhole procedure.

How is the procedure performed?

Device closure of ASD is performed under general anaesthetic with TOE (Transoesophageal Echocardiogram) guidance.

A small incision is made at the top of the leg (groin) and a tube is inserted into the vein. This allows a special wire and catheter to be guided up into the heart and through the ASD. The team will then guide the closure device up in to the heart and perform some safety checks to ensure the device is in a stable position.

The ASD closure device is released and remains in the heart permanently to prevent blood flow across the hole.

The procedure takes around 1-2 hours to complete and you will be required to stay in hospital overnight. You will have a chest x-ray and ultrasound scan of your heart to check the position of the device, prior to going home.

An animation video of the procedure can be found at: www.youtube.com/watch?v=God053ZoyWw

What are the benefits and risks of the procedure?

Whilst you may not feel any different following device closure of ASD, the intended benefits of the procedure are to prevent further enlargement of the right side of the heart and prevent complications developing in the future.

Serious or frequently occurring risks include:

- Arrhythmias (abnormal heart rhythms) 5-15%
- Major vascular complications (major bleeding or serious damage to blood vessels) 5%
- Infection (including endocarditis) 2-3%
- Wound infections 1%
- Heart attack 1%
- Bleeding into the sac around the heart <1%
- Device embolization (device moving position after release) <1%
- Oesophageal trauma (damage to the gullet from the TOE camera) <1%
- Stroke <1%
- Death <1%

Before your procedure

The Nurse Specialist will contact you and explain about the timing of the procedure. You will need to attend for a dental check, prior to your procedure to minimise any risk of infection.

You will also be seen by the Consultant Cardiologist and Nurse Specialist at our pre assessment clinic before your procedure takes place. The Scottish Adult Congenital Cardiac Service (SACCS) team will explain your procedure in more detail and you, along with any family, loved ones or carers, will have time to ask any questions you may have.

Some simple blood tests, heart tracings and swabs will be taken as final checks before you come into hospital. They will also discuss any fasting requirements with you, as well as inform you of any medication that you must stop, prior to your procedure.

Your admission to Golden Jubilee University National Hospital (GJUNH)

To allow us to care for you during your stay, before coming to Hospital, there are some guidelines you must follow.

- You must tell us if you are allergic to anything, including x-ray dye.
- You will need to bring with you a dressing gown and slippers, as well as something to read, a book or something to help you pass the time.



- Please remove any make-up and nail polish so that we are able to assess you accurately throughout the process.
- You should leave all jewellery and valuables (other than your wedding ring and a watch) at home. You will be allowed to wear your wedding ring during the procedure.
- If you wear a hearing aid, please leave it in for the procedure to allow you to hear any instructions your doctor may give you.
- Please bring all your current medication (in their original packaging) with you when you come in for your procedure. Continue to take your medication as normal. **If you are taking blood thinners (warfarin or Rivaroxaban, Apixaban, Dabigatran or Edoxaban), your Nurse Specialist will contact you to discuss whether or not you are required to stop these medications.**
- If you have diabetes, you may need to modify your insulin dosage on the day of your procedure. This will be discussed with you at the pre-assessment clinic. If you are on metformin, please do not take this on the morning of the procedure.

Going home

Normally patients will go home the day after their procedure. This can sometimes be longer, depending on your individual needs. We will discuss all of your discharge arrangements before you leave the Hospital, but this information booklet provides advice on what you can and cannot do immediately after your procedure.

We will ask you to attend a follow-up clinic appointment at 4 to 6 weeks after your procedure when we will discuss your long-term follow-up.

About my wound

- Do not shower or bathe for the first 24 hours post procedure as this may increase the risk of infection and/or bleeding from the site.
- Avoid using soap or perfumed products when showering or bathing.
- Always use a clean towel to pat dry the wound site.
- If you have a dressing over your wound site, remove it in the shower or bath, 2 days after your procedure.
- You may experience some bruising and/or discomfort over the wound site. Simple painkillers like paracetamol can be taken or placing an ice pack on the wound can also help. Any discomfort to the wound site should reduce after the first few days.
- If your wound site does bleed, apply firm pressure to the site for 15 minutes. If it continues to bleed after applying 15 minutes of pressure, continue to press and ask someone to phone the ambulance service. Inform them that you have had a procedure through your groin area and it won't stop bleeding.

Please contact your SACCS Nurse Specialist or GP if:

- You develop any unusual pain, swelling, heat, redness or pus at the access site.
- You experience a fever or sharp rise in your temperature.
- You are unable to weight bear.

If you have any concerns at the weekend or out of hours, you can contact the Cardiology ward on 0141 951 5250 or the Coronary Care Unit on 0141 951 5202.



Medication

The nursing and medical staff will give you advice on tablets that we ask you to take prior to being discharged from the ward. A letter will be sent to your GP to advise them of any changes to your medication.

Eating and drinking

Following your discharge from hospital, you may resume your normal diet.

Exercise

Avoid excessive movement or heavy lifting (including of young children and pets) for 1 week post procedure as this may cause the wound to bleed. You can start gentle exercise, such as walking, the day after your procedure and gradually build this up over the next 2 weeks.

If your wound site has healed well and is not uncomfortable, you can restart more physical activity, like jogging and cycling after 2 weeks. Please avoid weight training or strenuous cardiovascular exercise for 4 weeks after your procedure.

Work

For office-based jobs, we would advise that you do not return to work for 1 week after your procedure. For more physical/manual jobs, we advise that you do not return to work for 2 weeks after your procedure.

Driving

The Driver and Vehicle Licensing Agency (DVLA) advises that you should not drive for 1 week after your procedure. You do not need to inform the DVLA about your procedure, but we do advise you tell your insurance company to avoid problems with any claims you may make in the future. If you hold a commercial license, you will need to inform the DVLA who will advise you further.

Flying

If you are planning a holiday, it may be better if you wait at least 6 weeks before travelling, when you will have had your follow up review. Please ensure you have valid travel insurance in place.

Dentist

If you require any invasive dental procedures within 6 months of your intervention, we advise that you receive antibiotic cover. We will give you a specific card to explain this and would be happy to discuss it further with your dentist.

Contact

You can contact our SACCS Nurse Specialist team for any non-urgent enquiries on 07795953070.

