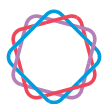




YOUR GUIDE TO

Left Atrial Appendage Closure



IntraCare

Interventional
Cardiology



IntraCare's angiography suite

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About this procedure

This guide provides information about a left atrial appendage (LAA) closure or implantation of a mechanical occluder device (plug) into the left atrial appendage. It includes details about what is involved, how to prepare and what to expect during and after the procedure. Please use this in addition to information from your doctor and nurse.

An LAA closure is performed in the cardiac angiography suite at IntraCare in Epsom. Your cardiologist will be assisted by our team of nurses and other highly skilled personnel.

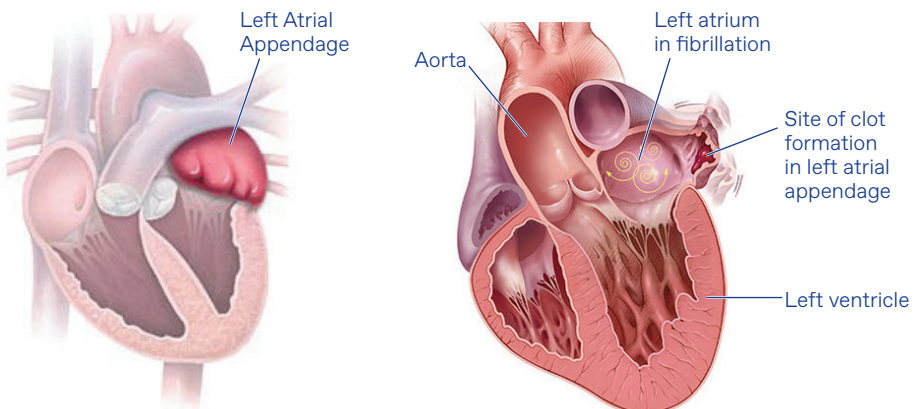
Both IntraCare and Allevia Hospital will be involved with your care for this procedure. Allevia Hospital is responsible for your admission, preparation and aftercare in the Cardiac Investigation Unit (CIU).

What is a left atrial appendage and atrial fibrillation?

The left atrial appendage (LAA) is a small windsock-like pouch connected to the left atrium of the heart. It is a normal part of the heart which contracts when people have a normal heart rhythm.

However, for people that develop atrial fibrillation (AF), a rapid irregular heart rhythm, the normal contraction is lost. This can cause blood to collect in the LAA and result in formation of a clot. There is then a risk that a fragment of clot may break off and enter the blood stream. If it lodges in the brain, it may cause a stroke.

Most people who develop AF are required to take anticoagulants such as Dabigatran (Pradaxa), Rivaroxaban, Warfarin, or Clexane. There is an increased risk of bleeding in those who are taking anticoagulants. An alternative way to reduce the risk of stroke is to undergo a Left Atrial Appendage Closure procedure.



What is a left atrial appendage (LAA) closure?

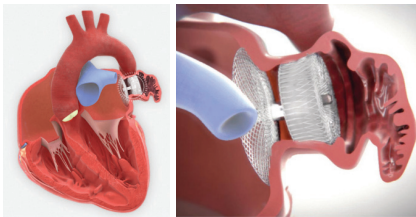
A left atrial appendage closure is a minimally invasive procedure performed by an interventional cardiologist in a cardiac angiography suite.

An occluder device is implanted to seal off the left atrial appendage to decrease the risk of blood clots forming in the LAA. This treatment approach reduces the risk of stroke and is particularly useful for those that have difficulty managing anticoagulant therapy.

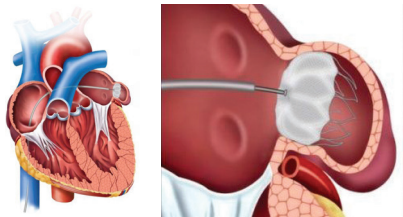
The LAA closure approach uses X-ray and a transoesophageal echocardiogram (TOE) probe.

There are different occluder devices available such as the Amplatzer Amulet and Watchman device. You will undergo several diagnostic tests to determine the condition of your heart, gain an accurate assessment of the size of the left atrial appendage, map out and plan which device will best suit you. Your cardiologist will discuss this with you in detail before the procedure.

Amplatzer Amulet Occluder (Abbott)



Watchman Device (Boston Scientific)



Before your procedure

Pre procedure phone call

A nurse from IntraCare will call you 24–48 hours prior to your procedure to discuss the following information:

- Your admission time.
- When you should stop eating and drinking.
- Medication instructions.
- Allergies (including medications, contrast dye, dressings/plasters and food).
- Answer any further questions.

Anticoagulation (blood thinner)

If you are taking a blood thinner e.g. Dabigatran (Pradaxa), Rivaroxaban, Warfarin or Clexane, you may need to skip a dose on the morning of your procedure.

Warfarin

If you are currently taking Warfarin, please inform IntraCare via email or phone as soon as possible. Our nurses will review your INR levels and advise any medication changes if necessary.

Other regular medications

Please continue to take these unless advised otherwise by your cardiologist. If you are taking a diuretic or water pills (e.g. frusemide, spironolactone), you may need to withhold this on the morning of the procedure.

Reminders for the day of your procedure

- If you are on regular medication, please bring this with you in its original packaging.
- Please leave all your jewellery and valuables at home. You are welcome to bring your mobile phone in with you.
- We recommend wearing loose-fitting clothing and shoes that are easy to slip on/off.
- You are encouraged to bring a friend or a family member as a support person before and after your procedure.
- Please bring an overnight bag with you as you are required to stay in hospital overnight after your procedure.
- The planned procedure time is an estimate only and may vary. We will keep you informed of any unexpected delays on the day.

Informed consent

As with any procedure, there are potential risks involved. Your cardiologist and anaesthetist will explain the procedure, discuss possible risks and answer any questions you may have. Your whānau or support person are welcome to be part of this discussion. You will then be asked to sign the consent form. This will occur either at an earlier appointment, or on the day of your procedure.

Your procedure

An LAA closure is performed under general anaesthetic and usually takes 1–1.5 hours to complete.

Preparation

Once you are in the lab, the staff will perform a safety check-in to confirm your name, date of birth and the procedure you are having. A small intravenous (IV) line will be inserted into a vein in your arm for medication to be injected. We may need to remove hair with clippers at the access site for sterile preparation. Please avoid shaving the area yourself as this may cause minor abrasions to the skin, increasing the risk of infection.

Several adhesive patches will be placed on your shoulders, leg, and the side of your chest for monitoring. Other devices for monitoring blood pressure, heart rate and oxygen levels will be fitted to ensure your safety during the procedure. Following this, a general anaesthetic will be given. We will carefully position and tuck your arms at your sides to ensure sterility and safety is maintained.

The procedure

Once you are asleep, an anti-septic solution will be applied to the groin area to clean the skin. You will be covered with a large sterile drape and the area at the top of the leg will be completely numbed with local anaesthetic. A small tube called a sheath will then be placed in the femoral vein (groin area). The femoral veins in the groin area provide the easiest venous access into the heart. A transoesophageal echocardiogram (TOE) probe will then be positioned in your throat by another specialist cardiologist. This will provide high quality images of your heart, LAA, and to guide the interventional cardiologist with the device positioning.

Using X-ray and TOE guidance, a thin needle will be used to puncture and make a tiny hole in the heart wall between the right and left atria. This hole closes naturally after the procedure. Then, a thin long flexible tube called a catheter is then passed up to the heart through the hole in the heart wall to access the left atrial appendage. X-ray and TOE are used to make sure that the occluder device positioning is accurate. Several images will also be taken by injecting contrast dye for confirmation. Once safety and positioning checks are confirmed between the specialists, the occluder device will then be deployed. Once the procedure is complete, the catheter and sheath are removed, and pressure is applied over the vein to help close it and manage any bleeding.

After your procedure

You will be transferred to CIU to recover. The nurses will monitor your recovery. You will be required to stay in the hospital overnight. You will have an echocardiogram performed to check the position of the new occluder device, before being discharged, if appropriate. Prior to your discharge, the nursing staff will give you advice about your medication, procedure site care and resuming your normal daily activities.

Recovery and discharge

- Following your procedure, it is important that you **do not drive for 48 hours**. Specialist assessment is required before you return to driving.
- Please ensure you have a family member or friend to drive you home from the hospital, as you may still be under the effects of anaesthesia or sedation.
- You will need to arrange someone to be at home with you on the day of your discharge and overnight to support you in your recovery.
- Due to the sedation, you may feel lethargic afterwards with reduced concentration. For this reason, for 24 hours after your procedure:
 - Do not do any activity requiring strength, concentration, or full alertness.
 - Do not make any legal decisions or sign legal documents.

Resuming travel and activities

- You will be able to return to work within a week of having the procedure unless your job involves heavy lifting (>5kg).
- You can begin light exercise after 1 week.
- If you have had an LAA procedure, do not fly domestically for 48 hours, short international flights (e.g. Australia) for 2 weeks or long-haul international flights for 6 weeks.

Medication

Your cardiologist will discuss any medication changes with you, if necessary. If you have any questions regarding your medications after your procedure, please contact your cardiologist.

Follow up appointment

You will be seen in clinic at The Heart Group approximately 1–3 months following your LAA closure. If you have minor concerns prior to your follow up appointment, please arrange to see your general practitioner (GP) or contact IntraCare.

Femoral (groin) site care

It is normal to experience some bruising at the puncture site. During the first few days after your procedure:

- Do not do any heavy lifting (>5kg) or strenuous exercise.
- Try not to excessively cough, sneeze, or strain as this puts pressure on the puncture site which may cause it to bleed.
- Do not sit in a bath, hot tub or spa until the skin has healed.
- Do not cross your legs while sitting.
- You may resume walking if your puncture site is not painful.
- Remove the dressing on your groin once the skin has healed (approximately 3 days).

Haematoma

It is common for a haematoma to develop after this procedure. A haematoma is a collection of blood under the skin that is sometimes painful. A small hard lump (similar in size to a pea) may also be felt under the skin and remain for several weeks:

- If a large lump (haematoma) occurs, lie down, and get another person to press down firmly on the centre of the haematoma for approximately 10 minutes.
- If after releasing pressure, the haematoma reoccurs, keep applying the pressure and go to your local accident and emergency department.

Bleeding

- It is common for there to be a small amount of ooze from the puncture sites. If this occurs, re-apply a sticking plaster and lightly press for a few minutes.
- If there is significant bleeding, you should lie flat, and another person will need to apply firm pressure for 10 minutes. If this does not stop the bleeding, call an ambulance.

Seek immediate medical attention (dial 111 for an ambulance) if there is excessive bleeding from the puncture site or if you are experiencing severe chest pain.

Please take this booklet and your discharge summary with you if visiting the GP, afterhours or hospital.

**If you have any concerns after your procedure, please contact IntraCare:
Monday to Friday: 09 630 1961 (between 6:30am and 6:00pm).
For after-hours, weekends, and public holidays, contact 027 482 0763.**

How to find us

IntraCare Epsom

Both IntraCare and Allevia Hospital will be involved with your care for this procedure.

When you arrive, please report to the Allevia Hospital reception desk (number 1 on the map).

First Floor, Allevia Hospital Reception
98 Mountain Rd, Epsom, Auckland 1023

P: +64 9 630 1961 (Monday to Friday 6:30am–6:00pm)

P: +64 27 482 0763 (after hours, weekends and public holidays)

E: admin@intracare.co.nz

W: intracare.co.nz

Where to park

A 10 minute patient 'drop off zone' is available on the level 1 carpark. Head up the ramp as you enter into the carpark from the Main Entrance on Mountain Road.

The first 30 minutes are free and apply only once the vehicle licence plate number has been entered into a payment terminal. Patient parking is available on all levels of the car park. Parking limits apply, and parking spaces are marked (P90, P180, and All Day Parking).

The Allevia Hospital parking is managed by a separate company, and a fine may be issued if your vehicle breaches any of the parking terms and conditions.

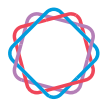
There is free 120 minute parking available nearby on Mountain Road, Gilgit Road and Almorah Road after 9am.



Main entrance to patient and visitor car park
- 250 spaces

Walkway to main reception
Pedestrian access to main reception from car park

- | | |
|--|--|
| <ul style="list-style-type: none"> 1 Allevia Hospital reception and Allevia Radiology 1 reception 2 Canopy Cancer Care 3 ARO (Auckland Radiation Oncology) 4 Allevia Café and outdoor dining courtyard 5 Allevia Pharmacy 6 IntraCare 7 Awanui Labs (blood tests) | <ul style="list-style-type: none"> 8 Allevia Radiology 2 (CT, ultrasound) 9 The Heart Group 10 Allevia Radiology PET-CT Canopy Cancer Care 11 Allevia Specialist Centre 12 Allevia Radiology 1 (MRI/X-ray) A B C D E Allevia Specialist Centre entrances |
|--|--|



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