

Catheter Ablation for Atrial Flutter

Atrial flutter is an electrical disturbance of the heart (or arrhythmia) which can result in fast heart rates, palpitations and occasionally reduce the heart function resulting in heart failure. A well-established treatment atrial flutter is catheter ablation.

Atrial flutter is caused by an abnormal electrical circuit that usually exists around the valve on the right side of the heart (the tricuspid valve). The procedure is aimed at disrupting this electrical circuit by the delivery of some heat energy (in the form of radiofrequency energy) to part of the circuit, so impulses can no longer travel around this circuit. This effectively eliminates the atrial flutter. Typically, this ablation is performed along the floor of the right atrium (in an area known as the cavo-tricuspid isthmus), although occasionally, in patients having had previous surgery, ablation may be needed elsewhere.

Why is it done?

Atrial flutter ablation is usually performed to eliminate the symptoms (or palpitations) and deleterious effect on the heart of the atrial flutter. The added benefit is that medications aimed at slowing the heart rate down, known as rate controlling medications (such as beta blockers, digoxin, amiodarone etc.), may be reduced or in some cases ceased following ablation. Importantly, blood thinners (if present) may not be ceased following ablation, as co-existing atrial fibrillation (or AF) is common. Your doctor will advise which medications are still required following the procedure. Frequently, atrial flutter ablation is often included in an ablation procedure for atrial fibrillation.

Risks

It is not uncommon to experience some minor bruising from the access site in the leg. This is anticipated especially as blood thinners are usually continued. Serious risks associated with atrial flutter ablation are very rare. However, they are not zero and some can be serious. These can include:

1. Injury to the groin blood vessel (1:200-400)
2. Complication requiring emergency surgery (1:500-1000)
3. Stroke (1:500-1000)
4. Damage to structures around the heart (1:1000)

How you prepare

Almost all Atrial Flutter ablations are elective or scheduled in advance, giving you time to prepare.

Atrial Flutter ablations are performed in the cardiac catheterization (cath) lab of a hospital. Your health care team will give you specific instructions and talk to you about any medications you take. General guidelines include:

- Don't eat or drink anything after midnight before your procedure.
- Take all your medications to the hospital with you in their original bottles. Ask your doctor about whether or not to take your usual morning medications.

- It is important to continue your blood thinner or anticoagulation, uninterrupted for at least 4 weeks prior to the procedure.
- If you have diabetes, ask your doctor if you should take insulin or other oral medications before your procedure.
- Blood-thinning medication usually need to be continued. Your doctor will advise if these need to be withheld prior.

What you can expect?**Before the Procedure**

Before your procedure starts, your health care team will review your medical history, including allergies and medications you take. You'll also empty your bladder and change into a hospital gown. You may have to remove contact lenses, eyeglasses, jewellery and hairpins.

During the Procedure

For the procedure, you lie flat on your back on an X-ray table. X-ray cameras may move over and around your head and chest during the procedure. Atrial Flutter ablation procedures are generally performed under local anaesthetic with some sedation and analgesia through the drip.

Electrodes on your chest monitor your heart throughout the procedure. An EPS usually involves a number of additional stickers and patches placed on over the chest. A blood pressure cuff tracks your blood pressure and another device, a pulse oximeter, measures the amount of oxygen in your blood.

A small amount of hair may be shaved from your groin where a flexible tube (catheter) will be inserted, and on your chest where electrode sticker must attach. The area is washed and disinfected and then numbed with an injection of local anaesthetic.

A small incision is made at the entry site, and 2 or 3 short plastic tubes (sheaths) are inserted into your groin vein under ultrasound guidance. Catheters is inserted through the sheath into your blood vessel and carefully threaded to your heart. These are used to perform the ablation. This process usually takes between 45-60 minutes.

Rarely, an ultrasound probe inserted via the food pipe under sedation (a transoesophageal echocardiogram or TOE) may be needed to ensure that there are no blood clots in the heart prior to the procedure.

After the Procedure

When the procedure is over, the catheters and plastic tubes are removed from your arm or groin and the incision is closed with manual pressure or occasionally a temporary stitch or an air-cushion clamp.

You'll be taken to a recovery area for observation and monitoring. When your condition is stable, you return to your own room, where you're monitored regularly.

You'll need to lie flat for a few hours to avoid bleeding. During this time, pressure may be applied to the incision to prevent bleeding and promote healing. You will usually have to remain in the hospital overnight. If you're feeling up to it, have something to eat.

Some medications may be ceased following the procedure (rate controlling medications). Avoid strenuous activities and heavy lifting for several days. This is mostly to avoid bleeding from the vascular access site. It is important to continue your blood thinner (anticoagulation) medication and this should not be stopped unless directed to do so by your specialist doctor.

Your puncture site is likely to remain tender for a while. It may be slightly bruised and have a small bump. Call your doctor's office if:

- You notice bleeding, new bruising or swelling at the catheter site
- You develop increasing pain or discomfort at the catheter site
- Weakness or numbness in the leg or arm where the catheter was inserted
- If you develop dizziness, light headedness or collapse
- If you have recurrence of sustained palpitations
- Any other symptom of concern to you

If the catheter site is actively bleeding and doesn't stop after you've applied pressure to the site, contact 000 or emergency medical services. If the catheter site suddenly begins to swell, contact 000 or emergency medical services.

Outcomes

Atrial flutter ablation effectively eliminates fast heart rates caused by the atrial flutter in over 95% of cases.

In patients who have had previous cardiac surgery, the flutter may be in an unusual location and this may reduce the success rates slightly.

Atrial fibrillation often co-exists with atrial flutter and this needs to be monitored for and may require other treatment (such as medications or catheter ablation) at a later stage.