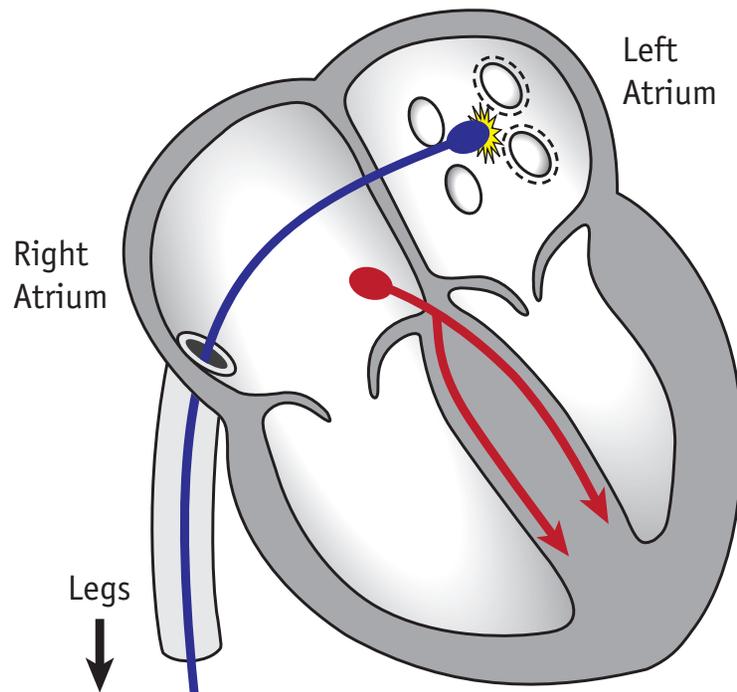


Pulmonary Vein Isolation Ablation for Atrial Fibrillation

**Vancouver General Hospital
Atrial Fibrillation Clinic**

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Your doctor has offered you an ablation procedure for treatment of atrial fibrillation. Atrial fibrillation (AF) is a rapid, irregular heart rhythm. It occurs in the top chambers of the heart and often starts in the area of the pulmonary veins (located on the back wall of the left atrium).



What is the procedure and how might it help you?

The first step in treating atrial fibrillation is usually a trial of medications to prevent or to control the irregular rhythm and reduce your symptoms of palpitations, racing heart, chest discomfort, dizziness or fatigue. Patients who do not respond to medications or who continue to have troublesome symptoms may be offered an ablation procedure to treat their atrial fibrillation. This is a non-surgical procedure called a pulmonary vein isolation ablation. Atrial fibrillation is generally caused by abnormal electrical signals coming from the pulmonary veins in the heart. An ablation procedure destroys the tissue near the pulmonary veins that is conducting these abnormal electrical signals. To do this, a special catheter is threaded through a vein in the groin and the tip of the catheter is placed into the left upper chamber of the heart (left atrium). Once this tissue is destroyed, the abnormal electrical signals are blocked, and the heart's natural rhythm will be restored.

The goal of ablation for atrial fibrillation is to reduce your symptoms. After the procedure, patients may be able to reduce or stop some of their medications. However, after an ablation, some people continue to have episodes of atrial fibrillation that they cannot feel. For this reason, blood thinners will usually need to be continued even after an ablation.

The success rate is variable. Some patients will need more than one procedure. Successful ablation depends on factors like heart size and function.

What are the risks of the procedure?

Ablation is a safe procedure and is done routinely, although there is still a risk of complications such as:

- Blood clots causing heart attack or stroke
- Puncture through the heart wall causing fluid around the heart (tamponade) or injury to the feeding tube (esophagus)
- Injury to the phrenic nerve affecting breathing
- Pulmonary vein narrowing affecting breathing
- Infection
- The risk of death from this procedure is 1/2000

Commonly experienced symptoms after ablation:

- Your leg may be tender for about 4-5 days.
- You may develop a small bruise or bleeding at the groin puncture site. This usually improves with some direct pressure over the area.
- You may continue to experience palpitations for the first 2 months after the procedure. These do not necessarily mean the procedure was a failure.
- Your throat and lips may be a bit sore from the tube that was inserted for echo (ultrasound probe in the throat to rule out blood clot in the heart) or from anesthetic.
- You may have some chest discomfort for a few days when you breathe or lay down. This is from irritation in the sac that surrounds your heart. It usually improves with “over the counter” pain medication such as acetaminophen (Tylenol™).

As with any procedure, there are a number of uncommon complications that may occur. Your physician will go over this in detail with you and will be able to answer any of your questions or concerns. We make every effort to reduce the risk of complications and we strive to use state of the art techniques to help prevent them.

Getting ready for your Atrial Fibrillation Ablation Procedure

Location: Vancouver General Hospital, Heart Services #7 (located on the Ground Floor) Jim Pattison South Pavilion, 899 West 12th Avenue, Vancouver, BC

Length of procedure: approximately 4 hours (varies for each patient). You will likely be in hospital longer than this for preparation and recovery.

How do I prepare for the procedure?

This procedure is done in the hospital under **general anesthetic**. You usually go home the same day.

Before the procedure:

- You may be instructed to make changes to your blood thinner medication(s) for this procedure. You will receive these instructions around the time your procedure is booked.
- Do not eat or drink anything after midnight and the morning of the procedure.
- You can take your regular medications as you normally would with a sip of water in the morning of the procedure unless directed otherwise.
- Bring a list of all your medications with you.
- Have a shower/bath the morning of or night before your procedure. Do not apply any lotions or creams to your chest or back as these may interfere with placement of the monitoring equipment.
- You are not allowed to drive yourself home after receiving sedation/anaesthesia. Therefore, you need to arrange a ride home that day.
- For the remainder of the day, you should not operate a car, heavy machinery or make any important decisions, because you will remain impaired.
- If possible, leave all jewellery or valuables at home or with a family member.

What happens before and during the procedure?

On the day of the procedure:

- You will be given a hospital gown to change into and asked to remove all other clothing and jewellery.
- Blood samples will be drawn and an electrocardiogram (ECG) may be done (heart tracing).
- A pregnancy test will be given to female patients.
- Your doctor will ask you to give written consent for the procedure.
- Electrode pads to monitor your heart will be put on your chest.
- Six special electrodes will be placed on your body to allow a mapping system to make a 3-dimensional computer image of your heart.
- An intravenous (IV) line will be placed in your arm vein so the anaesthetist can give you medication during the procedure.
- You will be given oxygen through a mask or a plastic tube in your nose.
- The skin on your groin (upper thigh) and possibly the left shoulder will be shaved and cleaned with antiseptic solution.
- Once you are in the procedure room, you will be covered with a long sterile drape and the anaesthetist will give you some medication to make you sleep.
- You may be given general anaesthetic.
- Your doctor will insert small catheters (tubes) into the veins in your groin and possibly left shoulder. The doctor will create a puncture between the upper chambers of the heart, so that the catheters can be placed in the left upper chamber of the heart. The catheters are then used to locate the structures in the heart causing the arrhythmia using a 3-D mapping system.
- A special echocardiogram ultrasound probe will be inserted into your throat. This probe allows the doctor to see the structures of your heart as well as to look for blood clots within your heart.
- You will receive an IV blood thinner to prevent blood clots from forming during the procedure.
- Once this image is complete, your doctor uses these catheters to make small ablation lesions (“burns” or “freezes”) directed at specific areas of the heart muscle.
- Once this is done, your doctor will remove all the catheters from your heart, groin, and shoulder and will apply pressure and a bandage to stop any bleeding.

What happens after the procedure?

In the hospital:

- Your heart rate and blood pressure will be monitored and your groin site will be observed for 2 hours.
- You will be asked to lie flat and keep your affected leg straight to prevent bleeding at your groin site.
- You will be given a small dose of blood thinner injected just under your skin.

When you go home:

- Continue to take your heart medications including the blood thinner as prescribed.
- If you are a patient of the Atrial Fibrillation (AF) clinic:
 - You can contact the AF clinic during office hours, if you have any questions or concerns call: 604-875-5264.
 - The nurse from the AF clinic will call you in 3-7 days after your procedure and will arrange a follow-up appointment for you.
- If you are not a patient of the AF clinic, call your regular cardiologist to arrange a follow-up appointment approximately one month after your procedure.
- You may remove the bandage from your puncture sites in 2 days.
- If bleeding occurs at the puncture sites:
 - Lie on your back.
 - Put pressure directly on the site with your fingers using a clean dressing or towel for at least 10 minutes until the bleeding stops.
- If the bleeding is heavy or persists, keep pressure on the site and go to the nearest emergency department.

- If the thigh or groin swells, becomes painful, or hot to touch, please contact the nurse at the AF clinic. If out of clinic hours, go to the nearest emergency department.
- Call your family doctor if you notice redness, swelling at the puncture site.
- You can take a shower the day following your ablation. Avoid taking a bath for 3 days on your return home.
- You may have some throat or lip soreness from the tubes used during the procedure. You can use lozenges or salt water gargle to relieve this.
- Many patients experience chest pain for a few days after the procedure. This chest pain is most common while taking a deep breath. You may take acetaminophen (Tylenol™) if needed. Contact your doctor or call the AF clinic if this does not relieve the pain or if the pain continues beyond a few days. You can also have an anti-inflammatory prescribed if acetaminophen (Tylenol™) does not work.
- Contact the AF clinic if you experience pain with swallowing, fever (higher than 38°C), worsening shortness of breath or chest pain beyond the first few days. If out of clinic hours, go to the nearest emergency department.
- If you require a medical review, especially in the emergency department, it is very important to specify that you had a atrial fibrillation ablation of the pulmonary veins, and you MUST NOT under any circumstances allow anyone to put anything down your esophagus (swallowing tube) such as trans-esophageal echocardiography or a gastroscopy for 2 months after your ablation.
- An acid suppressing medication may be prescribed for the first month after ablation, to protect your feeding tube (esophagus). If you experience heartburn, please contact the AF clinic to discuss this with the nurse.

You need to get immediate medical help if you experience

- Sudden severe shortness of breath
- Sudden loss of strength in an arm or leg, even temporary
- Trouble speaking or understanding
- Vision problems
- Sudden severe headaches
- Sudden loss of balance

After this procedure, some patients have recurrence or severe worsening of their symptoms for the first few months. Over 3 months, the palpitations and episodes should gradually decrease and most patients will be in a normal rhythm at 3-6 months. If an episode of palpitations persists for 24 hours or you become unwell or uncomfortable, call the AF Clinic or if out of clinic hours, go to the nearest emergency department. An ECG should be taken to confirm or exclude atrial fibrillation. If it is atrial fibrillation then it may be necessary to either electrically or medically cardiovert you back into normal rhythm.

You will likely continue to need blood thinners but may be able to reduce or stop some of the heart rhythm medications after your heart heals. The staff in the AF clinic or your electrophysiologist will discuss this with you further after your procedure.

Activity Instructions: Do not drive for 48 hours. Increase your walking daily, but avoid strenuous exercise, sexual activity or lifting loads greater than 5 kg (11 lb) for 7-10 days after the procedure.

Returning to Work Instructions: This depends on what kind of work you do. In general, patients can return to work in 4-7 days. If your work involves a lot of physical activity or if your symptoms are worsening, you may need a longer period of rest.

Remember that after your procedure, you may continue to have atrial fibrillation (with and without symptoms); therefore, you need to continue to take your blood thinner(s) to reduce your risk of stroke.

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