

Heart Rhythm Program, St. Paul's Hospital



How you want to be treated.

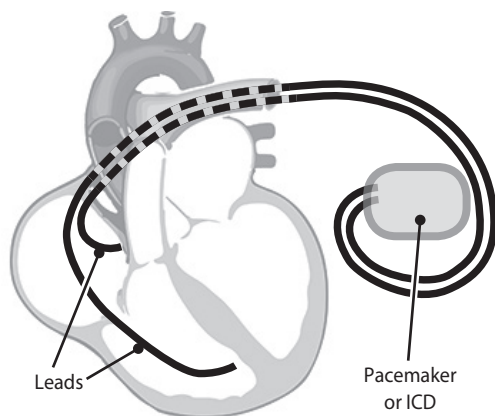
Lead Extraction

What is a lead?

A *cardiac lead* is a special wire that sends energy from a pacemaker or implantable cardioverter defibrillator (ICD) to the heart muscle.

What is a lead extraction?

A lead extraction is the removal of one or more leads from inside the heart using a special laser device to help release the wire.



Why is it done?

Your doctor will talk to you about the reason your lead needs to be removed. There are several reasons why this may be done:

- there is damage to the lead (called a *fracture*).
- there may be large amounts of scar tissue which has built up around the lead. This causes the lead to need more energy than your pacemaker or ICD can deliver.
- there is an infection at the site of your cardiac device and/or lead.
- the lead is blocking the flow of blood in the vein where it is located.

How is it done?

Over time, scar tissue normally develops along the lead and at the point of contact on the heart muscle. We use special equipment to remove or “extract” the lead. This equipment is called a laser-guided sheath. The sheath is a flexible hollow plastic tube (catheter). We slide the sheath over the lead down to the heart muscle. The sheath helps hold your heart muscle steady during the procedure. Laser energy is delivered down the sheath, loosening the lead from the scar tissue. Once the lead is loosened, we can safely remove the lead without pulling too hard or damaging the heart muscle.

A lead extraction is performed in the Operating Room (OR) and you will receive a ‘general anesthetic’. This means you will be asleep during the procedure and not feel any pain.

What can I expect before and after?

Preparation for the procedure

The office of the doctor performing your lead extraction will call you with a date, time, and location for your procedure.

If you have any questions, you can call the Lead Extraction Program office at 604-806-8865.

The doctor will explain your risks to you before the procedure and ask you to sign a consent form.

You will also be seen in the Pre-Assessment Clinic (PAC) before your procedure. They will call you with the date, time and location for this appointment.

- you will receive specific instructions on taking your medications prior to your procedure. Certain medications (like blood thinners and diabetic pills) may need adjustment prior to the procedures. It is important to take medications as directed.

Preparation, *continued*

- you will be asked not to eat or drink anything after midnight (12:00am) the night before your procedure.
- the BC Motor Vehicles have strict guidelines for when people are allowed to drive after cardiac procedures including Pacemaker and ICD implants. These restrictions will vary depending on why you had your device. It is important that you discuss your driving restrictions with your doctor before you have your device implanted.

Day of the procedure

- in the morning of your procedure, you may take your medicine as directed by the doctor with small sips of water.
- if you are diabetic, follow the instructions that your doctor has provided.
- report to the Surgical Day Care at the time you were given. The Surgical Day Care is located on the 3rd floor of the Providence Building in St. Paul's Hospital.

In the Surgical Day Care:

- the nurse will ask you to change into a hospital gown.
- an intravenous (or I.V.) is placed in one of your arms so they can give medicine during the procedure. To place the I.V., a small flexible tube is inserted through your skin into a vein in your arm.
- you will then be moved into the OR.

During the procedure

- in the OR, you are attached to heart, blood pressure and oxygen monitors.
- sterile drapes will be placed over you from your neck to your feet.

- you are given medicine by the anesthesiologist so you are asleep through the procedure and do not feel any pain.
- while you are asleep, a breathing tube is placed into your lungs through your mouth to help you breathe. This tube is usually taken out at the end of the procedure.
- the lead extraction can be performed from two different sites on your body. The subclavian vein in the upper chest over your device site is the most common approach to remove the lead. If this vein cannot be used, the leads are removed through a small puncture in the groin over the femoral vein.
- the doctor will numb the site. A sheath (plastic, hollow tube) is placed in the vein. This sheath is threaded over the lead and guided to the tip of the lead where it attaches to the heart. The laser sheath is used to deliver energy to remove the scar tissue and remove the lead.

Your new leads and cardiac device may be implanted in your heart during the lead extraction procedure or at a later date. This will depend on the reason your leads are being removed.

After the procedure:

You will be moved to the Cardiac Surgery Intensive Care Unit (CSICU) where you are closely monitored for several hours.

During this time:

- the nurses will monitor your heart rhythm and blood pressure.
- you will need to lie flat for several hours after the catheter in your groin is removed.

After the procedure, *continued*

- you may feel some discomfort around the extraction site and your shoulder may be sore. You will receive medicine to relieve the pain. Let your nurse know if you are experiencing pain and require more medication.
- how long you stay in the CSICU will depend on why you had your leads extracted.
- when you are stable, you will be moved to the cardiac surgery ward (5B).

If your leads were removed because of an infection:

- two days after your lead extraction, a Peripherally Inserted Central Catheter (PICC) line will be inserted. The PICC line is inserted by a specially trained nurse using an ultrasound machine to help find the veins in your upper arm. This special type of I.V. is inserted through your arm but the catheter is longer and is placed in a large vein in your chest. PICC lines are used to give you antibiotics and it can be used for a longer period of time compared to a regular I.V.

Your new leads and Pacemaker or ICD will be implanted approximately five days after your lead extraction.

- some reasons you may have to wait include: schedule and availability in the OR or specific patient conditions.
- you will be monitored on the cardiac surgery ward before you go home with your new Pacemaker or ICD.

Going Home

Discharge home will depend on the reason for your lead extraction.

If your leads were removed because of a fracture, lead failure or other reason:

- you usually go home in 1-3 days.

If your leads were removed because of an infection:

- you will be started on antibiotics and will usually be in the hospital for 5-7 days.
- you will go home with a PICC line. Once at home, you need an additional 2-6 weeks of IV Antibiotics.
- one of the Homecare IV Nurses will see you on the cardiac surgery ward and will teach you how to care for your PICC line at home.
- a Homecare nurse will then visit you regularly at your home.
- if you live in a small community where a Home IV Program is not available, you may need to go to your local hospital for your IV Antibiotic treatment. We will arrange this before you go home.
- before you leave the hospital, you get instructions on how to care for yourself at home, what to watch for, and who to follow up with afterwards.
- the person staying with you for the first 24 hours should be there to hear the instructions.

Follow-up for my Pacemaker or ICD

- you will need to continue with routine follow-up at your regular Device Clinic.
- your first appointment at your Device Clinic should be within 4-8 weeks after your device was implanted.
- before you go home, you will receive discharge instructions from your nurse about caring for your device and the location and when to have your device checked.

When should I get help?

Call 9-1-1 if you notice any of the following:

- trouble breathing or cannot catch your breath.
- you have really bad chest discomfort or pain.
- blood soaking through your bandage.
- dizziness or confusion.
- your heart feels like it is beating quickly or racing.

As well, if you have an ICD and you get:

- a shock from the defibrillator and you do not feel well afterwards, *call 9-1-1.*
- two or more shocks within a 24-hour period, *call 9-1-1. Do not drive yourself to the hospital.*

Contact your family doctor right away if you notice:

- any redness, swelling, or coloured liquid coming from your incision.
- a fever over 38.5°C (101.3°F).
- new bruising or redness around the incision.
- pain that gets worse or does not improve with pain medicine.
- any stitches in your incision after 3 to 4 weeks.

If you have questions or concerns:

- call your heart doctor or family doctor.
- call HealthLink BC at 8-1-1 any time of the day or night to speak to a registered nurse.

This material has been reviewed and approved by patients, families and staff.



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