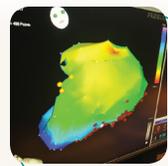


# Lead Extraction



**Lead Extraction-**  
*To remove/replace implanted device leads that are not functioning.*

## What is lead extraction?

A lead is a wire that delivers energy from a pacemaker or implantable cardioverter-defibrillator [ICD] to the heart muscle. A lead extraction is simply the removal from the heart of one or more leads that are not working properly.

## What does it treat?

- Leads can begin to work improperly due to damage to the inside or outside of the lead, large amounts of scar tissue forming at the tip of the lead, or an infection at the site of the implanted device.
- Large amounts of scar tissue at the tip of the lead can cause the lead to need more energy to work than the implanted device can deliver. This is commonly called "exit block."

## Facts about lead extraction

- Lead extraction is performed in a hospital with the patient under anesthesia.
- Lead extraction typically takes between two and six hours.
- As with any procedure, there are risks. Of course, every precaution is taken to reduce risks. Your doctor will talk with you about the potential risks of the procedure.
- Your doctor or Nurse Navigator/educator will provide you with detailed directions about how to prepare for your lead extraction in terms of your medications, diet, etc.

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**What happens during the procedure?**

- You will be lying down, and a nurse will hook you up to an IV, which will deliver fluids.
- An anesthesiologist will administer medication via the IV to make sure you're comfortably asleep during the procedure.
- Lead extraction typically begins at the upper chest, where the doctor will make a small incision over the subclavian vein. When the subclavian approach is not viable, lead extraction can be performed at the groin, where the doctor will make a small puncture over the femoral vein.
- The doctor will place a special tube [sheath] in the vein, thread it over the lead and guide it to the tip of the lead, where it attaches to the heart muscle. The sheath will hold the heart muscle in place while tugging on the lead until it is removed from the heart.
- Often, the doctor will use a tube attached to a laser in order to remove the scar tissue from the lead.
- New lead(s) may be implanted at this time, unless infection is the reason for the lead extraction. In that case, the infection will be treated first, then once it's resolved, a new lead(s) will be implanted.

**What will you feel?**

- You might feel a slight burning sensation at the catheter entry point when medication is injected into it.

**What happens afterward?**

- If your doctor used the femoral approach, then you will be on flat bedrest for several hours.
  - Once you're fully awake, your doctor will talk with you and your loved ones about the procedure and its results.
  - You will need to stay at the hospital overnight. Typically, you can go home the next day.
  - Arrange for a ride to and from the hospital, and for help at home following the procedure.
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