A lead is a special wire that sends energy from a pacemaker or implantable cardioverter defibrillator (ICD) to the heart muscle. A lead extraction is the removal of one or more leads from the inside of the heart. Leads that are placed outside the heart during open heart surgery cannot be removed during this type of procedure.

A lead extraction is done in the Operating Room (OR) and takes 2 to 6 hours depending on what needs to be done. General anesthesia will be given so that you are “asleep” during the procedure. You will stay over night in the hospital.

Why a Lead Extraction Is Needed
Your doctor will talk with you about the reason your lead needs to be removed. There are several reasons why this may be done:

- Damage to the inside, called a fracture, or the outside of the lead
- Large amounts of scar tissue at the tip of the lead causing it to need more energy to function than your pacemaker or ICD can provide
- Infection at the site of the device

During the Extraction
When you arrive in the OR, you will lie on an X-ray table. The room must be kept cool, but you will be covered. You will have patches on your chest to monitor your heart. You will also have a blood pressure cuff on and have 2 IV (intravenous) lines. All of your medications and fluids will be given through the IV’s.

After you receive your general anesthesia, you will be placed on a breathing machine called a ventilator. A catheter will be placed in your bladder to drain your urine. Your chest and both groins will be shaved and cleansed with an antiseptic.

The lead extraction can be performed from two sites. The subclavian vein in the upper chest over the device site is most often used. If it cannot be used, the femoral vein in the groin will be used.
The doctor will numb the site. A sheath (a plastic, hollow tube) is placed in the vein over the lead and is guided to the tip of the lead where it attaches to the heart. The sheath helps hold the heart muscle in place while the lead is removed. A laser sheath may be used to deliver energy to remove scar tissue from the lead.

New leads may be placed (implanted) in your heart during this procedure or at a later date. This will depend on the reason your leads are being removed.

After the Procedure
You will be taken to an intensive care or other patient care unit. You will be on a heart monitor and your heart rhythm, blood pressure, and pulse will be closely checked. You will need to lie flat for several hours after the catheter in your groin is removed.

After spending the night, you may have a chest X-ray and an echocardiogram (an ultrasound of the heart) the next day.

Before you leave the hospital, your doctor will talk with you about activity, medications and follow-up appointments. Be sure to talk with your doctor about your questions or concerns.