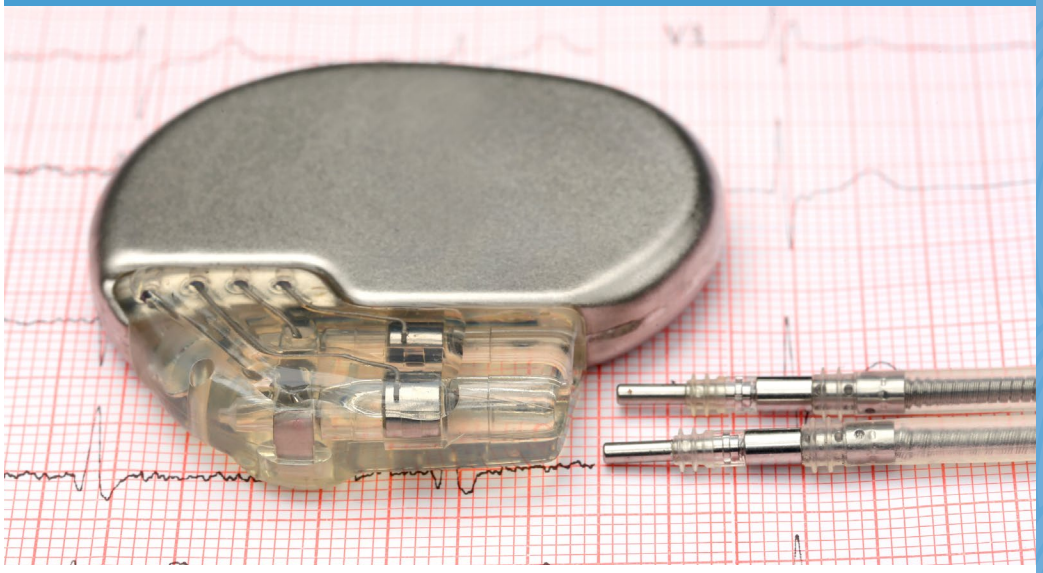
# How a Pacemaker is Implanted



You do not always need to have open heart surgery to get a pacemaker. Placing a pacemaker may be done in a special procedure room in the cardiac lab. Your adult congenital heart team will decide what is best for you. Medicine will be used to make you feel drowsy and comfortable.

The pacemaker can be placed on either side of your chest, but is most often placed on the left side, just below the collarbone. Some patients with congenital heart disease need to have an epicardial pacemaker, where the leads are placed on the outside of the heart and the generator is placed in the upper abdomen.

Your doctor will make an incision (cut) about 2 inches long and will make a small "pocket" for the pacemaker under your skin. He or she may use a special X-ray monitor to guide the pacemaker leads into your heart through the vein, where the leads are attached to the inside of your heart. For epicardial pacemakers, the leads will be attached to the outside of your heart.

Once the leads are attached to the heart, they are tested and attached to the pacemaker. The pacemaker is then put in the pocket under your skin. Your doctor will close the incision and you will go to the recovery area. An X-ray will show if your lungs are fully expanded and that the leads are in a good location.

## pacemaker 101

**A pacemaker is a small device that makes your heart beat regularly. It has two parts:**

- **a pulse generator: this holds the battery and a computer that can sense when changes in your heart rate and rhythm happen.**
- **lead wires: these monitor the electrical impulses generated by your heart and send information back to the pacemaker.**

**The pacemaker can be programmed to react to activity levels based on your needs.**

The procedure can take up to 3 hours. You may spend 1 night in the hospital. If you have an epicardial pacemaker, you may spend 4 nights in the hospital.

## Living With a Pacemaker

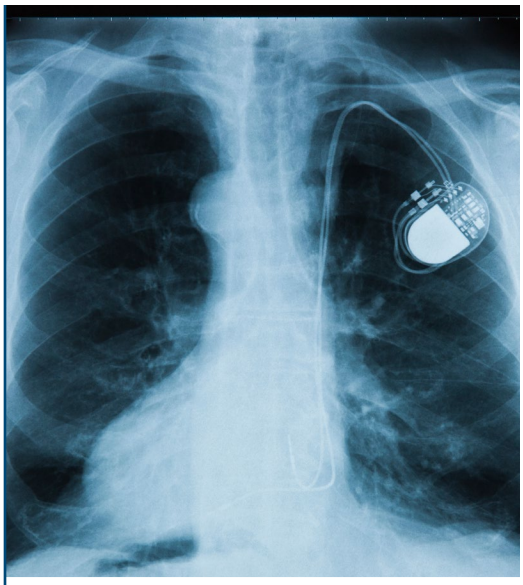
- Your pacemaker will need to be checked on a regular basis. This is called an "interrogation." You will be given a remote monitor which allows frequent interrogations to be done from home. These are usually done every 3 months.
- Over time, your pacemaker's settings may need to be adjusted. This can be done using a pacemaker programmer. This is done in clinic and does not involve any type of procedure or surgery.
- Most machines and devices will **not** interfere with the way your pacemaker works.
- You may use a cell phone. Hold it to your ear on the opposite side of your pacemaker. Do not carry a cell phone in a shirt pocket right over your pacemaker.
- Unless your pacemaker generator and wires are "MRI-compatible," you should not have an MRI scan.

## Replacing the Battery or Leads

Your pacemaker contains a battery that may last 5 to 10 years, depending on your usage. The battery is sealed inside the generator. Replacing the battery means that the entire generator must be replaced.

Your doctor will re-open your surgery incision and disconnect and remove the old pacemaker generator. He or she will connect a new generator to the leads, place it back into the existing pocket, and test it to make sure it is working well. Your doctor will close the incision.

Sometimes, the leads may also wear out or shift and need to be replaced. To replace the leads, you will have a procedure much like when you had the pacemaker put in. The procedure will be done at the hospital.



## After Surgery

- ❑ You may have a bruise, nickel-sized lump or both near the incision. It may take 2 to 3 weeks for the bruising to go away.
- ❑ Follow all directions in your After Visit Summary.
- ❑ Know when to call your doctor.
- ❑ Carry your device ID with you at all times. Tell other health care providers (including your dentist) that you have a pacemaker.
- ❑ Keep all follow-up appointments, even if you are feeling well.



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