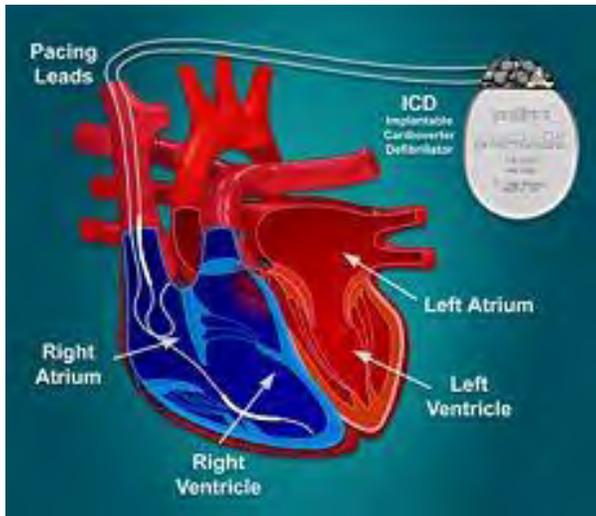




PACEMAKERS



■ WHAT IS A PACEMAKER?

A pacemaker is a small electronic device implanted under the skin near the collarbone. Pacemakers monitor the heart's electrical activity. If the heart is beating too slowly or pausing too long between beats, the pacemaker will provide electrical impulses that stimulate the heart to beat. The pacemaker itself consists of a small box (the pulse generator) and one to three leads that are placed in the heart. The pacemaker is about the size of a small matchbox.

■ WHEN ARE PACEMAKERS USED?

Pacemakers are used to treat several heart conditions:

- **Slow heart rate** (bradycardia). There are several types of bradycardia:
 - Sinus bradycardia - the heart beats too slowly
 - Sinus pause - the heart pauses too long between beats
 - Bradycardia/tachycardia syndrome - the heart alternates between being too slow and too fast
 - Heart block - Impulses from the top chamber conduct only intermittently to the lower chamber, resulting in a slow effective heart rate

All of these conditions may produce a slow heart rate and cause symptoms as mild as slight fatigue or as serious as fainting, loss of consciousness and cardiac arrest.

- **Heart failure.** This is a relatively new use for pacemakers and a special type of pacemaker, called a biventricular pacemaker, is used.

■ HOW DO I PREPARE FOR PACEMAKER IMPLANTATION?

Follow any instructions your doctor may give you. Do not eat or drink anything after midnight and the morning before the procedure. Sips of water are acceptable.

No special preparation is needed for local anesthesia.

■ WHAT HAPPENS DURING THE PROCEDURE?

You will be given a local anesthetic, usually combined with mild sedatives, to keep you from feeling pain during the procedure. If you feel discomfort, tell your doctor immediately. Usually the pacemaker is placed under the skin near the left shoulder. Occasionally it is implanted under the right shoulder. Your doctor will make an incision in the skin and create a “pocket” for the generator part of the pacemaker. Then the leads will be passed through a vein to the heart chambers.

The pacemaker will be programmed to work according to the needs of your heart. After programming, the doctor will check that the pacemaker is working properly. Finally, the incision will be sutured closed and covered with a small dressing. The procedure itself will last from 1 – 2 hours.

■ WHAT HAPPENS AFTER THE PROCEDURE?

After the procedure your heart rhythm will be monitored and you will be watched for any signs of bleeding or swelling at the incision site. You may stay in the hospital for 1 to 3 days, depending on your condition. The day of the procedure you will be encouraged to walk in preparation for leaving the hospital.

Before you leave the hospital, your pacemaker will be checked using a small laptop computer, called a programmer, and a wand. The wand is placed on your body, over where the pacemaker is located. Information from the pacemaker, about the heart’s rate and rhythm is transmitted through the wand to the computer. If needed, your doctor can adjust the pacemaker settings using the programmer and the wand. It is not painful, and it usually takes just a few minutes.

You may learn how to check the function of the pacemaker using the telephone. The function of the pacemaker will also be checked at follow-up visits with your doctor.

When you go home after pacemaker surgery, you should:

- Limit the use of your arm on the side of the device for the next 2 days.
- Avoid "windmill" exercises or any similar repetitive movement. For 2 to 4 weeks, don't raise the arm on the pacemaker side above shoulder level.
- Avoid heavy lifting - no more than 10 to 15 pounds.
- Keep the incision clean and dry for one week. Avoid putting lotions or oils on the incision. Wear loose clothing over the incision area.
- Avoid getting overly tired.
- Avoid showering for one week. You may bathe immediately.

■ WHAT ARE THE BENEFITS OF THIS PROCEDURE?

Your heart may beat in a healthy rhythm, and you may resume a more normal lifestyle. Patients who had bradycardia may notice that they have more energy, and symptoms such as light-headedness, fainting and palpitations should go away. Patients who have heart failure may experience less shortness of breath and an increase in energy and exercise tolerance.

■ WHAT ARE THE RISKS ASSOCIATED WITH THIS PROCEDURE?

- A local anesthesia may not numb the area quite enough and you may feel some minor discomfort. Also, in rare cases, you may have an allergic reaction to the drug used in this type of anesthesia. Local anesthesia is considered safer than general anesthesia.
- The wire could puncture one of the lungs, the vein, or the heart cavity.
- The pacemaker is implanted because the heart rhythm is abnormal. This may be associated with other heart problems, which could worsen despite correction of the rhythm.
- Like any electrical/mechanical device, the pacemaker may need a replacement if it stops working properly.
- The pacemaker wire may become dislodged and/or break.
- There is a risk of infection and/or bleeding.

Ask your doctor how these risks apply to you. In general, the risk of these or other complications should be less than 2%.

■ WHAT HAPPENS ONCE YOU ARE HOME?

Living with a pacemaker should give you the comfort that treatment for a life-threatening condition can be delivered to you whenever and wherever you need it. There are some things you'll need to be aware of, including:

- You will need regular follow-up visits to your doctor so the device can be monitored. Monitoring shows whether the device is sensing the heartbeat properly, how many shocks have been delivered, and how much power is left in the batteries.
- Some electrical equipment can interfere with the pacemaker. You should avoid: large generators, electric motors, arc welders, transmission towers, high-voltage power lines, large stereo speakers, magnetic therapy products, battery-powered cordless power tools and running car engines (do not lean over the engine). Digital cellular phones can interfere with the pacemaker also. Do not carry a cell phone within 6 inches of the pacemaker and hold the phone to the opposite ear from the pacemaker. It safe to walk through security archways and theft detection systems. The pacemaker may set off the alarm. If this happens, show the security personnel your wallet card (pacemaker card) indicating that you have a pacemaker.
- In the event of an emergency, you should carry a card indicating that you have a pacemaker. You should also carry a complete list of medications and doses with you and a list of emergency contacts and their phone numbers.
- It is important to notify all health care personnel (including your dentist) that you have a pacemaker.

■ WHEN SHOULD I CALL THE DOCTOR?

Call the doctor immediately if your pulse becomes abnormally slow, fast, or irregular, or your original symptoms return.

Call the doctor during office hours if you have questions about the procedure or its result.