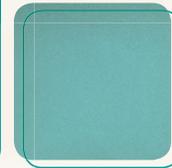


Pacemaker



Pacemaker-

Typically treatment for bradycardia, atrial fibrillation, heart failure or syncope.

What is a pacemaker?

Normally, the top chambers of the heart – the atria – and the bottom chambers – the ventricles – work together, alternately contracting and relaxing to pump blood through the heart and into the body. Electricity flowing through the heart causes the contractions; every electric impulse causes your heart to beat.

A disruption at any point in the electrical pathway can cause a problem with your heartbeat. A pacemaker is silver-dollar-sized electronic device inserted into your chest that delivers small electrical impulses to the heart muscle through wires called leads, in order to keep your heart beating normally.

What does it treat?

Pacemakers are most often implanted to treat bradycardia, a slow heart rhythm, but are also used to control atrial fibrillation (an irregular rhythm), heart failure, and syncope (extreme fainting).

Facts about pacemakers

- Pacemaker implantation is performed in a hospital with the patient sedated.
- The pacemaker procedure typically takes between two and five hours.
- There are three basic types of pacemakers:
 - single-chamber: only one lead is placed into a chamber of the heart;
 - dual-chamber: two leads are placed into two chambers of the heart – one in an upper chamber, or atrium, and one in a lower chamber, or ventricle; and
 - rate-responsive: have sensors that automatically adjust to your level of physical activity.
- 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 pacemaker in terms of your medications, diet, etc.

What happens during the procedure?

- You will be lying down, and a nurse will hook you up to an IV, which will deliver fluids and a sedative.
- The doctor will numb an area of your upper chest, and make small incisions where the pacemaker and the leads will be inserted.

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- One, two or three leads, which will carry electrical impulses from the pacemaker to your heart, are threaded through a vein and guided into the heart chamber(s). The lead tips are attached to the heart muscle, and the other ends are attached to a battery-operated pulse generator, which is placed under the skin in your upper chest.
- Once the leads are in place, the doctor will test them to ensure they're located correctly and working properly. Once the leads have been tested, the doctor will attach them to the pacemaker.
- Once the implant is complete, the doctor will use an external device to program the final rate and settings for your pacemaker.
- Your doctor determines the lowest heart rate at which to set your pacemaker; whenever your heart rate drops below this set rate, your pacemaker will fire a signal, causing your heart to contract in a heartbeat.

What will you feel?

- You might feel a slight burning or pinching sensation when the numbing medication is injected.
- You might feel a tugging sensation when the doctor forms a pocket within the tissue under your skin for the pacemaker.
- You might feel your heart beat faster or harder during the procedure.
- You should not feel pain during the procedure. If you do, then tell your nurse immediately.
- You might feel discomfort at the implant site for the first 48 hours following the procedure. If discomfort persists or becomes severe, call your doctor.

What happens afterward?

- Once you're fully awake, your doctor will talk with you and your loved ones about the procedure and its results.
- You will probably be able to go home the same day.
- Arrange for a ride to and from the hospital, and for help at home following the procedure.
- The pacemaker comes with a transmitter and will be monitored regularly via telephone and followup appointments. At appointments, your doctor will check your device's function and battery life.
- You will also receive a temporary ID card that indicates the type of pacing device and leads you have, the implant date and your doctor's name. Carry this card with you at all times, in case you require medical care. You will receive a permanent card within three months.
- Pacemakers last from five to seven years. As long as you keep your followup appointments, your healthcare team will monitor the function of your device, and will let you know when it should be changed. Exchanging your old pulse generator for a new one is a relatively minor outpatient procedure compared with your initial implantation, because the leads stay in place.

You will need to take extra care in some everyday situations once you have a pacemaker:

- full-contact sports can damage your pacemaker;
 - cell phones are fine to use, but avoid talking on your cell phone on the same side as your pacemaker;
 - electronic security systems, like at the airport, are fine to pass through, but avoid the magnetic wand sometimes used during security checks – you should let the security agent know you have a pacemaker, and you might have to show them your ID card; and
 - magnetic resonance imaging [MRI] tests should be avoided – make sure your doctor knows you have a pacemaker.
- Microwave ovens and electric blankets do not affect pacemakers – feel free to use them.