
Heart pacemaker

Definition

A pacemaker is a small, battery-operated device that senses when your heart is beating irregularly or too slowly. It sends a signal to your heart that makes your heart beat at the correct pace.

Alternative Names

Cardiac pacemaker implantation; Artificial pacemaker; Permanent pacemaker; Internal pacemaker; Cardiac resynchronization therapy; CRT; Biventricular pacemaker

Description

Newer pacemakers weigh as little as 1 ounce. A pacemaker usually has 2 parts:

- The generator contains the battery and the information to control the heartbeat.
- The leads are wires that connect the heart to the generator and carry the electrical messages to the heart.

A pacemaker must be implanted under the skin. This procedure usually takes about 1 hour. You will be given a sedative to help you relax. You will be awake during the procedure.

A small incision (cut) is made, usually on the left side of the chest below your collarbone. The pacemaker generator is then placed under the skin at this location.

Using live x-rays to see the area, the doctor puts the leads through the incision, into a vein, and then into the heart. The leads are connected to the generator. The skin is closed with stitches. Most patients go home within 1 day of the procedure.

Two kinds of pacemakers -- transcutaneous and transvenous pacemakers -- are used only in medical emergencies. They are not permanent pacemakers.

Risks

Possible complications of pacemaker surgery are:

- Abnormal heart rhythms
- Bleeding
- Punctured lung. This is rare.
- Infection
- Puncture of the heart, which can lead to bleeding around the heart. This is rare.

A pacemaker can usually sense if the heartbeat is above a certain rate. When it is above that rate, the pacemaker will stop sending signals to the heart. The pacemaker can also sense when the heartbeat slows down too much. It will automatically turn back on and start pacing the heartbeat again.



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