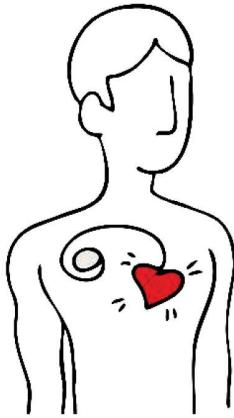


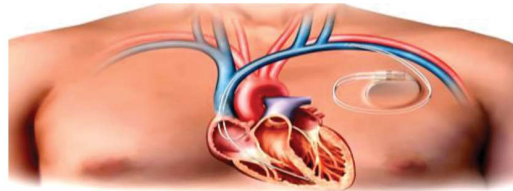
What is a cardiac pacemaker?

It produces a heartbeat. If a person's heart is working less than normal or irregularly for any reason, one of the ways to help is to place an artificial pacemaker. Pacemakers are placed temporarily or permanently in the cavities of the heart.



What is a permanent pacemaker?

The permanent pacemaker is placed on the left side of the chest under the clavicle. In the operating room, under local anesthesia, the pacemaker guides the pacemaker and wire into the right ventricle through large veins. After insertion, a chest x-ray is taken to ensure the correct location of the wires.



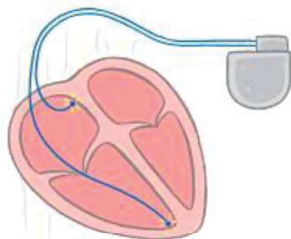
In which conditions the pacemaker could be used?

- 1- Complete heart block.
- 2- Cardiac arrest.
- 3- Patients at risk of cardiac arrest.
- 4- Patients who do not respond to medication and cannot use medical or surgical methods.
- 5- In some patients with severe muscle weakness. (Cardiomyopathy).



What is a temporary pacemaker?

In the temporary type, the device is placed outside the patient's body. Its electrode wires are sent from the body to the heart. The duration of time that the patient can temporarily pass is about two weeks, and if he or she needs to continue the pass, the temporary type should be replaced by the permanent one.



How does a pacemaker work?

Electrodes (wires) respond to two factors:

- 1 - Heart rate.
 - 2- Changing the electrical distances of the ECG.
- This device produces the necessary electric shock 5-10 seconds after the necessary sense of change of electric shock to return to normal rhythm.



What are the side effects of a pacemaker?

- * Infection: A local infection may occur at the site of the catheter insertion.
- * The pacemaker electrode wire sometimes strikes the ventricular wall, producing an abnormal impulse.
- * Sometimes it moves out of place and changes its place, which can cause electrical stimulation and rhythm disturbance.
- * In the case of using cordless electrical appliances, a small electrical charge may enter the heart through the pacemaker electrode wire, disrupting the rhythm.

Wound care after installing the pacemaker:

- 1- The wound should be checked on daily basis and report any kind of inflammation, redness, discharge, hemorrhage, fever to the doctor.
- 2- Avoid wearing tight clothing that puts pressure on the wound.
- 3- Avoid manipulating the planting site of the pacemaker.
- 4- Seven days later the suture should be removed.

Points to be consider after discharge:

- 1- It is recommended that you count your baby's pulse for a full minute daily and report any sudden decrease or increase in speed.
- 2- Consult your pediatrician immediately if there is pain, redness, or discharge at the incision site.
- 3- Avoid applying pressure to the pacemaker and wear loose clothing.
- 4- Strictly avoid extreme movements of the arms and shoulders after placing the pacemaker.
- 5- Maintain a safe distance (150 cm) from the microwave.
- 6- The ID card should be with the child.

- 7- Avoid exposure to high voltage environments such as power towers or high voltagelines.
- 8- When traveling by air, show your child ID card to the control officers, as the metal detector quickly detects the presence of a pacemaker. Also in some stores that are equipped with Feller tracking system at the entrance and exit gates to prevent theft, Guards should be informed that your child has a pacemaker.
- 9- Consult a doctor before performing diagnostic tests, especially MRI.
- 10- Child must avoid sleeping on his stomach and chest. This does not include normal movements while sleeping.
- 11- After pulling the stitches, you can bathe the baby.

The following symptoms are a sign of pacemaker dysfunction:

Respiratory problem, Dizziness, Fainting, Fatigue, Boredom.

Should symptoms occur, first count your baby's pulse and then tell your doctor.

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Tehran University of Medical Sciences
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Parents' Guide to Children's Heart Disease
Heart "pacemaker" care

