香港浸信會醫院
Hong Kong Baptist Hospital

Procedure Information Sheet

Introduction

Heart rhythm is mainly controlled by the conduction system of the heart. Any abnormality in the conduction system may result in abnormal heart rhythm (arrhythmia). Arrhythmias with slow heart rate cause dizziness, syncope, heart failure or occasionally cardiac death. Permanent cardiac pacemaker (PCP) is an implantable device used for long-term treatment of arrhythmias with slow heart rate. It consists of a battery-powered generator and leads which connect the generator to the patient's heart. If the heart rate is slow, the pacemaker will stimulate the heart at a desirable rate.

Indication

PCP is the only effective long-term treatment for patients with slow heart rate. If left untreated, patients can develop syncope, heart failure, or occasionally cardiac death.

The Operation / Procedure

1. This invasive procedure is performed under local anesthesia in a cardiac catheterization centre or an X-ray room. Patient is alert during the procedure, but sedation may be given for calm down purpose.
2. Electrodes are adhered to the chest to monitor the heart rate and rhythm. Blood oxygen monitor through finger tip will be set up. Measurement of blood pressure from the arm will be taken during the examination.
3. Skin disinfection will be performed and a small skin incision (about 3-5 cm long) will be made under the left (sometimes right) clavicle.
4. Contrast may be injected intravenously to visualize the veins in the arm and needle puncture under the clavicle may be required to obtain access to the vein.
5. 1 to 2 leads will be advanced to the heart chambers through the vein under X-ray guidance.
6. The generator will be connected with the lead(s) and implanted in a pocket created under the skin or muscle.
7. The wound will be closed with suturing material and covered with pressure dressing.
8. The procedure usually takes around 2 to 3 hours.

Before the Operation / Procedure

1. Patient needs to sign an informed consent after explanation from doctor.
2. Some preliminary tests including electrocardiogram, chest X-ray and blood tests in ward or clinic. Alternatively, because of emergency situation, patient may already has a temporary cardiac pacing performed.
3. Blood thinning drugs or metformin (for diabetes) may have to be stopped several days before the procedure. Steroid will be given if contrast injection is necessary and there is history of allergy.
4. An IV infusion will be set up and you need to fast for 4-6 hours.
5. Shaving near the implant site may be required.
6. If patient is a female, please provide the last menstrual period (LMP) and avoid pregnancy before the procedure as this procedure involves exposure to radiation.

Patient's Label
Patient Name: _____
Hospital No:_____
Episode No:_____

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Permanent Cardiac Pacemaker

After the Operation / Procedure

1. After the procedure, patient will be kept on close monitoring in the ward.
2. Nursing staff will check pulse and wound regularly.
3. Should inform nurse if blood oozing is found from the wound site.
4. Patient may resume oral diet as instructed.
5. Mild wound pain is common. Patient may take simple analgesic to relieve pain.
6. Antibiotics will be given for a few days to minimize the risk of wound infection.
7. Pre-discharge pacemaker programming may be performed.
8. Patient may be discharged from hospital 1-2 days after the PCP implantation.
9. The wound will be inspected and covered with light dressing. Please keep the wound site clean and change dressing if wet. In general, showers are allowed after 2 days.
10. Patient may need to come back to the ward or clinic for suture removal 1 week after the procedure, and the dressing may be removed 2-3 days after suture removal.
11. Please avoid lifting the affected arm for 1 week, and avoid vigorous arm movement in the first month after the procedure.
12. Patient should have regular follow up for regular pacemaker analysis, re-programming and battery power assessment.
13. Please carry pacemaker identity card at all times.
14. Follow doctor's instructions or refer to the information booklet from the pacemaker company to minimize the risk of pacemaker malfunction due to electromagnetic interference. In general, strong electro-magnetic field or radiofrequency signal will interfere the pacemaker. Please keep a distance of >15 cm (6 inches) from an active mobile phone, Household electrical or electronic appliance usually does not affect pacemaker.
15. The generator will need to be replaced in 5-10 years' time when the battery is depleted.

Risk and Complications

1. The procedure carries certain risks. The overall complication rate is around 3%.
2. Major complications include death (<0.1%) and serious heart or lung perforation (<0.1%).
3. Other potential risks include wound infection (<1%), wound haematoma (<1%), vein thrombosis (<1%), air embolism, contrast allergy, vascular injury, pneuomothorax and haemothorax.
4. Special risks related to the device include lead dislodgement, insulation break or fracture, and pocket erosion.

Alternative Treatment / Investigation

Alternative treatments include conservative management.

Disclaimer

This leaflet only provides general information pertaining to this operation / procedure. While common risks and complications are described, the list is not exhaustive, and the degree of risk could also vary between patients. Please contact your doctor for detailed information and specific enquiry.

Reference

Smart Patient Website by Hospital Authority:
Permanent Cardiac Pacemaker (4/2019)

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Patient Name: _____
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Patient's Signature:_____ Date:_____