

Permanent Pacemaker Pulse Generator Change

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What is a pacemaker pulse generator?

A pacemaker pulse generator contains components to determine when an electrical impulse is required to stimulate the heart. The pulse generator contains a battery which powers the components.

Why does my pacemaker pulse generator need to be changed?

Over time the battery of the pulse generator runs down and needs to be replaced.

What will be stimulating my heart whilst the pulse generator is being replaced?

Many patients heart rate is not dependent on their pacemaker. In those who are 'pacemaker dependent' the pacemaker will be programmed to encourage a safe 'intrinsic' heart rate to develop. Sometimes a drug is infused into a vein to temporarily increase the heart rate. A small number of patients require a temporary pacing wire for the duration of the procedure. This is passed into the heart via a vein in the groin area or the side of the neck. This is removed at the end of the procedure.

Sedation

If sedation is required:

- You must not eat food or drink fizzy or milky drinks for 6 hours prior to the procedure. Clear fluids can be taken up to 2 hours pre procedure.

If sedation is not required:

- You can eat and drink up to the time of the procedure.

How is the pacemaker pulse generator changed?

- The procedure usually takes about 40 minutes, but it can take longer for some
- It is done using local anaesthetic so you should not feel any sharp pain
- Sedation can be used but this is rarely required
- Your pacemaker pulse generator will be inserted using very sterile conditions. You will be given antibiotics prior to the procedure to reduce the risk of infection
- The doctor makes a small cut adjacent to the implanted pacemaker pulse generator

- The pre-existing pulse generator is removed
- A small number of patients require a new pacing lead (or leads) at the time of pulse generator change
- The new pulse generator is attached to the pacing lead(s) under the skin. The functioning of the pacing system is assessed during the procedure
- The skin incision is then closed
- The wound is closed using stitches or a special glue

What are the risks of the procedure?

Infection

There is a small risk of getting an infection at the place where the pacemaker pulse generator has been implanted. The risk is 1 in 100. This may require the entire pacemaker system (including leads) to be replaced.

Bruising

Bruising/discomfort at the place the pacemaker pulse generator is introduced is very common. There is also a risk of 1 in 100 of haematoma (collection of blood) formation particularly if you are on blood thinning medications.

Lead damage

There is a 1 in 100 risk of damage or malfunction of the pre-existing pacing lead(s) which may require a new pacemaker lead.

In the event of a temporary or a new permanent pacing wire being introduced there is less than 1 in 1000 risk of pericardial effusion (fluid around the heart) which might lead to death.

In the event of a new permanent pacing wire being introduced there is a 1 in 150 risk of a puncture to the lung, which may require a drain to be inserted and a risk of 1 in 25 of lead displacement which may require the lead to be repositioned.

The radiation risk associated with positioning a temporary or new permanent pacing lead is less than 3 months background radiation (normally found in the atmosphere).

What happens after the pacemaker pulse generator change?

After the pulse generator change you will be taken to the recovery area on a bed and monitored carefully. Your nurse will check your wound to make sure it is not bleeding and there is no unusual swelling.

You will be given advice regarding wound care and what you should and should not do in the weeks following the implant.

Inform the devices clinic (NOT your GP) if you notice anything unusual like increasing swelling, redness, pain or discharge from the wound. If this occurs on a weekend outside of working hours, please attend A&E.

Important telephone numbers:

Lincoln County Hospital Devices Clinic

Monday to Friday (8.00am to 6.00pm) 01522 573847
(answerphone available)

Pilgrim Hospital Boston Devices Clinic

Monday to Friday (8:30am to 4:30pm) 01205 445443

Grantham Hospital Devices Clinic

Monday to Friday (8:30am to 4:30pm) 01476 464208

Useful websites:

British Heart Foundation www.bhf.org.uk

Arrhythmia Alliance www.heartrhythmcharity.org.uk

Cardiology Department, Lincoln County Hospital

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