

Patient Information Sheet - Permanent pacemaker insertion

Your doctor has recommended an implantation of a pacemaker. A pacemaker is an electronic device that can regulate your heart rhythm and prevent it from beating too slowly. It consists of a battery/electronic device (box) which connects to the heart via pacing leads (wires). Electrical impulses pass from the pacemaker to the heart and also from the heart to the pacemaker. The procedure is performed in a hospital. The risks and benefits of having a pacemaker will be discussed with you prior to the procedure.

You must notify your doctor if you:

- take **blood thinners** such as aspirin, clopidogrel, warfarin, dabigatran (pradaxa), apixaban (eliquis), rivaroxaban (xarelto), clexane, enoxaparin OR **certain diabetic and heart medications** especially dapagliflozin, empagliflozin, metformin – as these may need to be ceased prior to the procedure.
- have **allergies** to antibiotics or medical contrast dyes.

Prior to the procedure:

You will be admitted to the hospital, usually on the day of your procedure. Men may require hair from the chest to be clipped. You will have an antiseptic wash and blood tests will be taken prior to the procedure. Antibiotics will be administered through a vein to minimise the risk of infection.

Operative procedure:

Pacemaker implantation is usually performed under sedation/light anaesthesia together with local anaesthesia. Local anaesthetic is injected into the skin below the collar bone, where the pacemaker will be positioned. Slight discomfort may be felt with the administration of the local anaesthetic. Further anaesthetic is administered if any discomfort is felt. The pacing leads are inserted into a vein (under the collar bone) through which they are passed into the heart. Between one and three such leads are inserted, depending on your condition.

After the procedure:

Mild discomfort or pain can occur after the local anaesthetic wears off. It is usually adequately controlled with simple pain killers (e.g. paracetamol, panadeine) and typically settles over a few days. A few hours after the procedures or the morning after the procedure you will have a chest x-ray and a pacemaker check. If all is well you will be able to go home the day after the operation. A further pacemaker check will be arranged 2-6 weeks after the procedure.

Potential complications:

Bruising ~ 5%. Bleeding, infection, puncture of the lung, lead dislodgement ~ 1% or less. Puncture of the heart <0.5%. Blood clot in arm <1%. Stroke, heart attack, death <0.1%. Problem with the pacemaker <1% (This is not a complete list, and other complications which are less common can also occur). The pacemaker does take up "space", and hence a "lump" may be visible in the location of the pacemaker.

Wound care, dressing and follow up:

You should avoid showering or bathing for the first 24 hours after the procedure. Showering after this is OK, but direct water contact on the dressing is best avoided for 1 week. The dressing may be removed after 7 days, typically by your GP. The stitches will dissolve and do not usually require removal. Bruising at the site of the operation is not uncommon and usually settles on its own. Any signs of redness, warmth, localised pain, swelling, oozing, discharge must be reported to the doctor immediately (or your GP or emergency department if your doctor is not available). You will require a post operative review and a pacemaker

Information in this sheet is of a general nature only. Specific details of the procedure will be discussed with you, prior to the procedure.

check within a few 2-4 weeks of the procedure with the doctor. Regular pacemaker checks will be required on an ongoing basis after that.

Activity restrictions:

It is important to avoid heavy lifting (>4 kg) and raising your arm above the level of your shoulder for the first 6 weeks. It is however important for you to move your arm gently using every day movements to prevent a frozen/stiff shoulder. Driving restrictions apply – these are typically for 2 weeks, but can be longer, and they will be discussed with you. These restrictions are determined on government / driving guidelines.

Remote monitor/transmitter:

Your pacemaker may be supplied with a wireless monitor/transmitter. The technology involved allows transmission of certain pacemaker related information to the pacemaker manufacturer, which can then be passed on to your doctor. The aim of this is to allow notification of serious pacemaker related issues. This is **NOT AN EMERGENCY** service, transmissions are always delayed, they are never immediate and are only reviewed during business hours. If you develop any symptoms or feel unwell for whatever reason, you should seek medical attention from your doctor, ambulance or hospital, and **you should NOT expect anyone to contact you, just because you have a pacemaker monitor / transmitter.** Furthermore, the remote transmissions **DO NOT REPLACE** regular in person checks performed by your doctor.

Magnetic resonance imaging (MRI):

It is not uncommon for patients to require an MRI scan to be requested / performed at some stage, for cardiac, or more commonly, issues unrelated to your heart or pacemaker. Modern pacemakers and leads are MRI compatible. MRIs can usually be safely performed 6 weeks post pacemaker implantation. There are however some circumstances which make the pacemaker MRI non-compatible, based on current guidelines. Prior to an MRI being performed, the radiology department will typically require a “MRI pacemaker approval” to be completed, by the doctor looking after your pacemaker. To allow the completion of the relevant form, patients are required to have had a recent (within 3 months) pacemaker check.

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