

Nicholas Gall MSc MD FRCP

Consultant Cardiologist

Central London Consulting Rooms:
London Bridge Hospital
Cromwell Hospital
London Independent Hospital

NHS:
King's College Hospital

Outer London Consulting Rooms:
Blackheath Hospital
Chelsfield Park Hospital
Shirley Oaks Hospital
Sloane Hospital

INFORMATION FOR PATIENTS UNDERGOING A PACEMAKER CHANGE

You have been asked to come to hospital to have your pacemaker changed. This will be for one of several reasons:

- The pacemaker battery is running low. This is the most common reason
- It needs to be changed to a different type of pacemaker
- There are problems with your pacemaker or the wires
- The manufacturers have advised the pacemaker should be changed due to a possible fault

You should always understand the reason your pacemaker is being changed. If you are unclear please ask.

IMPORTANT

- **If you are taking warfarin we will need to ensure that your INR (a measure of your blood's thinness) has been well controlled prior to the procedure. We will also need to control it for the procedure. Please arrange to have your INR checked 5 days before your procedure. Phone us on that day so that we can advise you whether to stop the warfarin. If this coincides with a weekend, phone us at the earliest opportunity. Please have your yellow book to hand when you phone. You MUST tell us if you are taking warfarin for an artificial heart valve or a recent clot in the leg (deep vein thrombosis /DVT) or on the lung (pulmonary embolus /PE).**
- **If you are taking Clopidogrel (Plavix) you will need to stop this 5 days prior to your procedure. However if you have had an angioplasty please phone the Cardiac Helpline for advice. This may also apply to other blood thinning agents; if in doubt please ask.**
- **If there is any chance that you may be pregnant please let us know.**
- **If you are taking antibiotics on the days leading up to your procedure, please let us know so that we can advise you what to do.**
- **Please take all of your other tablets on the day of your admission and bring them with you.**

You will usually be admitted the day of your procedure and should expect to stay in for a minimum of one night. On the morning of the procedure you will be asked to take a shower or bath as this helps reduce the risk of infection. You must also not have anything to eat or drink for 4 hours before the procedure.

The procedure usually takes place in one of the Cardiac Catheter Labs. There will always be a nurse available to explain what is happening.

The procedure to change the pacemaker usually takes up to an hour, although times vary depending on how much the system needs altering. This procedure is generally performed under local anaesthetic; you will also receive some sedation (as much as you want). If your heart might beat too slowly whilst the pacemaker is being changed, we will place a temporary pacing wire into your heart through the vein at the top of your leg at the start of the procedure to prevent this from happening.

If it is just the box that needs changing we may make the incision over the box itself. It may take a little while to remove the box as over the years scar tissue forms around it making it more difficult to get at. Once the box is out, the wires can be checked. If these are fine then a new box can be placed on the old wires and the wound stitched closed.

Rarely the wires may be faulty. In this situation new ones will need to be put in, in the same way as they were placed originally – that is through a vein in your shoulder or just under your collar bone. Once in the right place the new wires are secured to reduce the chances of them moving in everyday life. Once the wires are in the correct position, the pacing box is then attached and inserted. Finally, the wound is stitched closed.

The stitches we use are usually dissolvable and therefore do not require removal. For the procedure you will be given a course of antibiotics to prevent pacemaker infection. The antibiotics usually used are Penicillin-based. Therefore **it is very important to inform staff if you are allergic to Penicillin**. If this is the case an alternative antibiotic will be used.

You may need to stay overnight after the procedure and on the following day will have a chest x-ray to check the position of the pacemaker wires (if these have been changed) and a pacemaker check to make sure that all is well. If all goes well we will discharge you the day after the procedure with a follow-up appointment in the pacing clinic for six weeks. If just the box is changed you can often go home the day of the procedure but make sure there is someone to take you home.

You may notice some pain after the procedure but this should not be too bad. It can usually be relieved with 'over-the-counter' pain killers, such as paracetamol. Shoulder stiffness can develop if you are reluctant to use the affected arm soon after implantation. Gentle arm movements the day after the procedure are advised to prevent this. If the wires have been replaced, you are advised that when doing these gentle movements you should NOT lift the arm on the pacemaker side above shoulder height. Do discuss what effect this procedure may have on your home life and work with one of the doctors or nurses.

You will be given a new pacemaker identification card – please carry this with you at all times.

You are not allowed to drive after a pacemaker change for one week if you hold a normal driving licence. This is a DVLA requirement. If you have a commercial licence this is extended to six weeks and you should always let the DVLA and your car insurance company know what you have had done.

Complications

This procedure cannot be performed without some element of risk; you need to understand the possible complications before you sign the consent form. It is important that you understand these are uncommon and unpredictable. The majority of patients have no problems. The possible complications are listed below for your information:

If you have just had the box changed:

The wound: the previous pacemaker formed a very tight-fitting scar around it. Your new pacemaker will be a different shape and despite a careful procedure it may not sit in the same way underneath your skin. This should not be too much of a problem for you but it is common for patients to notice this after the procedure.

Infection: this occurs in *approximately 2 in 100* patients. Antibiotics are given routinely to help prevent this.

Haematoma (severe bruising): this occurs in *approximately 4 in 100*. Rarely this bruising may need drainage. Patients taking blood thinning drugs are more prone to haematoma

formation.

X-rays. Your examination and/or treatment involves a period of x-ray scanning that will give you a relatively small x-ray dose. In some cases where we need to do more extensive investigation and treatment, there is a small chance that you will get a skin reddening reaction like sunburn which will fade after a few days. Please ask the radiographer if you require further information.

If the wires are changed too:

Pneumothorax (air leak around the lungs): this occurs in *approximately 1 in 100 patients*. The veins used to get the pacemaker wires to your heart lie very near to the lung. It is possible to nick the lung on the way past causing an air leak. Sometimes this resolves on its own. Occasionally a chest drain is needed; if so your stay in hospital may be delayed by a day or two.

Pericardial effusion (blood leak around the heart): this occurs in *approximately 1 in 500 patients*. When the wire is positioned in the heart it can cause a fluid collection around the outside of the heart. Sometimes this resolves on its own but occasionally a drain is needed. If so your stay in hospital may be delayed by a day or two.

Wire displacement: this occurs in *approximately 5 in 100*. This causes the pacemaker to pace inappropriately. In most cases the wires need to be repositioned requiring further surgery.

Items which you should bring with you:

Current tablets/medicines including your yellow warfarin book if you have one, details of your GP, next of kin and one other person (telephone numbers at home and at work), dressing gown, pyjamas/night dress.

You may also need:

Slippers, shaving equipment, mirror, comb/brush, flannel/sponge, towel, clothes for travelling home, change for the phone, reading glasses and hearing aid (if required).

You should not bring:

Television, jewellery (except wedding ring), large amounts of money.

When you come into hospital, further advice will be available from the doctors and nurses.