

Cardiology services

Having a pacemaker implantation

Information for patients, relatives and carers

Contact details

Booking Team: **020 3313 1661** or email: ICHC-tr.cathlabs@nhs.net

Cardiac Day Ward: **020 3313 1663** or **020 3313 4034**

**Due to Covid 19, visiting restrictions remain in place to keep everyone safe. Please visit our website for more details <https://www.imperial.nhs.uk> > patients and visitors > visiting.

Cardiac Rhythm Management team: **020 3313 3943 (Hammersmith); 020 3312 1956 (St Mary's)**

Pre-assessment Care Team: **0203 313 3412**

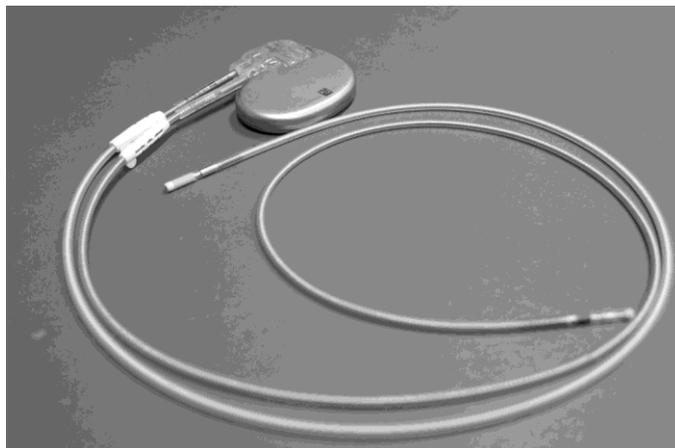
Transport booking team: **033 0678 1245** (Monday to Friday: 08.00–20.00, Saturday and Sunday: 10.00–13.00)

Above contacts are available Monday to Friday 09.00 – 17.00.

For out of hours, please contact NHS **111** for advice and health information.

What is a pacemaker?

A pacemaker is a small electronic device that is implanted in the chest or abdomen to manage abnormal heart rhythms (arrhythmias). A pacemaker works by sending electrical impulses to the heart muscle to stimulate the heart into maintaining a suitable heart rate and rhythm. This will prevent the heart from beating too slowly. Some pacemakers can also help to better synchronise the contraction between the lower chambers of your heart.



The pacemaker system is comprised of a pulse generator (or battery box) and one or more electrode leads depending on the nature of your heart condition:

- single chamber pacemaker (one lead)
- dual chamber pacemaker (two leads)
- biventricular pacemaker also known as Cardiac Resynchronisation Therapy-Pacemaker or CRT-P (three leads)

Most pacemaker batteries last approximately 8 to 14 years, but this depends on how much pacing therapy is required over the device's lifetime. The battery life will be monitored at each follow-up device check.

The pacemaker implantation procedure usually lasts between 1 to 3 hours. You will be able to go home the same day. In some cases, you may need to stay overnight in hospital for observation. This will depend on several factors which will be discussed with you on the day of your procedure.

As part of NHS safety measures in response to Covid 19, there are restrictions in place when visiting our hospital. Please visit our website for more details <https://www.imperial.nhs.uk> > patients and visitors > visiting.

Your friends/relatives can phone up the cardiac day ward to find out how you are doing and what time you will be discharged.

Why has a pacemaker been recommended for me?

You have had, or are at greater risk of having, a slow heart rhythm or pauses in rhythm. A pacemaker can be life-saving and help in regulating your heart rhythm.

In addition, the pacemaker can alleviate some arrhythmia symptoms such as fatigue and fainting spells and help you in resuming a more active lifestyle.

Are there any alternative to a pacemaker implantation?

A pacemaker implantation will only be requested by your doctor if they feel that this is the best way to treat your heart condition and symptoms.

Other alternatives are not to have the implant procedure and continue using medications (if applicable) to manage your heart condition and/or symptoms.

What are the risks and complications involved in having a pacemaker implantation?

The risks involved in having any pacemaker implantation procedure vary from patient to patient depending on your medical history. The cardiologist will discuss the risks in more detail with you on the day of your procedure. You will also be asked to sign a consent form.

Complications may include:

- bleeding or bruising
- risk of infection. This generally occurs during the first few weeks after your procedure. Symptoms include pain, swelling and redness at the wound site.
- blood clot formation in one of the veins in the arm on the side where the pacemaker is fitted.
- punctured lung
- lead dislodgement
- build-up of fluid around the heart

What I need to know before having my pacemaker implantation ?

Before your procedure, you will need to attend a nurse-led pre-assessment clinic as the next step in your care pathway. Currently, this pre-assessment service will be either a telephone or face to face appointment. For further enquiries, please contact the pre-assessment care team at 0203 313 3412.

It is important that you **arrange for a relative or a friend to take you home** after your procedure by car/taxi. You will not be able to drive or use public transport (on your own). **Your relative or friend will need to stay with you overnight or you may choose to stay with them for the night.**

If you do not have anyone to take you home or stay with you after your procedure, you **must** contact the booking team to **arrange a new date** or **pre-arrange an overnight hospital stay**. If you do not do this, we may have to cancel your procedure on the day.

If you are pregnant or think you may be pregnant, you must contact your cardiologist for appropriate advice about your treatment.

If you have had vomiting or diarrhoea, a cough, cold or skin infection with or without a fever during the 3 days before your procedure, please contact the booking team.

Plan your hospital journey beforehand. Wear a face mask (if possible) while travelling using public transport, hospital transport, a family car or a taxi. Please note that Hammersmith Hospital has a small number of general and disabled car parking spaces. Please visit our website for more details <https://www.imperial.nhs.uk> > our hospitals > hammersmith > parking.

What if I cannot keep my appointment?

If you cannot attend your appointment, please contact the booking team immediately. This allows us to agree a new appointment date and time with you and offer your original appointment to another patient. We will always aim to re-schedule your procedure appointment to the next available date.

If you are running late on the day of admission, please contact the cardiac day ward to notify them your estimated arrival time.

What happens if I need transport or an overnight stay?

In line with Department of Health guidelines, we provide a non-emergency transport service for patients whose clinical condition or mobility makes it very difficult for them to attend hospital without transport assistance. Please visit our website for more details <https://www.imperial.nhs.uk> > patients and visitors > help and support > patient transport.

Short stay studio flats are available for you and your visitors. We have purpose-built accommodation next to Hammersmith Hospital on Du Cane road. For further enquiries, please contact 020 3313 4873 or email imperial.accommodation@nhs.net for more information. Note that your relative or friend will need to stay with you overnight after your procedure.

How should I prepare for my procedure?

In response to Covid 19, we are taking every precaution to protect our patients and staff. We ask all patients and their carers to familiarise themselves with our new procedures for coming into hospital. Once you arrived at the hospital, please follow physical distancing rules (keep a two-metre distance from others), wear a face mask and practise good hand hygiene. Please visit our website for latest information on coronavirus infection prevention and control measures in place across our hospitals <https://www.imperial.nhs.uk> > patients and visitors > patients > coronavirus latest information.

Before coming to the hospital to attend your procedure, it is important to shower or bath. Please ensure any nail polish is removed and avoid applying heavy makeup. As monitoring equipment will be placed on your chest, it is advised not to apply moisturising skin lotion on your chest or on the implantation site. To minimise the risk of infection, you may prefer to shave or remove any hairs from the chest area (if possible) on your own. If not, this can be done for you on the day of the procedure.

Please only bring essential items and avoid wearing jewellery or other valuables. Bring a dressing gown, loose clothing, and comfortable footwear such as a pair of slippers for ease. As you may be in the hospital for around 4 to 6 hours, we suggest bringing something to read or listen to with a headset or earphones while you wait.

It is important that you do not eat and drink before your procedure to reduce the risk of food and drinks going into your lungs:

- **no food or milky/flavoured drinks for 6 hours** before your procedure.
- **only Plain (non-flavoured) Water** is allowed **until 2 hours** before your procedure.

For more details on how to prepare for your planned procedure, please visit our website <https://www.imperial.nhs.uk> >patients and visitors > patients > planned procedures and surgery.

Medication

The pre-assessment care team and your doctor will have advised and discussed with you about stopping any medications before your procedure. Please bring all your medications that you are currently taking with you when attending your procedure.

If you have any drug allergies, please ensure that you inform the team.

If you have asthma, please bring your inhaler medication with you.

If you are taking warfarin

- if you have had a stroke, have a mechanical heart valve, pulmonary embolus (clot in the lung) or have chronic thromboembolic pulmonary hypertension, please continue your warfarin and aim for an INR of around 2.5 for a week before your procedure. Your anticoagulation clinic will be able to assist you in this.
- if you do not have any of above, please stop warfarin 5 days before your procedure unless otherwise advised by your cardiologist
- it is very important that you bring your yellow INR record book with you to your procedure.

If you are taking Rivaroxaban (Xarelto), Apixaban (Eliquis), Edoxaban (Lixiana) or Dabigatran (Pradaxa)

- please stop taking the medication 1 day before your procedure unless otherwise advised by your cardiologist. *(For example, if your procedure is scheduled for Monday morning, the last dose of anticoagulation medication should be taken on the Sunday morning, leaving at least 24h duration free of the anticoagulant prior to the procedure. If you usually take your anticoagulation medication in the evening, then the last dose should be taken on the Saturday evening prior to the procedure.)*

If you are taking Clopidogrel, Prasugrel or Ticagrelor

- if you have had a coronary artery stent within the last 6 months, please continue taking the tablets and inform the pre-assessment care team.
- if you have not had a stent within the last 6 months, please stop the tablet 1 week before your procedure.

If you are taking Aspirin

- please do not take on the morning of your procedure

For any medications not stated above, please continue as per recommended by your doctor or pharmacist. If you have any enquires about any of your medications, please contact the pre-assessment care team.

What happens on the day of my appointment?

Please arrive at the hospital at the time stated in your admission letter. Note that this will not be the actual time of your procedure.

You will need to go to the cardiac day ward that is located beside the heart attack centre on the first floor of Block A, above the outpatients department. Please check in at the reception desk. Visit our website for our internal site map <https://www.imperial.nhs.uk> >our hospitals > hammersmith > hospital map.

A bed space will be allocated to you where blood samples and clinical history will be taken. The cardiologist will explain the risks and benefits of the procedure to you. Once you have understood these and agree to go ahead with the procedure, you will be asked to sign a consent form.

You will then change into a hospital gown and a member of staff will escort you to the procedure room.

We will ask you to lie down on the x-ray table and connect you to the monitoring equipment. We will clean your chest area with antiseptic fluid and cover it with a sterile sheet.

The procedure

You will be under local sedation (comfortably awake or lightly sleeping) during the procedure. In some special cases, the pacemaker procedure can be performed under full sedation or general anaesthesia (completely asleep). This will be discussed with you before your procedure.

The cardiologist will inject local anaesthetic (usually just below your left collarbone) to numb the area. The stinging sensation will only last for a short period of time.

When the implantation site is numb, the cardiologist will make a small cut. The device is usually implanted near the left shoulder; however, the implantation site can vary, and this will be discussed with you before the procedure.

The electrode lead/s will be passed through a vein into the heart with the use of x-ray imaging. The electrode lead/s will be checked for optimal lead placement and secured in position. The wound is closed using sutures and/or a special type of medical skin adhesive.

Once the procedure is done, you will be taken back to the recovery ward for post procedure observation.

What happens after the procedure?

The pacemaker is about the size of a small matchbox; there may be a slight bulge where it has been implanted, and you will have a small scar under your collarbone.

The implant site may be sore for a couple of weeks, and you may also notice some bruising, especially if you are taking blood thinning tablets. This is normal.

You will not routinely require any new medications following your procedure. Any medications prescribed for you as a result of the procedure will be supplied by the hospital.

Wound care

It is important that you keep the wound clean and dry until it has healed. If a dressing has been applied, you can remove this dressing 2 days after your pacemaker implantation. Although it is not

necessary, you may prefer to keep your wound covered with a dry dressing for a longer period. Please ensure that the sticky edges of the dressing do not contact the wound.

If you had sutures to close the wound, the nursing staffs will be able to tell you the type of sutures used. Some sutures dissolve by themselves whilst others will need to be removed by your GP practice nurse after 7 to 10 days.

In most cases, you will also find that a medical skin adhesive has been applied on the skin edges of wound. This medical skin adhesive has a water-resistant protective coating and will flake off by itself after 5 to 10 days.

You can shower after your procedure, however, try and avoid getting the wound wet. Always pat down to dry the wound area rather than rubbing. Do not immerse in any bath for at least 1 to 2 week or only until your wound has fully healed. Do not scrub/ scratch/ touch or apply any heat packs, cream or oil over the wound site to minimise the risk of infecting the wound.

You may be given antibiotics to take for the first few days after you get home, although this is not always required. If antibiotics are prescribed for you, they will be supplied by the hospital.

If the wound becomes sore or swollen or there is excess discharge or oozing, please contact the cardiac day ward or the cardiac rhythm management team immediately.

At home

For the first couple of weeks, try not to raise your elbow above your shoulder. This is to help prevent the leads from moving before becoming firmly embedded into the heart tissue and to help the wound to heal properly.

It is important to gently rotate and/or flex your arm to prevent your shoulder from becoming stiff.

Avoid strenuous arm movements such as lifting heavy loads, playing golf or swimming until you have been follow-up at the device clinic for your first appointment after your procedure.

Are there activities I need to avoid?

Most patients can return to work within a few days. This will depend on the nature of your work. Jobs involving industrial machinery should be discussed with your doctor or the cardiac rhythm management team.

Most patients return to their normal activities/exercises within 3 to 4 weeks. This should be discussed with your doctor, or the cardiac rhythm management team and these activities/ exercises should be built up gradually.

However, contact sports should be avoided as there is a very small risk of damage to your pacemaker from an exceptionally violent impact.

Do I need to avoid electrical appliances and mobile phones?

All current pacemaker devices are protected against mobile phone interference. However, it is advisable to avoid keeping a mobile phone in a shirt or jacket pocket that is over your pacemaker device (even if it is switched off).

Please keep most electronic gadgets (like mobile phone or Bluetooth headset) at least 6 inches (15 centimetres) away from your cardiac device.

Properly maintained domestic electrical appliances such as microwave ovens, will not affect the function of your device.

If you have an induction hob, you must keep your pacemaker device 2 feet (60 centimetres) away from the hob to prevent interference with your pacemaker settings.

Not all pacemakers are compatible with MRI scanners. If you require MRI scan, please check with the cardiac rhythm management team. Normal x-rays and CT scans are safe.

If you have concerns that the treatment you require may affect your device, please discuss them with the cardiac rhythm management team or your doctor.

ID card

When attending your first device appointment (within 4 to 8 weeks) after your procedure, you may be provided with a new ID card containing the details of your new device, otherwise one will be posted to you.

It is important that your ID card is always carried with you as this will allow medical professionals to identify the manufacturer and model of your device should they require it.

If you are travelling overseas before your first pacemaker check is due, please ask for your pacemaker ID card to be given to you on the day of your procedure as you may require it for the security clearance at airport customs.

Follow-up checks

On-going care and management of your pacemaker will be co-ordinated by the cardiac rhythm management team. An initial pacemaker clinic appointment will be sent to you for around 4 to 8 weeks after the implant.

You will be followed-up at either Hammersmith Hospital or St Marys Hospital depending on where you normally reside.

You may need to attend your follow-up appointment usually every 6 to 12 months. It is very important that your pacemaker continues to be checked at regular intervals. Some pacemakers can also be checked via remote transmission so you may not always be required to attend the hospital.

All these regular checks do not replace seeing your cardiologist in the outpatient clinic.

Psychological Impact

Some patients can feel depressed after a pacemaker implant. It is normal if you feel very emotional afterwards. The reasons for this vary from patient to patient. Discuss your feelings with your doctor or the cardiac rhythm management team. They can examine these worries with you and refer you to our clinical psychology team if you think this would be helpful.

Driving - when to notify the Driving and Vehicle Licensing Agency (DVLA)

For pacemaker implant, the DVLA driving recommendations are

Group 1 licences (car, motorcycle): You must notify DVLA of the pacemaker implantation and must not drive for 1 week after your pacemaker implantation. You can resume driving after 1 week if there is no disqualifying condition.

Group 2 licences (lorries, buses): You must notify DVLA of the pacemaker implantation and must not drive for 6 weeks after your pacemaker implantation. You can resume driving after 6 weeks if there is no disqualifying condition.

Please refer to DVLA website for more information <https://www.gov.uk/guidance/cardiovascular-disorders-assessing-fitness-to-drive>



Or scan

Seatbelts

Patients with pacemakers are not exempt from wearing a seatbelt. It may be necessary to place a small pad or sponge over the device to ease any discomfort that a seatbelt may cause.

Insurance

Please make sure that you have informed the relevant insurance companies (such as travel insurance, life insurance, medical care) that you have a pacemaker.

Is it safe to travel?

If there have been no complications, you will be able to travel a week after your procedure, however, we would advise that you attend your first appointment with us before travelling.

Remember to present your pacemaker ID card to airport security staff so they can perform appropriate action/ instructions about walking through the security archway or using the handheld wand for your security clearance.

Always ensure that you have adequate travel insurance.

MedicAlert® Bracelet

You may wish to consider wearing a MedicAlert® bracelet to show medical staff that you have a pacemaker. Please visit the website for more information <https://www.medicalert.org.uk/>

Useful links:

British Heart Foundation - <https://www.bhf.org.uk/>

Heart Arrhythmia Alliance - <https://www.heartrhythmalliance.org/>

How do I make a comment about my visit?

We aim to provide the best possible care and would like to hear about your experience of our services. By telling us about your experiences and raising any concerns you may have, it helps us to make improvements.

Please visit our website for more information <https://www.imperial.nhs.uk> > patients and visitors > help and support > your feedback.

If you have any general queries or would like to raise a concern, please either speak to a member of staff or contact the patient advice and liaison service (PALS) 020 3312 7777 (10.00 – 16.00, Monday to Friday). You can also email PALS at imperial.pals@nhs.net The PALS team will listen to your concerns, suggestions or queries and is often able to help solve problems on your behalf.

If, despite our best efforts, we are not able to resolve your concerns informally with the staff caring for you or via PALS, you have the choice to make a formal complaint.

To make a complaint please email our complaints office at: ICHC-tr.Complaints@nhs.net or send a letter addressed to:

Complaints department

Fourth floor

Salton House

St Mary's Hospital

Praed Street

London W2 1NY

Alternative formats

This leaflet can be provided on request in large print or easy read, as a sound recording, in Braille or in alternative languages.

Please email the communications team: imperial.communications@nhs.net

Wi-Fi

Wi-Fi is available at our Trust. For more information visit our website: <https://www.imperial.nhs.uk> > our locations > hammersmith > our facilities.

Cardiology
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