

Cardiology department

# Transcatheter edge-to-edge repair of mitral and tricuspid valve

## Information for patients, relatives and carers

### Introduction

This leaflet aims to give you information about transcatheter edge-to-edge repair (TEER). This is used to treat severe leaking of the mitral valve (mitral regurgitation) and tricuspid valve (tricuspid regurgitation). Usually, we'll only need to repair one valve at a time, and it's the same procedure for both.

We hope this leaflet answers some of the questions that you and those important to you may have. It's not meant to replace the consultation between you and your medical team but aims to help you understand more about what is discussed. If you have any questions or concerns, please let us know.

### What are mitral regurgitation and tricuspid regurgitation?

Regurgitation is when a leaking heart valve allows blood to flow backwards in the heart. The leaflets, or flaps, do not meet in the middle, so the heart is forced to work harder. This extra work can cause enlargement of the heart chambers. This can weaken the heart and make it work less effectively.

It can happen to:

- the mitral valve, on the left side of the heart
- the tricuspid valve, on the right side of the heart
- or both

### Symptoms of mitral or tricuspid regurgitation

Both conditions might give you symptoms like:

- breathlessness
- swollen feet
- difficulty exercising
- irregular heartbeat (palpitations)

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- unusual sounds during a heartbeat (murmur)

## Why it is important to treat valve disease

Untreated mitral valve and tricuspid valve problems can weaken the heart muscle over time. This can make your overall health worse and make it difficult to carry out normal daily activities.

Without treatment, these problems pose a serious, life-threatening risk. They can lead to heart failure and can cause sudden cardiac death.

## Repairing a leaking valve using a device clip

Until recently, open-heart surgery was needed to repair valves and ease the symptoms of mitral and tricuspid leaking (regurgitation) and heart failure. This was a big operation.

Now, device clips can be used to make the repair without a big operation. The procedure is less invasive. This means it is quicker, leaves a smaller wound, and you can usually go home more quickly afterwards. It is still performed under general anaesthesia. The TEER procedure allows the valve to be repaired by inserting a thin, flexible catheter (tube) through the skin in the groin.

## Benefits of TEER

- about 70 in 100 (70%) of patients experience improved symptoms after having a device clip procedure they have less breathlessness and fatigue and can resume daily activities

## Risks of TEER

This procedure is considered if doctors feel that traditional open-heart surgery would be high risk.

Like any other medical procedure, TEER involves risks. For this procedure, the risks include:

- stroke: risk of 1 in 100 (1%)
- death: 1 in 100 (1%)
- bleeding: 5 in 100 (5%). This is usually at the access site and can be managed by manual compression in most of the cases
- collection of blood around the heart requiring drainage: 1 in 100 (1%)
- abnormal heart rhythm: 5 in 100 (5%). This is usually treated with drugs but sometimes may require an electric shock to recover
- damage to teeth, throat, and oesophagus: 1 in 1000 (0.1%). During the procedure, the doctor will put another flexible tube (a probe) down your throat into your swallowing tube (oesophagus). This is called transoesophageal echocardiogram (TOE). It enables the

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cardiologist to perform the TEER procedure. Inserting this probe can damage your teeth, throat, and oesophagus.

In some cases, if there is a serious complication, we may have to perform open-heart surgery. A cardiac and vascular surgical team is always available during a TEER procedure in case this is necessary. However, it is not always possible to repair a complication in this way. Your consultant will discuss this risk with you.

## Alternatives to TEER

Alternatives to TEER include open-heart surgery and medication to manage symptoms. It's crucial to discuss the effects of not undergoing the procedure with your cardiologist.

## Preparing for your TEER procedure

About two weeks before the TEER procedure, you can expect a pre-procedural assessment phone call from a specialist nursing team. A blood test will be arranged during this call.

If you feel unwell before your TEER procedure, telephone the TEER secretary / clinical nurse specialist on 020 3313 1621.

## Stopping medication

If you are taking anticoagulation tablets, or a direct anticoagulant (DOAC) you must stop taking them about 48 hours before your procedure. Please speak to your doctor about this and about whether you need an alternative blood-thinning medication during that time.

Stop taking SGLT2 inhibitors (dapagliflozin, canagliflozin, empagliflozin, ertugliflozin) 48 hours before the procedure.

Stop metformin intake one day before the procedure.

**Do not stop taking your tablets until the doctor or the nurse specialist discusses with you.**

## Food and drink

Do not eat anything after midnight on the day of your TEER procedure. You can drink water, up until 6am on the day of your procedure, unless told otherwise.

## Admission to hospital

You will be admitted to hospital one day before the procedure, so will have an overnight stay. This allows time for all necessary tests to be completed, and for us to ensure a smooth and efficient procedure.

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We may carry out pre-procedural tests such as electrocardiogram (ECG) and echocardiogram (ECHO).

## What to bring to hospital

Only bring essential items that you need for your stay. There is limited space on the bedsides and in the ward. Leave valuables at home.

## What happens during the procedure

1. You will be asked to change into a hospital gown and will have a small plastic tube (cannula) inserted into a vein in one of your arms so we can give medication to you.
2. When you arrive in the catheter lab, staff will check your identification and which procedure you are having.
3. The anaesthetist will put you to sleep. An artificial breathing machine (ventilator) will help you breathe during the procedure. Machines will also be used to monitor your heart rate, blood pressure and oxygen levels.
4. The doctor will then make a small (1cm) cut, in your groin to insert a tube (catheter) into a vein. The tube allows doctor to reach your heart and insert the device clip. The tube is also a safe way for doctors to give you drugs during your procedure.
5. The doctor guides the tube through the vein to your valve.
6. The doctor then guides the clip through the tube to the valve.
7. Once in place, the clip is opened and closed until it is in the best position.

The procedure lasts for 2 to 3 hours.

We may insert a temporary pacemaker for the procedure. This will allow the doctors to regulate your heart rate during the valve replacement if they need to.

## What happens after the procedure

1. We will transfer you to the coronary care unit (CCU) or cardiac recovery unit (CRU).
2. You will be attached to a heart monitor and the nurse looking after you will inspect your wound site and perform regular observations.
3. You will have to lie flat for the first couple of hours after the procedure.
4. The physiotherapy and cardiac rehabilitation teams will visit you on the ward. They will encourage you to get out of bed and back on your feet as soon as you can. They will advise you on a healthy heart-friendly diet and exercise programme.

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## Visiting

Visiting times are from 10.00 to 12.30 and 15.00 to 20.00. Rest is an essential part of your recovery and so we ask all visitors to call the ward before visiting.

Only two visitors are allowed at your bedside at any one time. Sorry, fresh flowers are not allowed. This is to reduce the risk of infection.

## Wound care

You will have a small cut in your groin with a stitch, where the catheter was inserted. A nurse will take the stitch out and cover the wound with a dressing the day after your procedure. The area around your groin may have some bruising and may feel a little tender. A nurse will remove the dressing before you go home.

## When you can go home

You should be able to go home the day after your procedure. However, some patients can go home a few days later depending on their situation. The ward cardiology team will review you each day and decide when you can be discharged.

You will not be able to go home by yourself or take public transport. Where possible, we advise that a relative or friend drives you home or accompanies you in a taxi.

We can only provide hospital transport in exceptional circumstances. Please speak to the nurses on the ward if you have any concerns about your journey home.

## Prescription and letter to take home

We will give you 14 days' worth of your usual medication to take home. You will need to see your GP within one week of going home to renew your prescription.

We also give you a letter listing your tablets and describing the procedure and your stay with us. A copy of this will be sent to your GP.

## Your recovery

When you leave hospital, give yourself one week or so to get your strength back before returning to everyday activities.

Avoid anything strenuous, such as lifting heavy objects, shopping and excessive pulling or pushing (for example, gardening or vacuum cleaning), for about 4 weeks.

Start with regular walks and increase their length daily. You do not have to avoid climbing stairs or walking uphill – just take it slowly and steadily at first.

After this time, you should be back doing the things you used to do. You may find that you can do more if the leaky mitral valve was holding you back before. It's essential to keep taking care of the groin wound, following the instructions you've been given.

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**This information is a guide only – everyone is different.**

## Symptoms to watch out for at home

Please contact your GP immediately if you notice that your insertion site becomes red, inflamed or is oozing. These may be signs of infection. If your wound starts to swell or bleed or you feel more breathless than before, seek help immediately.

- during working hours, you can contact the cardiac catheter lab at Hammersmith Hospital on 020 3313 1661.
- out of hours, you can contact your GP or attend your local walk-in centre or A&E.

## When you can drive again

- if you have a car or motorcycle licence, stop driving for at least 1 month. Only restart driving when your doctor tells you it's safe. You do not need to tell the DVLA
- if you have a bus, coach, or lorry licence (LGV or PCV), you must stop driving for at least 3 months. Only restart driving when your doctor tells you it's safe. You must tell the DVLA
- you may need further testing before you start driving again. Please discuss this with your doctor and your employer.

**These are legal requirements.** See [www.gov.uk/valve-disease-and-driving](http://www.gov.uk/valve-disease-and-driving)

## When you can travel by plane

It is safe to fly to any destination one month after the procedure, if you have not had any complications and you are the passenger and not the pilot.

## When you can return to work

This will depend on many factors, such as the overall state of your health and the type of work you do. Please discuss this in more detail with your doctor.

## Returning to hospital for a follow-up

You will get a follow-up appointment 4 to 6 weeks after your procedure. You will get a letter in the post confirming the date and time. On each visit to hospital, you will have an ECG to assess the rhythm of your heart and an ECHO to check how well the new valve is working.

Please speak up to one of your doctors or ward nursing staff if you have any questions or concerns. We are here to help.

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## Safety of MRI scans (magnetic resonance imaging)

Patients with device clips are generally able to have MRI scans. If you need an MRI scan after your TEER procedure, tell the staff when you book that you have a device clip.

## Contact details

TEER secretary / clinical nurse specialist:	020 3313 1621
A7 ward:	020 3313 3502
C8 ward:	020 3313 1301
Cardiac catheter lab:	020 331 3 1267
Cardiac recovery unit, Hammersmith Hospital:	020 3313 8937
Cardiology bed manager:	020 3313 1000 bleep 9309
Patient transport booking centre:	020 3311 5353

British Cardiac Patients Association (BCPA) helpline: 01223 846845

## How do I make a comment about my visit?

We aim to provide the best possible service and staff will be happy to answer any of the questions you may have. If you have any **suggestions** or **comments** about your visit, please either speak to a member of staff or contact the patient advice and liaison service (**PALS**) on **020 3312 7777** (10.00 – 16.00, Monday to Friday). You can also email PALS at [imperial.pals@nhs.net](mailto: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.

Alternatively, you may wish to complain by contacting our complaints department:

Complaints department, fourth floor, Salton House, St Mary's Hospital, Praed Street  
London W2 1NY

Email: [ICHC-tr.Complaints@nhs.net](mailto:ICHC-tr.Complaints@nhs.net)

Telephone: **020 3312 1337 / 1349**

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](mailto:imperial.communications@nhs.net)

## Wi-fi

Wi-fi is available at our Trust. For more information visit our website: [www.imperial.nhs.uk](http://www.imperial.nhs.uk)