

# Stretching your heart's narrowed mitral valve with a balloon (balloon mitral valvuloplasty)

## Department of Cardiology

### Information for Patients

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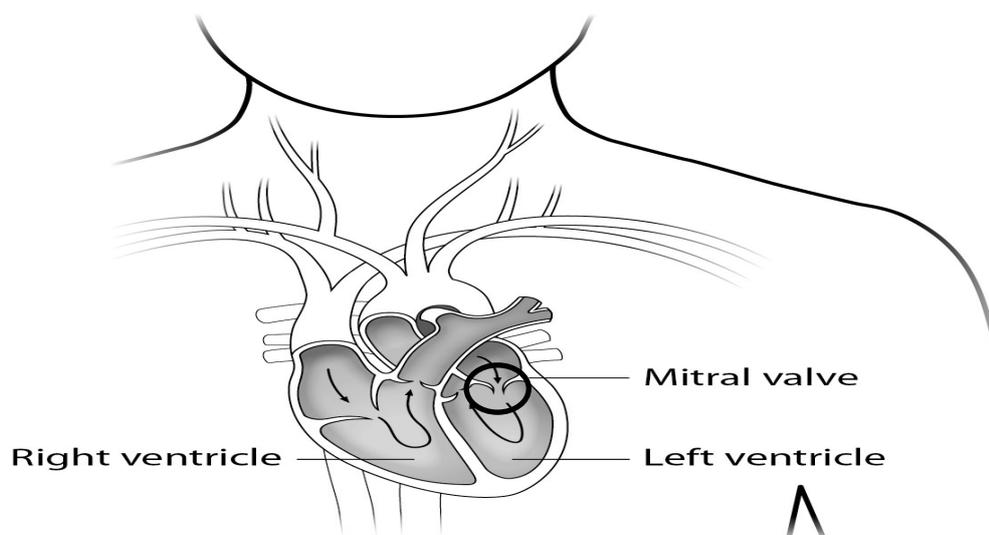
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This booklet aims to help you understand what to expect before, during and after your procedure to stretch your mitral valve (mitral valvuloplasty). If you have any questions that the booklet does not answer, please do not hesitate to ask the nursing or medical staff who are looking after you.

## What is mitral stenosis?

We have 4 valves in our heart. They make sure the blood only flows in one direction through your heart. The mitral valve is a flap found between the left upper and lower chambers of the heart. Mitral stenosis is a heart condition where the mitral valve narrows and thickens. This restricts the flow of blood through the heart. This may cause a back-up of blood and fluid to lungs.

Mitral stenosis most commonly develops many years after a person has had rheumatic fever. Many patients diagnosed with mitral stenosis do not recall ever having the illness.



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## What are the symptoms of mitral stenosis?

Many of the symptoms of mitral stenosis, such as shortness of breath and fatigue, result from a back-up of blood in the lungs. Other symptoms of mitral stenosis can include:

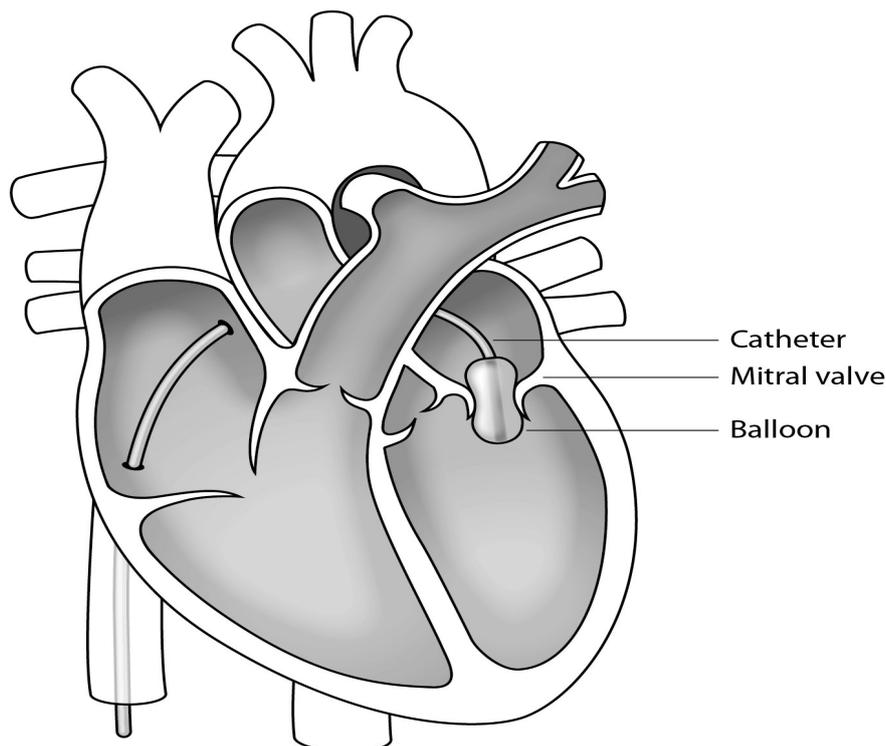
- Weight gain
- Chest pain
- Weakness
- Dizziness
- Swelling in the ankles, feet and/or abdomen
- Irregular heartbeat.

## How is mitral valve stenosis treated?

The symptoms of mitral valve stenosis can sometimes be treated with medications if the symptoms are mild. When medications do not work to control symptoms, balloon valvuloplasty, surgical valve repair or replacement is done.

## What is mitral valvuloplasty?

Mitral valvuloplasty involves stretching the mitral valve with a balloon. The balloon is threaded into the heart through a large vein (femoral) in the groin. This will allow blood to flow more easily through the mitral valve.



## What are the benefits of this procedure?

The procedure helps with symptoms like:

- shortness of breath and chest pain.
- to increase the mitral valve area.

This procedure will usually only provide a temporary benefit of weeks to months before the valve becomes tight again. This may allow longer term treatment (e.g. valve replacement) at a future date although in some cases the procedure does not lead to any specific additional treatment. The outcome of the procedure will be evaluated so that the medical team can plan future treatment.

## What are the risks of the procedure?

Every procedure carries some risks and these can be different for each person. There are a number of risks related to balloon mitral valvuloplasty which you have to think about before giving your consent to have the procedure done.

The serious or frequently occurring risks are:

- bruising/ discomfort at the place the catheter is introduced is common.
- 1 to 2 in 100 risk of stroke, heart attack (myocardial infarction), or minor bleeding
- 1 in 200 risk of death
- 1 in 100 risk of needing permanent pacemaker
- 1 in 100 risk of collecting fluid around the heart.
- 1 in 100 risk of causing abnormal heart rhythm (atrial fibrillation) (you are at risk of atrial fibrillation anyway due to mitral stenosis)
- 5 in 100 risk of causing significant mitral regurgitation, where the blood flows the wrong way in the heart as the mitral valve does not close properly
- 1 to 5 in 100 risk of bleeding which may need an operation
- 1 in 1000 risk of damage parts of the heart
- Less than 1 in 1000 to 10,000 risk of radiation induced cancer by using the x-ray machine for the procedure.

**Blood transfusion:** Very unlikely

**Other procedure:** Urgent use of medications to keep your blood pressure and heart rate within the normal range (haemodynamic support) or emergency heart (cardiac) surgery.

## Your pre-admission appointment

### Eat and drink as normal for this appointment

You will be asked to attend a pre-admission appointment at Clinic D Glenfield Hospital. Please be prepared for a stay for about 2 hours.

- A nurse will assess your present condition and medical history. Further information will be given to you at this appointment and you will be given an opportunity to ask questions.
- You will also have an electrocardiograph (ECG), and blood tests. To check for MRSA, swab samples will be taken from your nose and between your legs (perineum) and any apparent skin wounds.
- If you are on any blood thinning tablet or have diabetes the nursing staff will advise you about what tablets you may need to stop before coming in to hospital. Patients that are taking any blood thinning tablet may in some circumstances need to be admitted earlier for intravenous heparin or to have injection in your abdomen.
- Remember to bring all your usual medication with you to your pre-admission appointment and your admission.

### What happens on the day?

- You will need to fast before your procedure. Do not eat after midnight (12am) but you may have a drink at 6 am (clear fluids such as water, black tea or coffee). All fluids must be stopped 2 hours before the procedure.
- You will need to shower with an antibacterial wash. This is given to you at the pre-admission appointment.
- Please bring your current medication or recent prescription.
- It is a day case procedure and you will be sent home the same day. However, please bring a overnight stay bag in case there are any complications after the procedure and you need to stay in hospital.
- You will be admitted to Ward 32 at the Glenfield Hospital. On admission you will be told when you are booked (scheduled) for your procedure.
- You will be reviewed by an anesthetic doctor and your cardiologist. You will have both a general and local anaesthetic during the procedure.
- You will be asked to sign a consent form.
- About 1 to 1.5 hours before your procedure you will change into a hospital gown.
- If there is too much hair growth in the groin area (catheter incision site), it may be shaved off.

## How is the balloon mitral valvuloplasty performed?

- Mitral valvuloplasty can be done in the cardiac catheter laboratory by a cardiologist under general anesthetic.
- When you arrive in the catheter room you will see that there is a lot of machinery. This can be overwhelming do not be alarmed as this is special monitoring and X-ray equipment.
- You will need to lie on your back on a hard X-ray table and heart monitor wires will be attached to you.
- The anaesthetic doctor will insert a small needle in your hand and give you injections to make you sleep.
- To begin the procedure, the doctor will clean your left and right groin areas with a cold antiseptic liquid. He will then cover you with green cloths to keep a sterile working area.
- You will then be injected with local anaesthetic in both groins to numb (freeze) the area where the tubes (catheters) will be inserted into the blood vessels (one in either side) and guided into the chambers of the heart.
- An ultrasound probe that you swallow (transoesophageal probe) will be passed into your food pipe (gullet) so that the mitral valve can be assessed during the procedure. This also will help your consultant position the catheters and balloon.
- The doctor creates a tiny hole in the wall between the 2 upper chambers of the heart. This hole will allow the doctor to access the left chamber (atrium) with a special tube that has a balloon at the tip. At this point you will be given an anti-clotting drug through the needle in your hand/arm.
- The catheter will be positioned with the balloon in the mitral valve. The balloon will be then be inflated and deflated as many times as is necessary to widen the valve opening. Once the doctor has decided the opening of the valve has been stretched enough, the balloon will be deflated and removed.
- The doctor may close the catheter insertion site with a closure device that uses stitches (sutures). One of the staff will put manual pressure on the area to stop the blood vessel from bleeding. Once the bleeding has stopped, a small sterile dressing will be put on the area.
- The procedure takes 1 to 1:5 hours and you will be asleep for most of this time. Once awake you will be supported by the recovery team.

## Returning to the ward

- Your nurse will collect you from the recovery area where a brief handover is given
- When you return to the ward, the nurse will check your blood pressure, pulse and pulses in your feet (called 'pedal pulses'). An ECG (electrocardiograph) or heart tracing will also be done. These are all routine checks that are needed in case any complications develop.
- You will need to lie flat for several hours to prevent bleeding.
- If you have temporary numbness or weakness in your leg, special steps will be taken to make sure you are safe when you first get up. If you need to wee and your leg is numb, it may not be safe to walk to the bathroom. You will use a urinal or bedpan instead.
- You can go home when your doctor says it's okay. This may mean you have to stay overnight. You will need to have someone to drive you home.
- Tell your nurse immediately if you have
  - a fever,
  - chest pain,
  - swelling at the groin,
  - pain in your groin or leg, or
  - bleeding at your groin site.
- You will also be connected to a drip - or IVI (intravenous infusion), that will be running for approximately 4 to 6 hours.

If you have any specific worries about any of these issues, please talk to your consultant.

## Before discharge

On the evening of the procedure your medications will be reviewed and restarted.

Sometimes a repeat echocardiogram will be requested before discharge. An echocardiogram is a scan of your heart using ultrasound equipment.

## Discharge

If there are no complications you will be able to go home the same day as your procedure. The doctors will talk to you about your results.

## Going home after the procedure

You should do as little as possible for 3 days this means:

- **no heavy lifting**
- **no heavy cleaning**
- **no heavy shopping**
- **no heavy gardening**
- You are advised not to drive for 4 weeks. You do **not** need to contact the DVLA unless you hold a PSV/HGV license.
- There is a very small risk of the wound in your groin starting to bleed. Should this occur do not panic but lie down on the floor (not the bed), where you are less likely to faint. You or better still, a relative or friend, should press with the flat of the fingers of both hands or a clenched fist over the groin wound for 30 minutes and then slowly release.
- It would then be advisable to contact your GP so that they can check your wound and to see that you are all right. If the bleeding has not stopped after 30 minutes dial 999 for help.
- Slightly more common is the development of a painful bruise over the puncture wound in your groin. This is due to bleeding under the skin. If a painful lump does develop, especially if the groin becomes painful when walking, please seek medical advice.
- Bruising and discolouration above and below the groin, even down to the knee may develop over the week after the procedure. This may look very unsightly passing from a blue-purple colour eventually to a yellow one, but is often not painful and is not serious. Paracetamol can be taken for minor discomfort.
- Avoid baths, hot tubs, or swimming pools for the first 5 days or until the wound is closed. Showers are okay after 24 hours, but do not let the spray hit the site.
- Avoid bending or squatting or any intense activity such as running, or lifting anything over 20 pounds.
- Take short walks (5 to 10 minutes) 4 or 5 times a day and build up slowly.
- If there is any doubt or problem with your groin wound, within the first week of returning home, you are advised to contact your GP.
- You can go back to work when your consultant say its okay.

It is rare to have severe bleeding from the wound site once you are home. if bleeding does occur you must:

- lie down.
- apply pressure to the cut (incision) site and ask someone to call 999.

You should get urgent medical advice if you feel unwell with after the procedure with symptoms of:

- chest pain
- dizziness
- fainting
- shortness of breath

## Does balloon valvuloplasty cure mitral valve disease?

Balloon valvuloplasty is a procedure that may relieve many of the symptoms of valve disease, but it will not cure valve disease. Some patients may continue to need medications, even after a successful procedure.

## Glossary of terms

**Cardiac catheterisation:** this is a procedure to examine how well your heart is working. It is also to find out if you have disease of the heart muscle, valves or heart (coronary) arteries. During this test, doctor's put a long, narrow tube called a catheter into a blood vessel in your arm or leg and guide it to your heart with the aid of a special X-ray machine. Doctors use contrast dye that they inject into your blood vessel through the catheter to create X-ray videos of your valves, arteries, and heart chambers.

**Catheter laboratory (cath lab):** this is an examination room in a hospital or clinic with diagnostic imaging equipment used to look at the arteries and chambers of the heart, and treat any stenosis or abnormality found.

**Contrast dye:** this is a solution that radiologists use to see your organs and tissues more clearly in medical images such as X-rays, MRI and CT scan.

**Haemodynamic support:** this means to use medications to keep your blood pressure and heart rate within the normal range.

**Percutaneous:** this is a method to access the inner organs via a needle puncture of the skin.

**Radiologist:** this is a doctor who is specially trained to interpret diagnostic images such as X-rays, MRI and CT scans.

**Transoesophageal echocardiogram (TOE):** a test is sometimes done to take clearer pictures of the heart using a probe down your throat. You will be asked to lie down and swallow the tube. You may be given some drugs to help you relax before this is done.

## Further information

[www.nice.org.uk/guidance/ipg352](http://www.nice.org.uk/guidance/ipg352)

## Contact details

Structural Heart Valve Clinical Nurse Specialist: 07950 870853 (Monday to Friday, 8am to 4pm)

Structural Heart Valve Co-ordinator: 0116 258 3361 (Monday to Friday, 8am to 4pm)

## Interpreters

Please tell a member of staff if you need an interpreter.

If you have any questions, write them down here to remind you what to ask when you speak to your nurse/ doctor/ consultant:

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اگر آپ کو یہ معلومات کسی اور زبان میں درکار ہیں، تو براہ کرم مندرجہ ذیل نمبر پر ٹیلی فون کریں۔  
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