

The Alexandra Hospital

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The Alexandra
Hospital
Part of Circle Health Group



Endoscopic

Minimally Invasive Heart Valve Surgery

Endoscopic Minimally Invasive Heart Valve Surgery

This booklet aims to provide you, and your family, with an understanding of the operation you will be undergoing. It will cover what to expect before coming to The Alexandra Hospital for your admission, and what to expect following discharge and recovery.

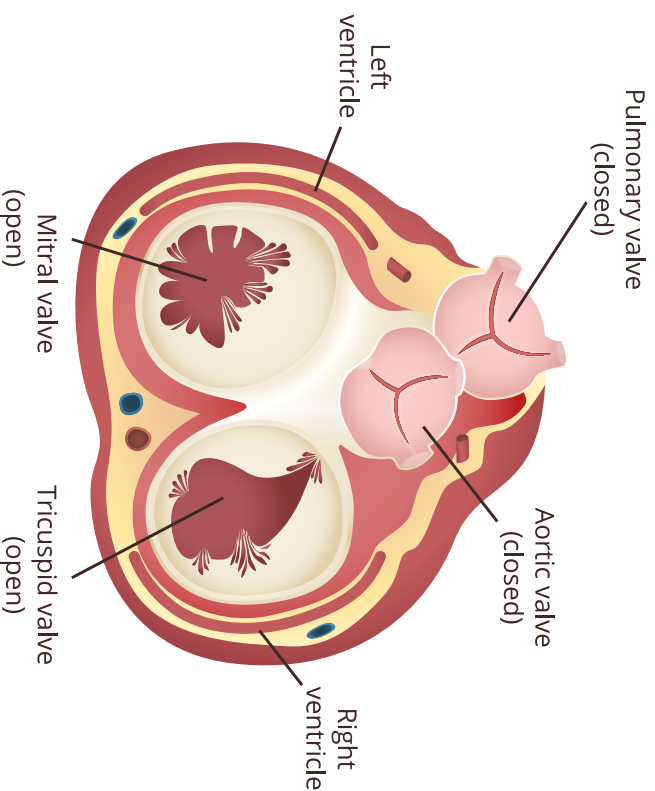
Patient and Family Experience

We understand that you may wish to involve family or carers in your care, to support you during your treatment journey. We can share information regarding your care and condition with the family members you nominate. If you, your family, or your carers have any questions during your experience at The Alexandra Hospital please let us know. We are here to help and put you at ease during your time with us.

What is a Heart valve?

The heart has four valves called Aortic, Mitral, Tricuspid and the Pulmonary valves and they stop blood from flowing in the wrong direction.

The valves act as a one-way system, however, over time it is possible for any of these valves to become diseased or damaged. When this happens, it can leak, this is called regurgitation, or become narrowed called stenosis. This can make you feel tired and short of breath and may affect your daily activities.



This diagram shows the valves in the human heart.

Traditional Heart Valve Surgery

Traditional heart valve surgery is performed by dividing the breastbone (sternum). This is known as a sternotomy and leaves a 9 - 12-inch scar on the front of the chest. This technique is used as it provides the surgeon with wide exposure and high visibility, however, it does involve cutting and spreading the breastbone (sternum) and recovery from this procedure can take approximately two to three months.

Alongside this, there are several lifestyle changes that will need to be made, to allow the breastbone to heal. These include:

- No driving for four-six weeks
- No lifting anything heavier than a bag of sugar for six weeks
- No pushing up from a bed or chair with your arms for six weeks

What makes Endoscopic minimally invasive surgery different?

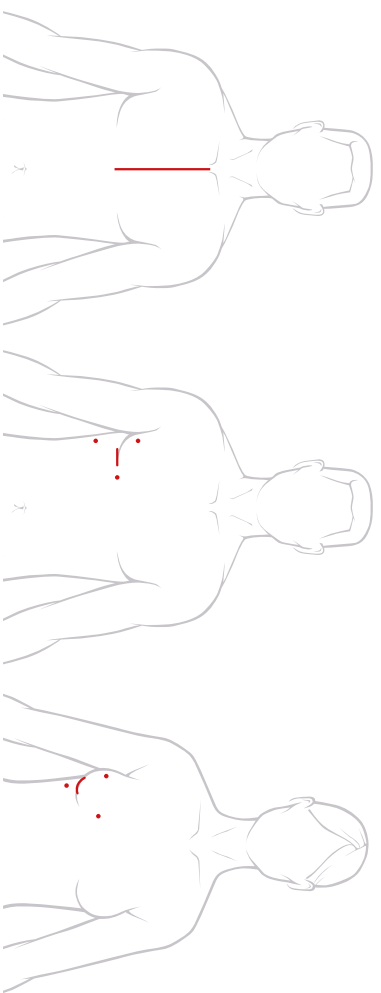
During endoscopic minimally invasive Mitral valve surgery, also known as mini-mitral surgery, the surgeon uses a cut on the right side of the chest and gently opens the space between the ribs to see the heart. The surgeon uses a high-definition 3D camera to guide their instruments inside the heart where they can repair or replace the damaged valve. Once the surgeon is inside the heart the procedure is carried out the same way as the sternotomy operation, using purpose built instruments for this procedure.

Benefits of the minimally invasive approach include:

- Quicker recovery period. Patients tend to feel able to undertake most normal activities around 2-3 weeks. This does vary from patient to patient and may take longer, if you have other underlying health conditions.
- Less post-operative pain and discomfort, particularly with the use of catheters that numb the pain where the incision is made.
- Shorter hospital stay, usually 3-5 days.
- Less risk of wound infection.
- Return to driving after four weeks.
- The lifting limitations that patients having following a sternotomy do not apply.
- The cosmetic result is much better when compared to the sternotomy approach.

The cosmetic result of minimally invasive surgery

Women will find the scar hidden under the right breast. Men will have a scar that will be visible around the right nipple. Please see the images below.



Open chest incision

Minimally invasive incisions

Who is suitable for the minimally invasive approach?

Most mitral, aortic and tricuspid valve repairs and replacements can be done with this approach. The sternotomy approach may be preferred for some complex cases, your surgeon will advise which approach is most beneficial for your case.

It is also possible for surgeons to correct or remove holes between the top two, pumping chambers in the heart called atrial septal defects and benign atrial tumours (myxomas) which are non-cancerous tumours, using the minimally invasive approach. Again, your surgeon will discuss this with you if necessary.

Who is not suitable for this surgery?

- Patients who have undergone previous right sided lung surgery or radiotherapy to the right side of the chest
- Those with peripheral arterial disease (poor circulation to the legs)
- Those who require bypass and valve surgery to be performed at the same time

How long will I have to wait for this surgery?

The Alexandra Hospital is one of the few hospitals in the UK that perform endoscopic minimally invasive mitral valve surgery. The waiting time is around 6 weeks, depending on the urgency of your surgery.

What are the risks of mini-mitral surgery?

As with all surgical procedures, heart operations can involve risks for the patient. The likelihood of risks occurring depends on the type of operation you're having, your overall health, and the condition of your heart. Your consultant will discuss all the risks in detail with you before surgery, to keep you fully informed regarding all benefits and risks of the procedure.

The minimally invasive approach is just as safe as the conventional approach in heart valve surgery, as shown in many studies. Having minimally invasive mitral surgery you may be in theatre longer than if you were to have traditional mitral surgery, however, your recovery time is likely to be significantly reduced.

With the endoscopic minimally invasive approach, there is a 3 in 100 chance that the surgeon may need to convert the procedure to the conventional sternotomy approach during the operation, to complete the procedure safely.

All risks will be discussed in detail during the consent process, before the procedure is booked.

Will I require any special tests before surgery?

During your outpatient appointment you will be reviewed by your surgeon, who may send you for some investigations or tests, before confirming if you are suitable for this type of procedure.

These investigations/tests may include:

- CT scan- this is a specialised X-ray scan of the main arteries in your body.
- A TOE or transoesophageal echocardiogram - a specialised ultrasound scan of your valve, this will be carried out as a day case procedure. If this has already been carried out by your referring cardiologist this will not have to be repeated.
- Blood tests
- Chest X-ray
- Breathing tests
- ECG

Frequently asked questions

Q: I don't live in the Manchester area, can I still be treated at The Alexandra Hospital?

A: Yes, you have the right to choose where you receive treatment. If you are insured, you would just need a referral from your cardiologist or GP. If you are self-funding your treatment, you are able to self-refer.

Q: Is the heart-lung machine still used during the operation?

A: Yes, your surgeon will make an incision on the right or left side of your groin, this allows them to use the femoral blood vessels for cardiopulmonary bypass. The incision is made where your skin creases, meaning the scar will hardly be visible. There is a 5% chance of swelling around the site, however this usually settles within a couple of months.

Q: What are the long-term results?

A: The technique of valve repair, once the surgeon reaches the valve, is identical to that of the conventional approach. Data so far shows no difference in long-term outcomes. The minimally invasive approach has been available in the UK since the late 2000's and our surgeons have done over 600 cases over the past years.

Q: Will I still need a coronary angiogram?

A: Yes, you will need the same pre-operative tests as someone who is undergoing the conventional approach to the operation. Increasingly, patients are having CT coronary angiograms.

Q: Will I need any extra tests? If so, where will they be performed?

A: You may be required to have a CT scan which will allow your surgeon to have an in-depth look at the arteries in your body. This will be performed at The Alexandra Hospital, at your convenience.

Q: How long is the operation?

A: The procedure usually takes approximately 4-5 hours. However, patients will be kept sedated for a couple of hours after the operation, in our Post Operative Intensive Care Unit.

Q: How long before my family can see me in the Intensive Care Unit?

A: At The Alexandra Hospital we encourage visitors to come and see their loved ones

following surgery. There are no restrictions in place surrounding the time your family can visit, however, as you will be in our Intensive Care Unit there may be a limit on how many visitors you can have at one time, to ensure your care is not disrupted in any way.

Q: How long before I am ready to go home?

A: Most of the patients with this approach are ready to be discharged between the third or fifth day, depending on their pre operative fitness levels. Most patients can go home as they are not restricted from lifting or carrying, though some help at home for the first few weeks is recommended.

