

Patient Information Leaflet for Minimally Invasive

Aortic Valve Replacement (mini-AVR)

The commonest surgical approach to replacing the aortic valve requires the surgeon to saw open the breastbone and spread the edges apart to gain direct access to the heart. Although this approach provides excellent access to the heart, the resulting wound may require several months to heal completely with significant activity restrictions and potential serious complications including infection, breakdown and even death.

Aortic valve replacement (AVR) requires the use of 'the heart-lung machine' to allow the surgeon to safely open the aorta and access the aortic valve in a bloodless field. The operation involves removal of the diseased aortic valve. The resulting valve ring is then measured to select the size of the new artificial valve. A series of sutures are then placed around the valve ring and then subsequently through the artificial valve. The valve is then lowered into the ring and secured. The aorta is closed and the heart restarted. The total duration of the operation ranges from 2 to 3 hours.

Minimally invasive aortic valve replacement (also called mini-AVR or keyhole AVR) is performed through a smaller incision without opening the whole breast bone compared to standard AVR. The incision used for mini-AVR is about 3-4 inches instead of the 7-8-inch incision required for standard AVR. This is typically done with a 'J' incision dividing only the upper half of the breast bone and leaves your chest stable.

Benefits of Mini-AVR

- Lesser trauma
- Smaller scar
- Shorter hospital stay after surgery: The average stay is 3-5 days after mini-AVR compared to 7-10 days after standard AVR
- Lower risk of bleeding
- Shorter recovery time and faster return to normal activities/work: The average recovery time after mini-AVR is 3-4 weeks, while the average recovery time after standard AVR is

6-8 weeks. Complete division of the breastbone is not performed with mini-AVR which reduces the risk of sternal (breast bone) breakdown

Patient Selection

Most patients who require AVR are candidates for mini-AVR but not every patient may be suitable. The surgical team will carefully weigh the advantages and disadvantages of mini-AVR versus standard AVR before deciding which operation is more suitable for you. The procedure selected may depend on several factors, including the type and severity of heart disease, medical history and lifestyle.

How Will You Feel After Surgery?

There may be some discomfort at the incision site after the operation. We will provide you with pain killers to help relieve this discomfort. If you have discomfort in your chest that is similar to the symptoms you had before your surgery, seek urgent medical advice.

Recovery

Patients who have mini-AVR may be able to go home 3-5 days after surgery. Your progress will be followed up by your surgical team and they will help you to recover as quickly as possible. You will be provided with specific instructions for your recovery, return to work, activity, driving, incision care and diet.

Generally, you may be able to return to work, resume driving and participate in most non-strenuous activities within 2-4 weeks after mini-AVR. You can resume heavy lifting and other more strenuous activities within 5-8 weeks after surgery. Your surgical team will provide specific guidelines based on your speed of recovery.

To remain healthy after mini-AVR, we strongly encourage you to take your medications as prescribed and make lifestyle changes which are important for your recovery. These include:

- Quitting smoking
- Treating high cholesterol
- Managing high blood pressure and diabetes
- Exercising regularly
- Weight reduction
- Eating a balanced diet
- Participation in a cardiac rehabilitation program
- Regular follow-up
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