

## Operation Information

### Valve Replacement

#### Introduction

The heart contains four valves. They can prevent backflow of the blood during ventricular and atrial contraction and allow blood flow to its designated direction. These valves can be damaged by a heart attack or illness. Heart valves may also be abnormal from birth. A defective valve can affect the flow of blood through the heart.

There are two common types of valve problem, one is the narrowed valve opening causing reduction of blood flow through the valve (valve stenosis), another is valve leakage causing blood to flow in the reverse direction (valve regurgitation). These conditions may affect the drainage of blood between the lung and the heart, causing a build-up of fluid in the lungs, which may result in breathlessness.

Valve replacement is a surgical treatment which has a high success rate. The damaged valve is replaced by mechanical or biological valve. Mechanical valves are created from man-made materials. Biological valves come from pigs, cows or human donors.

Alternative treatments include medical treatment, valve repair or percutaneous balloon treatment (Valvuloplasty).

#### Outcomes

This operation will help to improve the blood flow of the heart and to prevent or reduce the further deterioration of your heart function.

#### Procedures

1. The operation is performed under general anaesthesia.
2. The doctor will make an incision in the center of the chest and enter through the sternum or the breast-bone.
3. A heart-lung bypass machine is used to circulate blood around the body whilst the doctor is operating on the heart which stops beating temporarily during this period.
4. The damaged valve is removed and replaced with another valve.
5. One or more flexible tubes are placed in the mediastinal and pleural space to monitor and drain the blood from around the heart and lungs.
6. The sternum is wired together and the incisions are sutured closed.

#### Possible Risks and Complications

1. Bleeding
2. Infection
3. Wear and damage to valves
4. Arrhythmias (Irregular heart rhythm)
5. Blood clot formation
6. Stroke
7. Heart attack
8. Renal failure
9. Damage to other organ(s)

## 10. Death

\*\* The risks listed above are in general terms and the possibility of complications is not exhaustive. Please understand that even though all operations are carried out with utmost professionalism and care this does not rule out the possibility of complications arising. In the event of peripheral organ damage or post-operative haemorrhage or leakage, further operations may be required.

### **Pre-operative Preparations**

1. Good hygiene can prevent surgical wound infection. Therefore, we advise you to clean up yourself on the day of operation.
2. The procedure and possible complications will be explained by the doctor and a consent form must be signed prior to the operation.
3. Please inform the doctor and nurse all your past medical history, previous surgical operations, current medication and any complication with drug or anaesthesia. Please inform doctor if you are taking medications that affect blood coagulation, such as Aspirin, Warfarin, Xarelto or Pradaxa and Chinese medication.
4. Have a dental check-up before the operation.
5. The bowel preparation medication (e.g. laxatives) will be administered to empty the bowel the night prior to the operation.
6. No food or drink six hours before operation.
7. Please change into a surgical gown after removing all belongings including undergarments, dentures, jewelry and contact lenses.
8. Please empty your bladder before the operation.

### **Post-operative Instructions**

#### General

1. After general anesthesia, you may:
  - experience discomfort in the throat after tracheal intubation.
  - experience side effects of anesthesia including feel tired, drowsy, nausea or vomiting. Inform the nurse if symptoms persist or worsen.
2. Please inform the nurse of wound pain. Proper pain relief treatment by injection or oral medication may be prescribed by the doctor.
3. You will need to stay in ICU for close monitoring for a few days immediately after the operation.
4. You are sedated and a breathing tube is used in the initial phase to minimize the workload of the heart.
5. The heart rate and blood pressure will be continuously monitored during this period. Intravenous medicines are often given to regulate blood circulation and blood pressure.
6. Chest drains are placed in the chest for 2-3 days to drain fluid from around the heart.
7. A urinary catheter is also used to monitor the amount of urine output.
8. All drains and catheter will be removed when the patient's condition is stable. You will then be transferred to general surgical ward.

#### Wound Care

1. You may feel pain around the site of the chest bone incision, the doctor will prescribe analgesic to relieve the wound pain.
2. Please keep the dressing intact, clean and dry.
3. Press on the chest wound gently during deep breaths and coughs.
4. The wearing of loose-fitted clothing is encouraged to avoid irritation of the wound.

## **Advices on Discharge**

1. This is a major operation. It takes about 2 – 3 months to fully recover.
2. For patients who have mechanical valve replacement, blood thinners need to be taken indefinitely.
3. Prescription pain medication may be taken as needed.
4. Resume daily activities gradually.
5. Keep the wound dry. Showering is allowed when the wound is closed and sutures have been removed.
6. Lifting, pushing or pulling heavy objects should be avoided whilst the breastbone is healing.
7. Immediately consult your doctor or return to hospital for professional attention in the event of severe wound pain associated with redness and swelling, draining pus or blood seepage, shivering, high fever over 38°C or 100°F, or any other unusual symptoms etc.
8. Any follow-up consultations should be attended as scheduled.
9. Detailed instructions on self-care at home will be given to you upon discharge.

Should there be any enquiries or concerns, please consult the attending doctor.

Under the professional care of the doctor, you will gradually recover. We wish you all the best during your treatment and recovery.

If you have any questions after reading the entire leaflet, please write them down in the spaces provided in order for the doctor to further follow-up.

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Compiled by Union Hospital Operating Theatre (OT) Governance Committee

The above information is for reference only, please enquire your physician for details  
Our Hospital reserves the RIGHT to amend any information in this leaflet without prior notification