



Adult Cardiac Surgery

**A Preoperative Guide to Cardiac
Surgery for Patients and Their
Families**

There is a range of conditions that can affect your heart, which include blood vessel disease that involve narrowed or blocked blood vessels which lead to a heart attack, chest pain or stroke, heart or Valve defects.

There are several health conditions such as: your lifestyle, your age, your family history, high blood pressure, high cholesterol, and smoking... etc. These factors can increase your risk for heart disease, and we call them "Risk factors".



Risk factors can lead to such diseases and defects in the heart arteries and/or valves. Thus, factors are divided into modifiable (can be treated or controlled) and non-modifiable (cannot be change).

Modifiable factors

- **Smoking**
- **High cholesterol level**
- **High blood presser**
- **Diabetes**
- **Physical inactivity**
- **Overweight**
- **Stress**
- **Unhealthy diet**

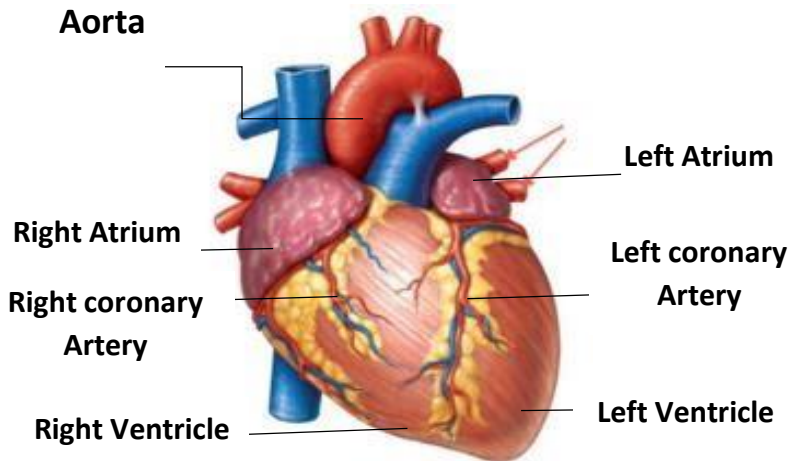
Non-modifiable factors

- **Age**
- **Gender**
- **Race**
- **Family history of heart disease**

Anatomy of the Heart

It's a pump, a muscular organ about the size of your fist, situated slightly left of center in your chest. The human heart is responsible for pumping and circulating blood, rich in oxygen and nutrients, to your body.

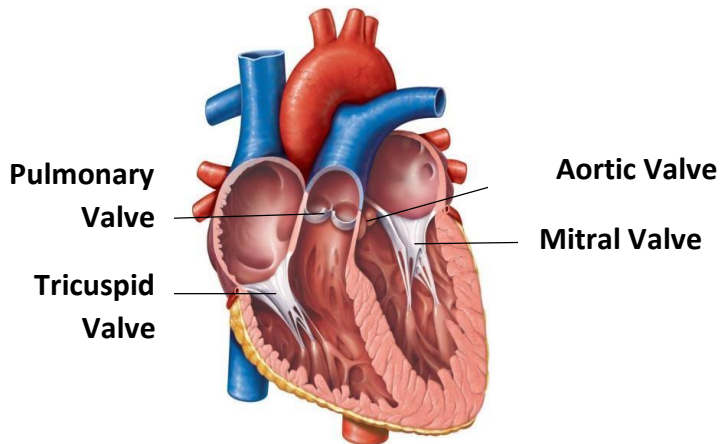
Figure 1



The heart is separated into four chambers or “rooms” and two main arteries, as seen in **Figure 1**.

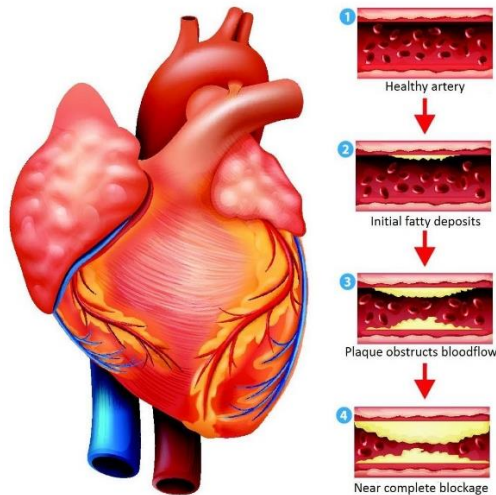
There are four valves between the chambers of the heart, see **figure 2**, they act like doors that open and close allowing blood to flow in the proper direction.

Figure 2



What is Coronary Artery Disease?

Coronary Artery Disease is the narrowing or blockage of the coronary arteries, usually caused by atherosclerosis, which called "hardening" or "clogging" of the arteries, which is the buildup of cholesterol and fatty deposits on the inner walls of the arteries. See "diagram".



Coronary Artery Disease

The symptoms could be chest pain and discomfort,
that's may include pain in:

Jaw

Neck

Arms

Back

Shoulder





What is Coronary Artery Bypass Surgery?

“CABG” is a surgical procedure used to treat coronary heart disease. It involves taking a blood vessel from another part of the body (usually the chest, leg or arm) and attaching it to the coronary artery above and below the narrowed area or blockage.

These vessels are taken by surgeon or specialized vein harvesting nurses from our cardiac surgical team in which it's taken from:

- Saphenous vein. (Figure 1)
- Internal Mammary. (Figure 1)
- Radial artery. (Figure 2)

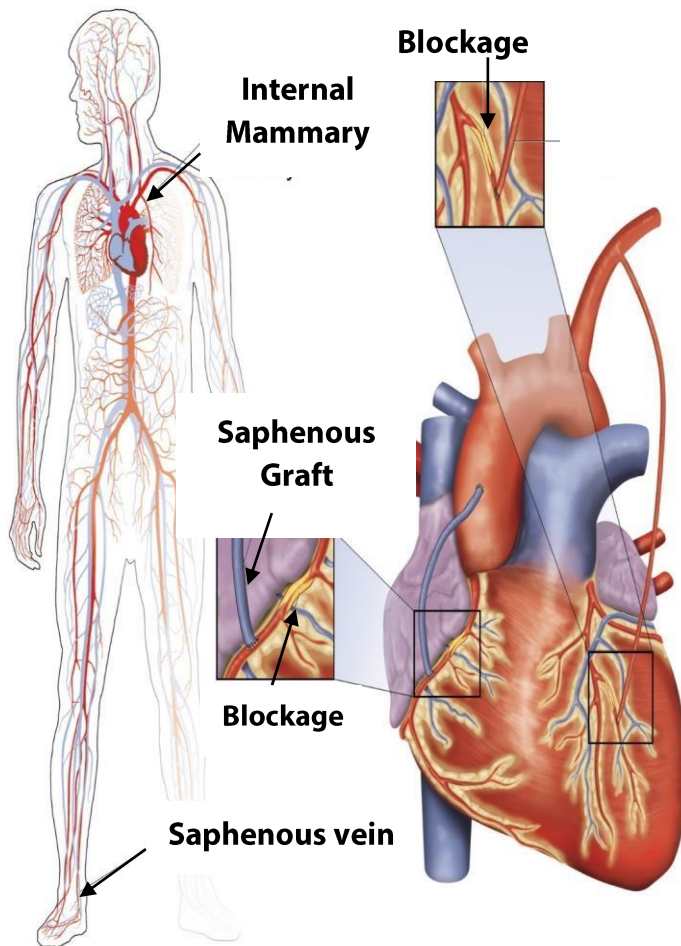
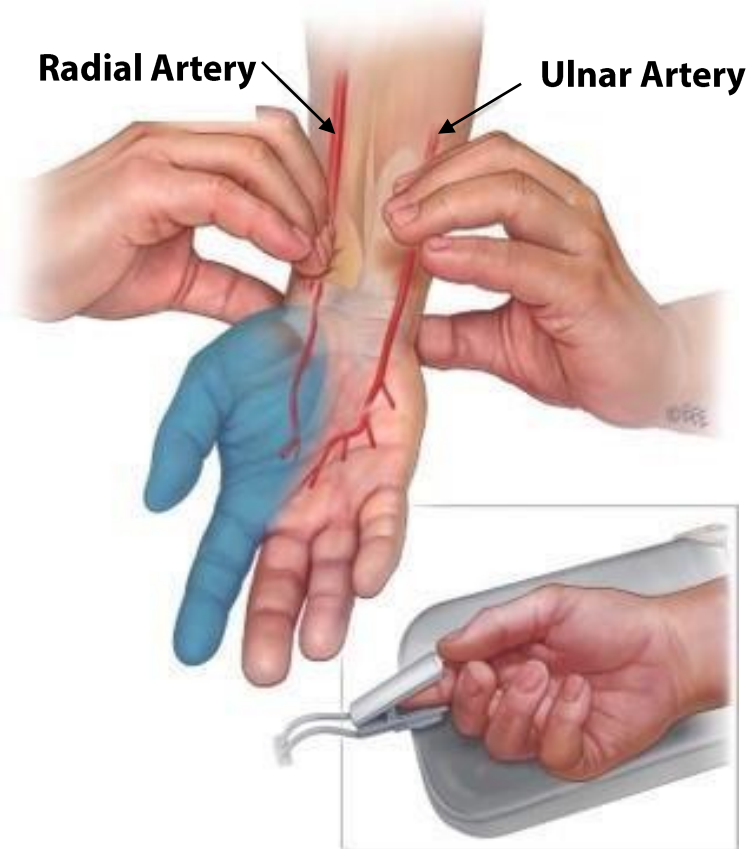


Figure 1

Figure 2



Valvular Heart Diseases & Surgery

When a heart valve is diseased or damaged, it does not allow blood to flow properly. The most common valve condition is:

Stenosis

- Is the narrowing of the valve opening. This narrowing prevents the valve from opening all the way.

Regurgitation

- Refers to the valve not closing completely, therefore the blood leaks backwards.

What are the Common Symptoms of Valve Disease?

- Chest pain
- Fainting
- Shortness of breath
- Fatigue
- Dizziness and Swelling of legs

What is Heart Valve Surgery?

A procedure to treat heart valve disease, in which your surgeon repairs or replaces the affected heart valves.

Many surgical approaches can be used to repair or replace your heart valves, including: open-heart surgery or minimally invasive heart surgery.



What does the type of treatment depend on?



Age, health, the condition of the affected heart valve and the severity of the condition.

Surgical team

Our cardiac surgery team are qualified enough to perform cardiac surgery and related tasks, and consist of:

Cardiovascular Surgeon & Surgeon Assistant

**Cardiovascular
Anesthesiologist &
Anesthesiologist
Assistant**

**Cardiovascular
Nurses Specialist**

**Anaesthesia
Technician**

Perfusionist





Cardiac Operating Room

A room where all cardiac procedures can be performed, and equipped with a high quality medical devices where all surgical team can work in a safely manner.

In addition, all comfort measures and privacy are provided, to facilitate and support you from the starting until the end of the procedure.



Pre-Operative Visit

Last appointment in the clinic, your surgeon will explain to you broadly about your surgery and its side effects, giving you a guiding booklet for information on your admission, what to expect during hospitalizing, the day of surgery and the day

after your surgery, your recovery, the discharge plan and any next appointments needed.

Our adult cardiac surgery coordinator will contact you and update you on your surgical journey here at King Fahad Medical City.

Pre-Operative Care

Cardiac surgery team will conduct a visit for you, which include:

The cardiac surgeon and his/her team, will explain to you about your surgery and its side effects, making sure of your readiness which includes but not limited to: your informed consent.

Anesthesia consultant in cardiac surgery and his/her assistant, will examine and explain to you about the type of sedation along with anesthesia consent.

A specialized cardiovascular nurse will ask and explain to you about what you're going to experience through your journey in the operating room, what to expect once you arrive to the operating room, also assuring the importance of the instructions provided, such as: body washing, shaving body hair, pre-operative medication as prescribed.

Admission

Several arrangements will be done for you, and you will receive a call from the admission office regarding date, time and your room number in the hospital stay.

What to expect on the day of surgery?



○ Morning of Surgery

In the early morning, your primary nurse will instruct you to take a shower as per hospital protocol. After that, you are going to wear a hospital gown, head cover, pressure stocking and your vital signs will be taken. The surgeon will visit you just making sure that you're ready for surgery.

○ At 06:45 AM

your primary nurse will inform you and assist you to go to operating unit, and make sure that all your belongings with your family, including the right phone number to be given to the nurse in order to contact your family after surgery.

○ In Operating Unit

In the main entrance of operating unit, you will be welcomed by the pre-operative nurse and verifying your full name, then you will be transferred to the holding area with your primary nurse, the pre-operative nurse will conduct a communication with your primary nurse for continuity of care.

Inside the operating room, the surgical team will assist you for your safety and comfort. Then the Anesthesia team will start to do peripheral cannulation to administer sedation and putting face mask with Oxygen. You will fall asleep before many of the lines or catheters are placed.

Day of Surgery & Patient's Family

At the day of surgery, your family will be instructed to leave the room in the ward to admit another patient, and make sure all your belongings taken with your family and the hospital will not be responsible for any loss.

Once the surgery is finished, the surgeon will contact your family to inform them about your surgery. It is also where they can visit you in the Adult Cardiac critical care unit, located in second floor of the main hospital near to the operating room.





If you or your family have any concern you can refer to our **adult cardiac surgery coordinator** office which is located in the second floor of the main hospital, King Salman Heart Center Administration.

Cardiovascular critical care unit

What are the monitoring and medical equipment used in critical care unit?



Endotracheal (ET) Tube: A tube that helps you breathe during and immediately after surgery. Once you can breathe on your own, the tube will be removed.

Central Intravenous Lin: Also called a central line, this larger IV tube is placed in a large blood vessel and is used for giving medications, IV fluids, or blood.

Intravenous Line: Small tubes inserted into your blood vessels to give fluids and medications.



Foley Catheter: Thin tube inserted into your bladder to drain and monitor urine amounts during and after your surgery. This tube will be removed as soon as possible to prevent infection.

Chest Tubes: Drain excess fluid from around your heart and lungs.

Arterial Catheters: Used to monitor blood pressure and draw blood samples.

External Pacing Wires: Small, fine, temporary pacemaker wires, placed in surgery in case your heartbeat needs to be regulated in the days after surgery. They are removed before you go home.

Nasogastric Tube: Thin tube inserted into your nose down into your stomach to prevent your stomach from becoming too distended.

Chest Electrodes: Similar to the "sticky" buttons of an EKG, these attach to the skin on the chest and are connected by wire to the heart monitor.





Post-operative care

After surgery, you will be shifted to Cardiovascular Critical Care Unit, where you receive the post-operative care under surgical and medical team supervision. The typical stay in the CVICU is approximately 24-48 hours. This is dependent on your needs and progress after surgery.

After you gradually awake, you will be attached to lines, tubes, catheters and drains for monitoring your general condition. Don't panic and Stay calm.

Your team will assist you on the importance of physical activity, breathing exercise and good nutrition after surgery.



Post- operative visit

The pre- operative nurse in adult cardiovascular surgery will visit you and make sure the continuity of care. She/he will ask you few questions regarding your general feedback, concerns and your experience in operating unit.

Recovery in ward:

After your condition stabilizes, we will transfer you to cardiac ward, and your family will be informed about your transfer. The Cardiac ward team will monitor you closely and deliver the optimum care till your discharge to home.

Discharge and Home

Before discharging, your team will make sure your health condition is eligible to be discharged and going home after cardiac surgery is your last destination where your cardiac team aiming for.

In addition, your new lifestyle and recovery time after your surgery needs your consideration and commitment .



Remember that everyone has different healing process. You and your family play a major role during this process. Your primary team will also guide you and your family on the necessary instructions to be taken in the first weeks up to a few months ahead.

○ **Daily activities**

As we explained previously, the healing process and recovery time differ from one patient to another.

Here are some guidelines after you return home:

You're not allowed to do heavy lifting/ machinery during the first 4 weeks of surgery.

Praying must be performed on the chair during the first 4 weeks.

You're not allowed to drive your car during the first 4 weeks.

You will get back to work after 4 weeks of your surgery which takes place gradually until you are able physically.



General guidelines and Recommendation for your Return Home



Nutrition & Medications

- Starting to eat healthy and balanced meals, will provide you the nourishment that you need and helps with your healing process specially after your surgery. Taking your medications as prescribed is very important at this stage as been explained to you by the pharmacist.

Skin incision care

- Before you leave the hospital, you will be given a care instructions for your incision and be sure to follow these directions carefully because it is very important part of your recovery time. Always keep your incision site clean and dry, too.



What is the preferred sleeping position for you?

Sleeping position after your surgery will be considered as part of your healing and comfort. Sleeping on your back is the preferable position during the first 4 weeks after your surgery.

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إدارة التثقيف الصحي

**Operating Room Nursing
Department**



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