

CORONARY ARTERY BYPASS GRAFT (CABG)



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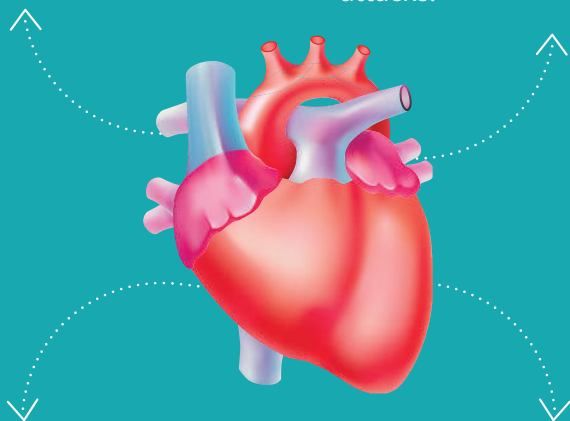


01

What Is **Coronary Artery Bypass Graft (CABG)**?

A surgical procedure used to treat coronary artery disease (CAD).

CAD occurs when the blood vessels that supply blood to the heart muscle (coronary arteries) become narrowed or blocked due to a build-up of plaque leading to chest pain (angina) or heart attacks.



Recommended when other treatments are not sufficient.

The surgeon takes a healthy blood vessel (often from the leg, arm, or chest) and grafts it to create a new pathway for blood to flow to the heart muscle.



Learn more about the procedure from the American Heart Association (AHA)

What Are The Benefits Of CABG?



Restoration of blood flow:

CABG creates a new pathway for blood to flow to the heart muscle by grafting a healthy blood vessel (often from the leg, arm, or chest).



Relief of symptoms (chest pain):

Allows you to engage in daily activities with less discomfort.



Reduced heart attack risk:

Reduce the risk of a heart attack with improved blood flow.



Enhanced quality of life:

Improvement in overall quality of life, leading to a more active lifestyle.



The opportunity of a long life:

Helps reduce the risk of fatal cardiac events.



Long term durability:

Less need for medication and long term durability.

What Do I Need To Prepare For CABG?

Preparation involves a combination of your doctor and your family to understand the process from beginning to end of the journey. You and your family should find out as much as possible about the surgery, risks and benefits, cost, length of stay and recovery process. If you have any questions or concerns, please raise them with your doctor.

02

Patient's Journey

Before Admission



- You will be advised by your doctor when to stop taking any medications that may increase the chances of bleeding (e.g. Aspirin, Plavix, Brilinta).



- You also need to inform your doctor if you are taking any traditional supplements e.g. chinese herbs or any other herbs (that may increase risk of bleeding).



- If you smoke, you are advised to stop smoking and/or vaping as recommended by your doctor.
- You may require blood investigations before being admitted.



On Admission Day



- You will be admitted to the general ward a day before procedure day.



- The surgeon will discuss further about the surgery with you and your family. You may ask any questions you may have, and your informed consent will be obtained.



- The anaesthetist will ask any related questions about your past medical history and any known allergies. The anaesthetist's consent will be obtained.



- Hair on the chest, abdomen, leg and any areas involved in the surgery is removed.



- You are required to be scrubbed with antiseptic surgical wash in the evening, day before your surgery.



- Our Intensive Care Unit (ICU) nurse will share information related surgery which will help you understand what happens pre and post surgery.

- A special test for lung function is ordered.

- Our dietitian will come and assess you.

- You are required to fast from 12 midnight and rest.

On Surgery Day



- You are required to be scrubbed again in the morning of the surgery day with antiseptic surgical.
- You will be given a medication (mild sedative) before surgery.

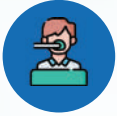


- Our staff nurse will transfer you to the operating theatre.
- Your family may accompany you from the ward, but they are not allowed into the operating theatre.



- Your family can wait in the waiting lounge located on Level 6, South Tower.

During Surgery



- The anaesthetist will put you under anaesthesia.



- Your surgeon will make an incision along the midline of your chest wall. Then, the surgeon will harvest the best vein and the bypass will be made from the selected graft.



- There will be one or more cuts in the leg or arm where the vein or artery is removed for the bypass.

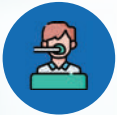


- Once surgery is completed (it usually takes about 3 to 5 hours, depending on the complexity of the surgery), you will be transferred to ICU for recovery.

After Surgery



- You will be closely monitored at ICU immediately after surgery.



- When you gain consciousness, you may feel discomfort due to the breathing tube. Some patients might feel disorientated, but it will slowly go off once your body and mind become more coordinated.



- Cardiac rehabilitation starts once the breathing tube is removed.



- You may need to stay in ICU for 3 to 4 days post-surgery, depending on your condition.
- You will be transferred to the ward once stable where cardiac rehabilitation will continue until the day of discharge.
- The estimated length of stay range from 5 to 7 days.

For Your Family



- Inform our staff of your family's whereabouts and contact information, in case of an emergency.



- Visiting hours at ICU are from 10am to 1pm and 5pm to 8pm. Visitation in ICU should be brief to allow the patient to rest. Only 2 immediate family members are allowed at a time.
- You may contact our ICU nurse at 03-56391600 if you require further information.

What About The Recovery Process?

- For cardiac rehabilitation post-surgery, our physiotherapist will assist in deep breathing exercises, productive cough, and ambulation.
- You may experience pain and discomfort during these exercises however the pain will be tolerable with time.

Discharge



- You will be discharged when you are fit to go home. Your doctor will give you an appointment for the next visit.

Managing Expectations



Recovery time

Complete recovery and a return to normal activities may take several weeks to months depending on the individual.



Pain and discomfort

It is common to experience some pain and discomfort after surgery. Pain management will be addressed by our healthcare providers.



Physical activity

Cardiac rehabilitation programmes are often recommended to help with this process.



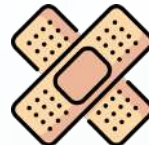
Dietary changes

A heart-healthy diet is essential for recovery.



Medication management

It is important to take all medications as prescribed and attend follow-up appointments with your healthcare provider.



Wound care

Follow the care instructions provided by your medical team and report any signs of infection or complications.



Lifestyle changes

Adopting a heart-healthy lifestyle is essential for long-term wellbeing.



Follow-up appointments

Attend regular follow-up appointments with your healthcare provider. It is important to monitor your recovery progress.

03

Wound Management Post-Surgery

A surgical wound refers to an incision or cut made during a surgical procedure.

After surgery, proper care and attention to the surgical wound are essential to prevent infection and to promote healing.

There will be a suture to close the surgical wound.

The first wound inspection is usually done by the doctor 72 hours (about 3 days) after surgery.

The wound will be exposed if it is clean and dry.



What Do You Need To Know?



Follow Healthcare Provider Instructions

- Strictly adhere to the post operative care instructions provided by our healthcare team.
- Attend all follow-up appointments and communicate any concerns or changes in your condition immediately.



Care of Surgical Wound

- If you must touch the wound area, wash your hands thoroughly.
- Gently clean the incision area with mild soap and water, and pat it dry with a clean, soft towel.
- Avoid scrubbing the incision.



Monitor For Signs of Wound Infection

- Redness, swelling, warmth, or discharge at the wound site.
- Report any signs of infection, including fever or chills, to your doctor promptly.
- Seek immediate treatment if any discharge is seen.



Avoid Irritants

- Avoid applying creams, lotions, or ointments to the incision site.
- Do not use adhesive bandages or tapes directly on the wound.





Protect The Wound

- Be mindful of clothing and avoid tight or abrasive fabrics that may rub against the wound.
- Avoid activities that may put strain on the incision, such as heavy lifting.



Pain Management

- Take prescribed pain medications as directed to manage discomfort and avoid undue stress on the incision area.



Things To Take Note Of

- Do not touch the wound unnecessarily – clean your hands before if you need to.
- If you experience increasing pain, swelling, redness, or any other concerning symptoms, contact your doctors promptly.
- Keep good hygiene – take regular showers and do not forget to wipe with a separate clean towel on the wound. Do not be afraid to take regular baths.
- Ointments, powders, traditional creams, or herbs are prohibited.
- Change into clean clothing every day.

04

Dietary Advice: **What to Eat?**

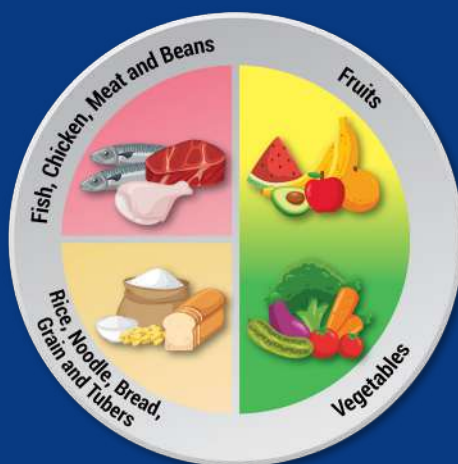
Diet After Operation

Coronary Artery Bypass Graft Surgery (CABG) is used for the treatment of coronary artery disease (CAD). After the operation, it is important to lead a healthy lifestyle and continue taking any prescribed medicine. This will reduce your risk of getting heart problems in the future.

Many studies have shown that a diet rich in fruits, vegetables, wholegrains, and nuts can reduce the risk of heart disease.

1. Practice healthy meal planning

Make sure your plate consists of proper portions of carbohydrate (1/4 plate), protein (1/4 plate) and fibre from vegetables (1/2 plate).



2. Lower the bad fats

Limit the intake of artificial transfat as high it may increase LDL-cholesterol levels and lead to heart disease. Artificial transfats are found in processed food such as biscuits, frozen food, cookies and pastries.

Food high in saturated fat also may increase LDL-cholesterol. This are found in marbled meat, poultry with skin and deep-fried dishes.

Alternatively, try to choose food with ZERO transfat, lean cuts of meat, poultry without skin, and trim as much fat as possible before cooking.

- **Saturated fats sources**



Variety of Meats /
Offal Meats



Butter / Ghee



Full Cream Dairy
Products



Meat with Skin & Fats



Fish Roe & Egg Yolk



Coconut & Palm Oil

- **Transfat sources**



Stick / Hard Margarine or
Vegetable Shortening



Instant Frozen Goods



Fast Food



Baked Goods and Pastries



Fried Food

3. Consume healthy fats

Unsaturated fats are considered good fats:

- Polyunsaturated Fat (PUFA) – PUFA contains Omega 3 that may help reduce total cholesterol, LDL-cholesterol, and triglyceride levels.
- Monounsaturated Fat (MUFA)

Food sources:

Salmon, mackerel, tuna, sunflower oil, olive oil, sesame oil, nuts and seeds.

Choose cooking oil that are high in PUFA / MUFA and practice healthy cooking method such as stir frying, steaming, grilling or clear soup dishes.

Snack on nuts and seeds in moderation as it a good source of healthy fats (PUFA/MUFA).

• Polyunsaturated fat sources (PUFA)



Corn Oil



Sunflower Seeds / Oil



Soybean Oil



Oily Fish (Salmon, Tuna, Sardine, Mackerel)



Chia Seeds



Flaxseeds



Sesame / Oil



Walnut



Pumpkin Seeds



Pistachio Nuts

• Monounsaturated fat sources (MUFA)



Peanut Oil



Olive Oil



Canola Oil



Rice Bran Oil



Avocado



Cashew Nuts



Pecan Nuts



Almonds



Hazelnuts



Macadamia Nuts

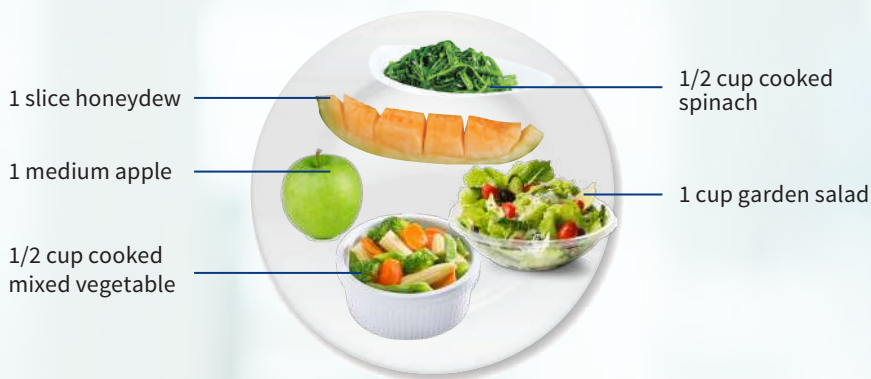
4. Load up on soluble fibre

To lower blood cholesterol, soluble fibre plays a significant role.

Food sources:

- Wholegrain products such as oats, cereals, barley, multigrain rice/noodles, whole meal bread.
- Green leafy vegetables such as broccoli, kalia, sawi, kangkong.
- Fruits such as guava, papaya, pears, etc.
- Reduce meat intake and replace them with beans and legumes such as chickpeas, dhal and beans as a source of protein.

It is recommended to have 2 servings of fruit and more than 3 servings of vegetables daily, plus wholegrains food sources, beans, and legumes.
Example of a daily intake of 2 servings of fruits and 3 servings of vegetables:



5. Go easy on salt, sugar, and alcohol

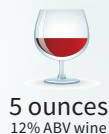
High salt intake increases blood pressure which is a major risk factor of heart diseases.

High sugar intake contributes to excess calories and obesity, and it increases triglycerides levels in blood which may lead to heart and blood vessel diseases.

High alcohol intake can lead to liver damage, weight gain, high blood pressure and high triglycerides. Try to limit consumption i.e. one standard drink per day for women, and two standard drinks per day for men.

Standard drink sizes:

ABV = Alcohol by Volume



05

Physical Activity **Post Surgery**



Physical activity is a crucial component of your recovery process after CABG.

Engaging in regular exercise helps improve cardiovascular fitness, strength, and overall well-being.

However, it is essential to approach physical activity post-CABG with guidance from healthcare professionals to ensure safety and appropriate progression.



Gradual Progression

Begin with light activities such as short walks and gradually increase the duration and intensity over time.



Supervised Exercise Program

Consider participating in a cardiac rehabilitation program where exercise is supervised by healthcare professionals.



Strength Training

Incorporate strength training exercises to improve muscle tone and overall strength. Start with light resistance and gradually increase as tolerated.



Flexibility and Stretching

Include flexibility exercises to improve joint mobility and reduce the risk of muscle stiffness. Stretch major muscle groups regularly, especially before and after exercise.



Listen to Your Body

- Pay attention to how your body responds to exercise.
- If you experience chest pain, dizziness, shortness of breath, or any unusual symptoms, stop the activity and seek medical attention.



Stay Hydrated

Drink an adequate amount of water to stay hydrated during physical activity.



Avoid Overexertion

- Be cautious not to overexert yourself, especially in the early stages of recovery.
- If you feel fatigue, take breaks as needed and gradually increase the intensity of exercise over time.

Patient's Info

Patient's Sticker	Weight	
	Height	
	BMI	

Date of Diagnosis	<input type="checkbox"/> ≤ 18 months <input type="checkbox"/> ≥ 18 months
Treating Cardiologist	
Contact No.	

Diagnosis & Summary

Patient's Log

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Optimisation Of Medical Therapies

Clinic Visit Date			
	Drug Regimen (Name, Dose & Frequency)	Drug Regimen (Name, Dose & Frequency)	Drug Regimen (Name, Dose & Frequency)
	Dose: OD/BD/TDS	Dose: OD/BD/TDS	Dose: OD/BD/TDS
	Dose: OD/BD/TDS	Dose: OD/BD/TDS	Dose: OD/BD/TDS
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