



National University
Heart Centre
Singapore



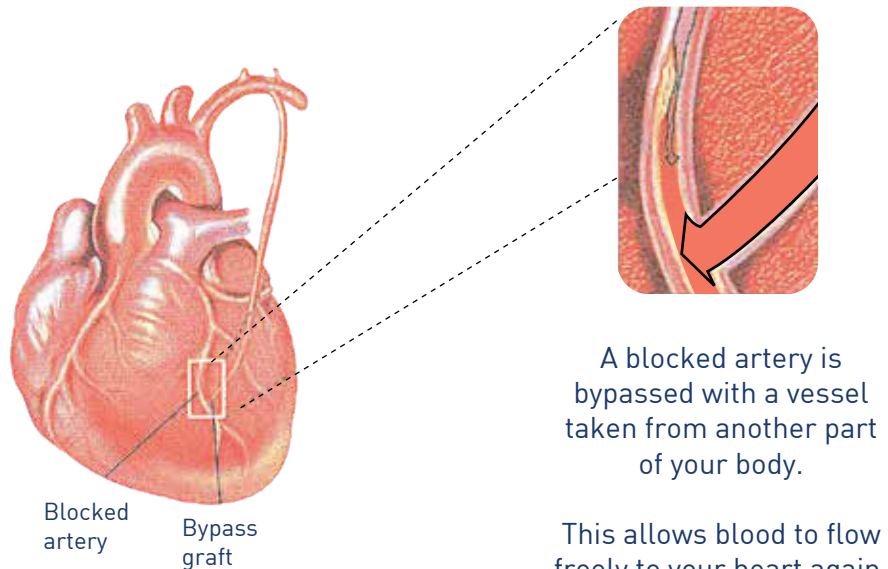
Coronary Artery Bypass Surgery (CABG)

What is Coronary Artery Bypass Surgery (CABG)?

Coronary arteries are blood vessels that carry oxygen and nutrients to the heart.

Coronary artery bypass surgery (CABG) is an operation to improve the flow of blood to the heart muscle in people with coronary heart disease whose coronary arteries are severely narrowed or blocked.

The operation involves taking blood vessels from other parts of the body and attaching them to the coronary arteries beyond the blockage. The blood is then able to flow around, or “bypass”, the blockage. If more than one artery is blocked, you may need more than one bypass graft.



How do I prepare for the surgery?



- 1 Stop smoking if you are a smoker. Smoking is a risk factor for coronary heart disease. Your heart disease will not improve if you continue to smoke. It also increases your risk of complications from the surgery.



- 2 Avoid traditional medicines (TCM, Jamu, Ayurvedic treatments) for at least 3 weeks before the operation, as these can increase the risk of bleeding or other complications of surgery. Your surgeon can advise when you may resume such remedies during your recovery after surgery.



- 3 Talk to your doctor or other people who have had the surgery. Knowing what to expect may help reduce your anxiety before the operation.

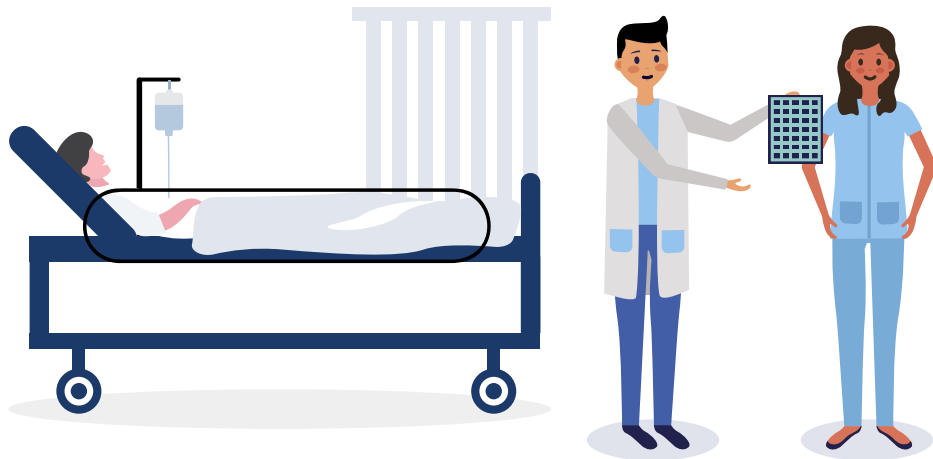


- 4 Plan for your care and recovery after the operation. Allow for time to rest, and try to arrange for some help with meals and housework for the first 1-2 weeks at home.

What happens during the surgery?

- 1 CABG is performed by a team of surgeons.
- 2 The operation takes 3 - 6 hours, depending on how many blood vessels need to be bypassed.
- 3 A cut is made in the centre of the chest, at the breastbone, to allow the surgeon to see the heart.
- 4 Another cut may be made in your leg to remove a vein that will be put in your chest. In addition, an artery in the chest, called the internal mammary artery, can be used.
- 5 A cut may be made in your left arm to remove an artery that can sometimes be used for the bypass.
- 6 If a vein from your leg and/or the artery from your arm is used, one end of it is sewn to the aorta (the main artery from the heart to the body). The other end is sewn to the area beyond the blockage in the coronary artery.
- 7 In the case of the mammary artery, the lower end of this artery is cut and attached to the coronary artery beyond the blockage.
- 8 When the surgery is finished, your chest is closed with wires to the bone, and dissolving stitches will be used on the muscle and fat layers above the bone (including the skin).

What happens after the surgery?



1

You will go to the intensive care unit (ICU) where you will stay for at least 24 hours or as long as you need for observation. An electrocardiogram (ECG) monitor will record the rhythm of your heart continuously.

2

You will have respiratory therapy to prevent any lung problems, such as a collapsed lung, infection, or pneumonia. A nurse or therapist will assess you with breathing exercises every few hours. Do ask for pain medication if you need it.

3

You will have physical therapy, which includes walking around the hospital and other strengthening activities. You will learn how to move your upper arms without hurting your breastbone.

4

You will learn how to live a healthy lifestyle, such as choosing foods that are low in fat, cholesterol and salt, exercising regularly and not smoking.

When should I seek medical attention?



Seek immediate medical attention if:

- ♥ you develop a fever.
- ♥ you become short of breath.
- ♥ you have chest pain that becomes worse despite taking painkillers.

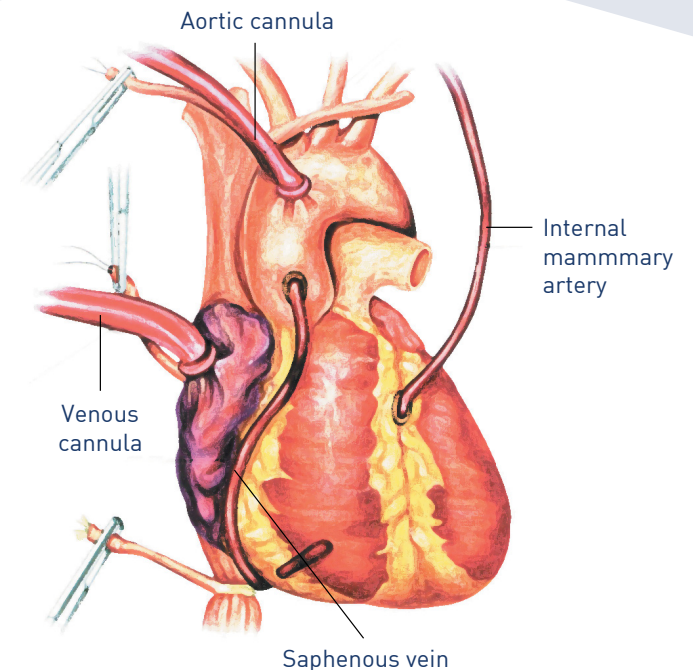
Call the appointment hotline (6908 2222) during office hours if:

- ♥ you want to make another appointment.
- ♥ or email us at contactus@nuhs.edu.sg if you have questions about the operation or its result.



What are the risks associated with this surgery?

- 1 If you are healthy and under the age of 60, your risk of serious complications is 1%. If you are older, and especially if you experience chest pains, your risk of serious complications is 2% to 10%.
- 2 There are always some risks when you have general anaesthesia, do discuss these risks with your doctor.
- 3 There is a risk of infection or bleeding from this operation.
- 4 There is a risk of stroke during and after the operation.
- 5 New blockages can develop in the bypassed vessels. This might require another heart catheterisation and surgery. Therefore, it is important to make changes to your lifestyle to decrease the risk of another blockage.



The Journey at a Glance

LOCATION:
CARDIOTHORACIC
INTENSIVE CARE UNIT
(CTICU) WARD 20



Operation Day

- Surgical team will update family members and orientation will be carried out by the nurses.
- You will be closely monitored and we aim to remove the breathing tube within 6 hours.
- You can expect to experience:
 - Discomfort and pain around the wounds.
 - Stiffness and aching in your back, arms, neck and shoulders.
- Start breathing exercises with incentive spirometry after removal of the breathing tube.

Post Operation Day 1

- Daily review by the primary surgical team and CTICU team doctors.
- You will sit out of bed and walk with your physiotherapist.
- Removal of lines and tubes as determined by your clinical condition.
- More protein in the diet is subject to the assessment and recommendation by your dietitian.

LOCATION:
GENERAL WARD



Post Operation Day 2

- Daily review by your surgeon.
- You will continue your exercise with your physiotherapist.
- Removal of chest tubes, if possible, as determined by your clinical condition.
- Review by diabetic specialist to titrate diabetes medications including the training of insulin administration if needed.
- Review by dietitian.

Post Operation Day 3

- You will continue your exercise with your physiotherapist.
- You are encouraged to sit out of bed as tolerated.

Post Operation Day 4

- Wound inspection by surgical team.
- Subject to your physiotherapist and occupational therapist's assessment, you may be referred to our preferred rehabilitation partners in Alexandra Hospital for a comprehensive post-CABG rehabilitation programme or to St Luke's Community Hospital for further rehabilitation if necessary.

Post Operation Day 4 Onwards

- Home sweet home from day 4-7 if recovery is uneventful, for better rest and to reduce risks of hospital acquired infection.

*Note: All medications will be optimised based on patient's condition.

National University Heart Centre, Singapore (NUHCS)

NUHCS Heart Clinic @ National University Hospital (NUH)

NUH Main Building Zone F

5 Lower Kent Ridge Road, S(119074)

Opening Hours: 8.00 am - 5.30 pm (Monday - Friday)

Closed on Weekends & Public Holidays

OneNUHS Hotline: (65) 6908 2222

OneNUHS Appointments: appointment@nuhs.edu.sg

OneNUHS General Enquiries: contactus@nuhs.edu.sg

www.nuhcs.com.sg



Scan for
more information

Take charge of your health and
access health information and
services across NUHS institutions.

Download the OneNUHS App now!



Scan to download



**NUHCS
Heart
Fund**

Every day, we impact lives by providing assistance to
financially disadvantaged patients.

Make a donation and help us continue the fight for every heartbeat!



Scan here to donate

The information in this brochure is meant for educational purposes and should not be used as a substitute for medical diagnosis or treatment. Please seek your doctor's advice before starting any treatment, or if you have any questions related to your health, physical fitness or medical condition.

© 2023, National University Hospital (Singapore) Pte. Ltd. All rights reserved. No part of this publication may be reproduced or shared without prior permission from National University Hospital (Singapore) Pte. Ltd.

Information is correct at time of printing (Sept 2023) and subject to revision without prior notice.