



# Cheng Hsin General Hospital

## Patient Decision Aids

I have complex coronary artery disease. How do I choose my treatment?

### Introduction

If your doctor determines after a cardiac catheterization that you have complex coronary artery disease, in addition to lifestyle changes, dietary changes, and medications, you can reduce your chances of having a heart attack more effectively by undergoing transcatheter coronary intervention or coronary artery bypass surgery. Therefore, using this evaluation form will allow you to fully understand the different treatment options and discuss their pros and cons with your doctor, hopefully helping you decide on the appropriate treatment option.

### Suitable Targets / Applicable Conditions

Patients who have been diagnosed with complex coronary artery disease after cardiac catheterization and who are willing to undergo further revascularization treatment in addition to pharmacological treatment are suitable targets for medical intervention. This is because complex coronary artery disease can increase the risk of heart attack, heart failure, and other serious cardiovascular events, and requires medical intervention to manage and reduce this risk.

Revascularization treatment, such as coronary artery bypass surgery (CABG) or percutaneous coronary intervention (PCI), can help to restore blood flow to the heart and improve symptoms, while pharmacological treatments such as antiplatelet medications and statins can help to prevent further plaque buildup and reduce the risk of cardiovascular events.

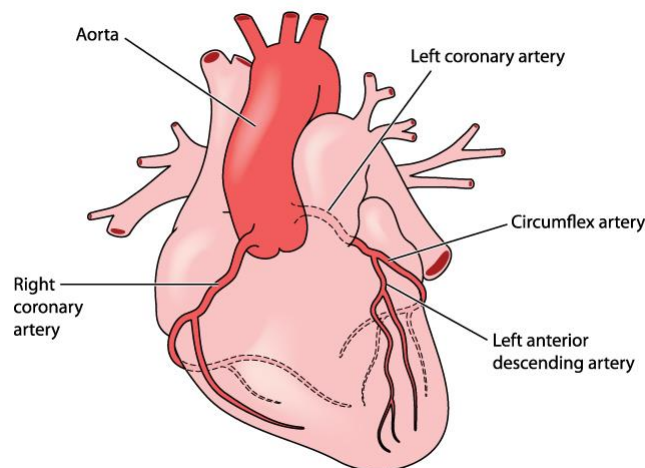
However, the decision to undergo revascularization treatment and the specific treatment approach will depend on several factors, including the extent and severity of the disease, the patient's overall health and medical history, and their individual preferences. It is important for patients to discuss their options with their physician and to work together to create a personalized treatment plan that is right for them.



### Introduction to the Disease or Health Issues

#### ● What happens when you have coronary artery disease?

There are three major coronary arteries, (1) the left coronary artery and (2) the left circumflex artery, which both originate from the left main coronary artery, and (3) the right coronary artery. These coronary arteries provide the oxygen for the heart to function. Coronary artery disease is also known as angina pectoris. The coronary arteries are the blood vessels of the heart itself. When these vessels become blocked, it can lead to a lack of oxygen to the heart. A sudden increase in blood vessel blockage can lead to heart muscle damage, often called a "myocardial infarction".



#### ● What is complex coronary artery disease?

In simple terms, it means that the blood vessel is more severely blocked or has extensive multiple stenoses. In medical practice, the severity and complexity of coronary artery stenosis (Syntax score) are usually calculated using the degree and location of the obstruction to determine its complexity. A Syntax score of 33 or higher or an obstruction at the left main bifurcation of the heart is considered complex coronary artery disease. Its treatment is more complex, takes longer, and has higher risks.

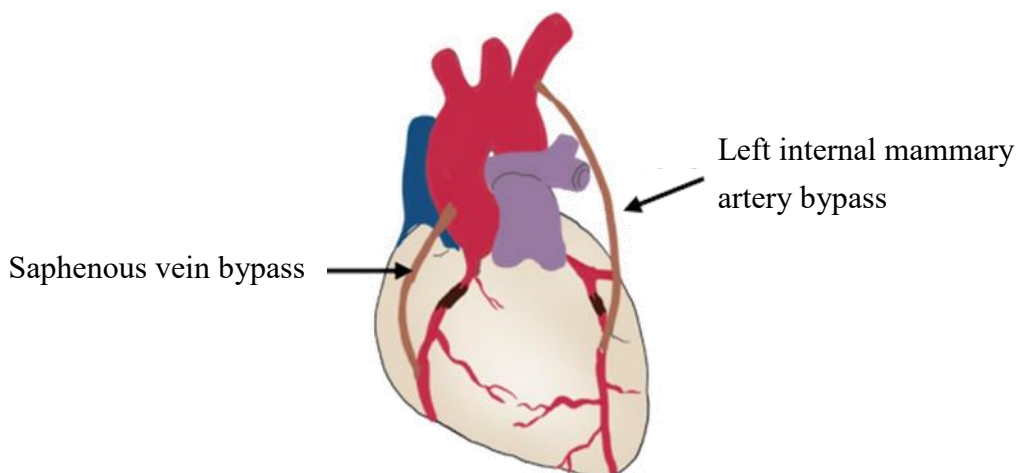


### Introduction to Medical Options

Patients with complex coronary artery disease can reduce their symptoms with lifestyle changes, dietary modifications, or medications to reduce their risk of heart attack or death. However, the best they can do is keep the level of obstruction from getting worse. To truly improve the obstruction, transcatheter coronary intervention in cardiology or coronary artery bypass surgery in cardiac surgery are the most effective options.

#### ● Coronary artery bypass surgery

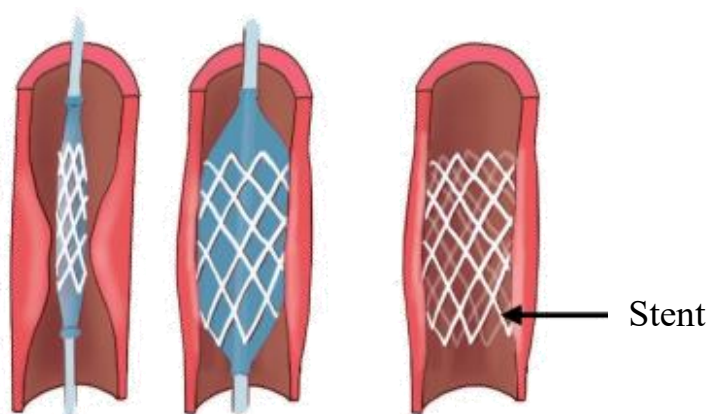
Coronary artery bypass surgery is performed under general anesthesia. The patient's heart is opened from the chest and a blood vessel is taken from another area (such as the saphenous vein in the leg, the internal mammary artery in the chest, or the radial artery in the hand) and connected to the coronary artery above and below the blocked area, bypassing the site of the vessel blockage. By bypassing the vessel in this way, blood flow is maintained. The 10-year patency rate is greater than 90% when the left internal mammary artery is used to connect to the left anterior descending artery and 50% when the saphenous vein is used to connect to other vessels.





### ● Transcatheter coronary intervention

The transcatheter coronary intervention involves inserting a catheter through the wrist or groin under local anesthesia to reach the coronary artery opening in the heart. An ultra-thin guide wire is then inserted into the blocked coronary artery where a balloon is used to dilate the blocked coronary artery to increase blood flow. If the vessel is narrowed in critical areas, or if the balloon does not effectively dilate the vessel, a stent may be placed to restore the vessel. However, the decision to place a stent is made by the physician based on the patient's actual condition. If the obstruction is complex, such as a calcified or bifurcated lesion or chronic total occlusion, other devices may be used for intervention.



After evaluation by your physician, coronary artery bypass surgery is preferred if you have one of the following conditions :

- ◆ Complex obstructive coronary artery disease with a Syntax score greater than or equal to 33
- ◆ Distal bifurcation lesion of the left main coronary artery
- ◆ Left main coronary artery disease (non-bifurcation lesion) combined with complex obstructive coronary artery disease



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**Now that you have read the introduction to the medical options, which one would you prefer at this time?**

- Transcatheter coronary intervention
- Coronary artery bypass surgery
- Neither. I prefer only medication.
- Not sure yet

**To help you make your decision, please follow these four steps:**

### Step 1: Comparison of Options

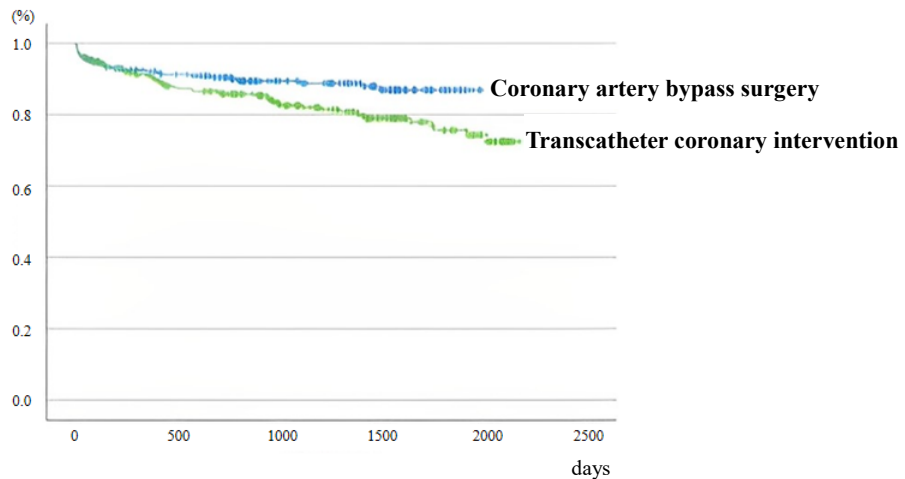
	Transcatheter coronary intervention	Coronary artery bypass surgery
Anesthesia	Local anesthesia at the injection site only	General anesthesia required
Intubation or not	No intubation	Intubation required
ECMO device	Rarely needed	Depending on disease condition
Wound location and size	Wrist or groin, approximately 0.2 cm	Chest, about 12-15 cm
Number of surgeries	1-2 surgeries may be required	Completed in one surgery
Duration of surgery	2-4 hours, depending on complexity	6-8 hours
Days of hospitalization	About 3-4 days	About 2 weeks
Complications	Please refer to the surgery consent form	Please refer to the surgery consent form
Five-year adverse cardiovascular events	Higher	Lower
In-hospital mortality	Approximately 0.5% to 1%, depending on the condition, as explained by the attending physician	Approximately 1%, depending on the condition, as explained by the attending physician



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### Comparison of five-year adverse cardiovascular events between transcatheter coronary intervention and coronary artery bypass surgery (Statistics of the Hospital)



Note: Major adverse cardiac events (MACE) include death, stroke, myocardial infarction, or interventional revascularization procedures.

### Step 2: Your Concerns About Treatment Options

Concerns	Not concerned at all	Somewhat unconcerned	Neutral	Somewhat concerned	Very concerned
Mortality	0	1	2	3	4
Anesthesia and intubation	0	1	2	3	4
Wound size	0	1	2	3	4
Duration of surgery	0	1	2	3	4
Days of hospitalization	0	1	2	3	4
Hospitalization cost	0	1	2	3	4
Other: _____	0	1	2	3	4



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### Step 3: Did You Understand the Information Provided Above?

1. Both transcatheter coronary intervention and coronary artery bypass surgery carry certain risks.	<input type="checkbox"/> True <input type="checkbox"/> False <input type="checkbox"/> Uncertain
2. Both transcatheter coronary intervention and coronary artery bypass surgery carry certain risks.	<input type="checkbox"/> True <input type="checkbox"/> False <input type="checkbox"/> Uncertain
3. Transcatheter coronary intervention or coronary artery bypass surgery has its own advantages and disadvantages, and there is no absolute good or bad.	<input type="checkbox"/> True <input type="checkbox"/> False <input type="checkbox"/> Uncertain
4. Coronary artery bypass surgery uses the patient's own blood vessels to restore smooth blood flow to the heart.	<input type="checkbox"/> True <input type="checkbox"/> False <input type="checkbox"/> Uncertain
5. Patients who have undergone transcatheter coronary intervention or coronary artery bypass surgery do not need to take medication.	<input type="checkbox"/> True <input type="checkbox"/> False <input type="checkbox"/> Uncertain
6. Patients who have undergone transcatheter coronary intervention or coronary artery bypass surgery can simply take the medication and be done with it once and for all, without having to undergo the procedure again.	<input type="checkbox"/> True <input type="checkbox"/> False <input type="checkbox"/> Uncertain



## Cheng Hsin General Hospital Patient Decision Aids

### **Step 4: Have you determined the type of medical treatment you want?**

#### **I have decided on my treatment, which is: (select one of the following)**

- Transcatheter coronary intervention
- Coronary artery bypass surgery
- Neither. I prefer only medication.

#### **I can't decide right now:**

- I would like to discuss my decision again with my attending physician.
- I would like to discuss my decision with someone else (including a spouse, family member, friend, or second opinion provider).
- I would like to learn more about the treatment options described above.

My questions are: \_\_\_\_\_  
\_\_\_\_\_

- I do not want to get treated because \_\_\_\_\_  
\_\_\_\_\_

**Once you have completed the assessment above, you can print the results and bring them to discuss with your attending physician.**