



**Patient Decision Aids**

**I have stable angina. Do I need to have a cardiac catheterization?**

**Introduction**

If your doctor diagnoses you with stable angina, you should make lifestyle changes and take medication. This will not only reduce the risk of heart attack and death, but also reduce the symptoms of angina. However, if the symptoms of angina interfere with your daily activities, you may be considered cardiac catheterization, such as intravascular balloon angioplasty or stent placement. This will not reduce your risk of heart attack and death, but it may help you to function better in your daily activities. However, balloon angioplasty or stenting is an invasive treatment that may have side effects and risks, thus you should carefully contemplate and consult with your doctor to determine which intervention is optimal for your circumstances.

**Suitable Targets / Applicable Conditions**

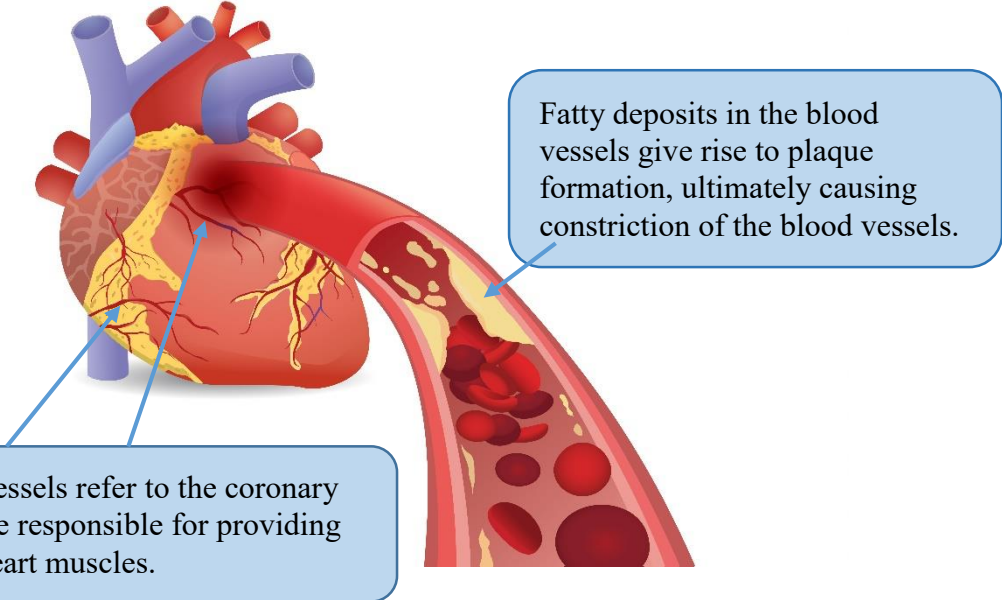
Individuals who have been diagnosed by a physician with stable angina, have not previously undergone cardiac catheterization or coronary artery bypass surgery, and require consultation regarding treatment options.

**Introduction to the Disease or Health Issues**

**● What is angina?**

Angina is caused by the accumulation of fatty material leading to formation of plaque in the blood vessels responsible for supplying blood to the heart muscle. This plaque leads to the narrowing of the blood vessels, resulting in reduce blood flow to the heart muscle, which can cause clinical symptoms such as chest pain and tightness, especially during exercise. Angina increases the risk of heart attack and sudden death.

## Patient Decision Aids



These blood vessels refer to the coronary arteries that are responsible for providing blood to the heart muscles.

Fatty deposits in the blood vessels give rise to plaque formation, ultimately causing constriction of the blood vessels.

Angina can be classified as either "stable" or "unstable". "Unstable" angina is characterized by a modification in the symptoms, such as the frequency, severity, duration, or cause of the attack. This type of angina poses a higher risk of causing a heart attack (myocardial infarction), which can lead to heart muscle damage or even death. Thus, it necessitates prompt medical attention.

● **What are the symptoms of angina?**

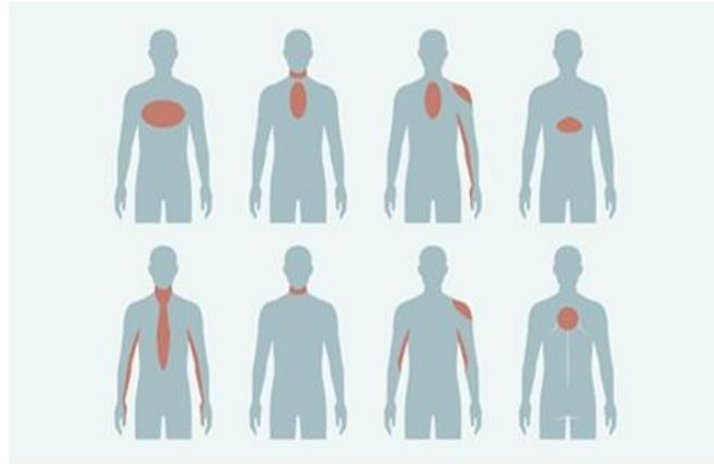
Angina may first appear as a symptom of a heart attack (myocardial infarction). The most common symptom is chest discomfort or shortness of breath. However, the symptoms may be milder or atypical in older adults and women.

During a typical angina episode, one may experience the following sensations:

- ◆ A sensation of tightness or heaviness in the chest
- ◆ A feeling of pressure, squeezing, or burning in the chest
- ◆ Discomfort in one or both arms or shoulders, back, neck, jaw, or chin

## Patient Decision Aids

- ◆ In addition to chest discomfort, one may also experience the following symptoms:
1. Shortness of breath
  2. Upper abdominal pain, nausea, vomiting, hiccups
  3. Cold sweats, pale skin
  4. A sensation of rapid heartbeat or palpitations
  5. Dizziness



Positions that may be uncomfortable during angina or heart attack (myocardial infarction)

### **You can determine the severity of angina based on your symptoms:**

**Grade 1:** Angina pectoris typically manifests during physical exertion, such as engaging in fast-paced, strenuous, or prolonged activities, rather than during normal daily routines like walking or climbing stairs.

**Grade 2:** There are certain limitations to regular daily activities. Symptoms occur exclusively during physically demanding activities, such as brisk walking or climbing stairs, walking uphill, walking or climbing stairs after meals, in cold or windy conditions, during emotional stress, or within a few hours after waking up.

You are able to walk at a normal pace or speed across more than two intersections or ascending more than one flight of stairs.

**Grade 3:** General activities of daily living are markedly limited, and you can only walk at a normal pace or speed across two intersections or ascend one flight of stairs.

**Grade 4:** Chest pain or discomfort is experienced with any movement of the body and may also manifest at rest.

## Patient Decision Aids

### Introduction to Medical Options

#### Main Treatment Options for Stable Angina:

Maintaining a healthy lifestyle along with regular medication is necessary to alleviate the symptoms of angina and reduce the risk of heart attack and death. Balloon angioplasty or stent placement may be more effective in treating the symptoms of angina.

#### ● Medication and maintaining a healthy lifestyle:

1. There are several things you can do to reduce your risk of myocardial infarction and death.

- (1) If you are a smoker, it is recommended that you quit smoking.
- (2) Eat more fruits and vegetables and reduce your intake of meat and fatty foods.
- (3) Physical activities or exercise as much as possible every day of the week
- (4) To maintain an optimal body weight \*.

\*Reference to BMI

BMI = body weight (kg) / height<sup>2</sup> (m)

BMI for Asians

- Underweight 18.5
- Normal 18.5 to 22.9
- Overweight: > 23

(Based on criteria from the World Health Organization Western Pacific Regional Office)

2. Medication:

Medications can reduce the risk of a heart attack and increase life expectancy. However, it is imperative that you adhere to your doctor's instructions and take these medications every day. Some of the medications that your physician may recommend include:

- (1) medicines to lower your blood cholesterol, such as statins
- (2) medicines to lower blood pressure
- (3) aspirin or other medicines to prevent blood clots

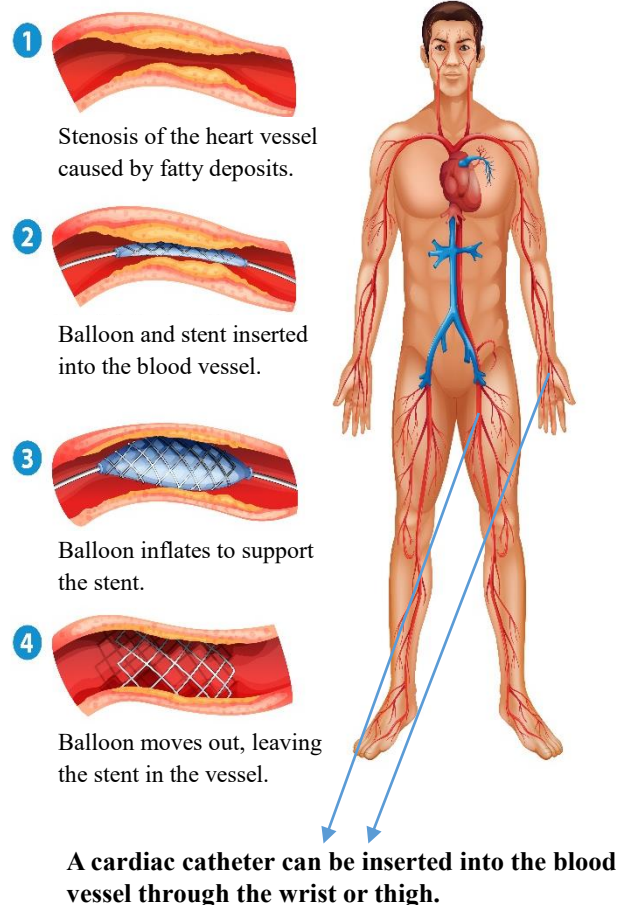
If you have chest discomfort due to coronary artery disease, your doctor may also give you medicines to relieve it.

These may include "nitroglycerin" , "beta-blockers" or other medicines.

## Patient Decision Aids

### ● Balloon angioplasty or stent placement:

1. The cardiologist will insert a small plastic tube with a balloon on the end into an artery in the wrist or thigh, follow the vessel to the blocked blood vessel in the heart, dilate the blocked vessel with the balloon, and then, if necessary or in special cases, place a small mesh stent in the vessel to keep it open, as shown in the picture on the right. After the procedure, the patient will require a hospital stay for a few days for careful monitoring. Additionally, is essential for the patient to continue taking prescribed medications and maintain a healthy lifestyle.



2. If the catheterization shows that you are not eligible for stenting, your doctor will discuss further treatment options with you.

### Which option would you prefer at this time?

- Medication and maintaining a healthy lifestyle
- Medication and lifestyle changes plus balloon angioplasty or stenting
- Not sure yet



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## Patient Decision Aids

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

### Step 1: Comparison of Options

	<b>A. Medication and maintaining a healthy lifestyle</b>	<b>B. Medication and lifestyle changes plus balloon angioplasty or stent placement</b>
<b>Treatment</b>	1. Take your medicine as directed by your healthcare team. 2. Adopt and maintain a healthy lifestyle, including: diet, smoking cessation, weight loss, exercise ....	1. Take your medicine as directed by your healthcare team. 2. Adopt and maintain a healthy lifestyle, including: diet, smoking cessation, weight loss, exercise .... 3. Hospitalization for 2 to 5 days for balloon angioplasty or stent placement. 4. Talk to your healthcare provider about stent options
<b>Improvement of symptoms</b>	527 per 1,000 people whose symptoms went away	585 per 1,000 people whose symptoms went away
	* For every 1,000 people who received medication plus a healthy lifestyle plus balloon angioplasty or stent placement, 58 more people had their symptoms go away than those who received medication plus a healthy lifestyle.	
<b>Side effects</b>	There are no side effects associated with the procedure.	Side effects associated with surgery are very rare. 1. Death due to surgery: 6 out of 1,000 patients 2. Wound hematoma: 5 in 1,000 patients 3. Catheter-related stroke: nearly 2 per 1,000 patients 4. Restenosis: Restenosis may occur after surgery due to endothelial cell proliferation, resulting in restenosis. Follow-up depends on the clinical status of the patient. The risk of side effects increases with age and associated chronic diseases.



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## Patient Decision Aids

<b>Financial considerations</b>	Outpatient fee	Outpatient plus inpatient fee (which the medical staff will discuss with you).
<b>Patient comfort</b>	No hospitalization required	Hospital stays of 2 to 5 days. If the procedure is performed from the femoral artery in the thigh, you may need to lie down for 6 hours after the procedure.
<b>Long-term survival/mortality</b>	No significant difference	

### Step 2: What factors are important to you when choosing a medical treatment and how important are they to you?

Please rank the following factors in order of importance (0-4, where 0 means not at all important, 4 means very important)

Factors to consider	Not concerned at all	Level of concern			Very concerned
		←	↔	→	
Better quality of life	0	1	2	3	4
Risks and sequelae of surgery	0	1	2	3	4
2–5-day hospital stay requirement	0	1	2	3	4
Medical Expenses	0	1	2	3	4
Other: _____	0	1	2	3	4



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## Patient Decision Aids

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

1. Patients with stable angina, with or without balloon angioplasty or stent placement, can be effectively treated with lifestyle changes and medications to reduce cardiovascular mortality.	<input type="checkbox"/> True <input type="checkbox"/> False <input type="checkbox"/> Uncertain
2. The risk of complications such as stroke, myocardial infarction, or death from balloon angioplasty, or stent placement is high.	<input type="checkbox"/> True <input type="checkbox"/> False <input type="checkbox"/> Uncertain
3. The patient's quality of life can be improved after balloon angioplasty or stent placement	<input type="checkbox"/> True <input type="checkbox"/> False <input type="checkbox"/> Uncertain
4. Patients may not require medication after cardiac catheterization and stent placement.	<input type="checkbox"/> True <input type="checkbox"/> False <input type="checkbox"/> Uncertain
5. Regular medication and a healthy lifestyle are the most important treatments for stable angina.	<input type="checkbox"/> True <input type="checkbox"/> False <input type="checkbox"/> Uncertain

### 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)

- Medication and maintaining a healthy lifestyle
- Medication and lifestyle changes plus balloon angioplasty or stent placement
- I do not want to get treated because \_\_\_\_\_

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: \_\_\_\_\_