

Heart attacks

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What You should know about heart attacks



According to the latest WHO data published in 2017, Coronary Heart Disease Deaths in Malaysia reached 30,598 or 22.13% of total deaths.¹

A heart attack occurs when the blood flow that brings oxygen to the heart muscle is severely reduced or cut off completely. When part of the heart muscle does not get the oxygen it needs to survive, it begins to die.²

Heart attacks can be associated with or lead to severe health problems, such as heart failure and life-threatening arrhythmias. If you think you or someone else may be having heart attack or its symptoms, don't ignore it or feel embarrassed to call for help.³

What causes heart attacks?^{2,3}

Coronary heart disease

- Most heart attacks happen as a result of having coronary heart disease
- The arteries that supply blood to the heart (also called coronary artery) may get clogged with fat, cholesterol, or other substances—the collection of these materials is called plaque.
- When plaque builds up in the arteries, the condition is called atherosclerosis. The buildup of plaque occurs over many years.
- When a part of the plaque ruptures inside an artery, a blood clot is formed on the plaque's surface. Depending on the size of the blood clot, blood flow in the artery can be partially or completely blocked.

Coronary artery spasm

- A less common cause of heart attack is a severe spasm (tightening) of a coronary artery.
- The spasm cuts off blood flow through the artery. Spasms can occur in coronary arteries that aren't affected by atherosclerosis.
- Spasms may be related to certain drugs (such as cocaine), emotional stress or pain, exposure to extreme cold and cigarette smoking.

What are the signs and symptoms?^{3,4}

Not all heart attacks begin with the sudden, crushing chest pain that often is shown on TV or in the movies. Symptoms vary from person to person. Some people will feel mild pain or discomfort at first, and some won't experience chest pain at all.

Signs and symptoms of heart attacks may include:



Chest discomfort - People may experience tightness, squeezing or pain. The feeling can last more than a few minutes



Pain and discomfort in the upper body



Shortness of breath



Nausea and Vomiting



Lightheadedness



Cold sweat

Women may have different heart attack symptoms compared to men. Women are more likely to experience chest pain without pressure compared to men. Women may also have certain symptoms more often, like shortness of breath, weakness, fatigue, indigestion, nausea/vomiting and palpitations, pain in the upper back, arm, neck and jaw. If you, or someone you know, are experiencing symptoms of a possible heart attack, consult your doctor immediately.

What are Your risk factors?^{2,3}

There are a few factors that can contribute to clogged arteries. Increasing age and being male puts a person at a higher risk for a heart disease. Having a family history of heart disease can also increase your risk. Other risk factors also include:

- Smoking
- High cholesterol
- High blood pressure
- Lack of exercise and unhealthy diet
- Diabetes
- Obesity

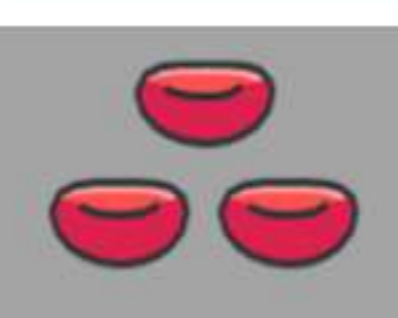
What tests are required to diagnose heart attacks?³

Your doctor will diagnose a heart attack based on your signs and symptoms, your medical and family histories, and test results. Some common diagnostic tests include:



EKG (Electrocardiogram)

An EKG is a simple, painless test that detects and records the heart's electrical activity. The test shows how fast the heart is beating and its rhythm (steady or irregular). An EKG also records the strength and timing of electrical signals as they pass through each part of the heart.



Blood tests

Blood tests measure whether there are higher levels of specific proteins that are released into the blood during a heart attack. These blood tests may be done repeatedly to see whether these levels increase or decrease over time



Coronary Angiography

It is a test that uses dye and special X rays to help find blockages in the coronary arteries. A thin tube (called a catheter) is passed through an artery (usually in your leg or groin) and a dye is then injected into the catheter to show the flow of blood through the heart and its blood vessels.

Keep in mind that there are many other tests that may be done to also evaluate your heart (e.g., stress tests, CT scan, MRI).

How is it treated?^{2,3}



Your treatment will vary depending on the type of heart attack you had (which depends on whether the artery is partially or completely blocked), how much damage the heart suffered, how much time passed since having the heart attack, along with a number of other factors.

There are many treatments for heart attacks, some of which may include the use of clot-busting medications, having an angioplasty (also called PCI [percutaneous coronary intervention]—this is a catheter that is placed inside an artery to restore blood flow to the heart) and heart bypass surgery (to open up blood vessels that have become closed up or narrow).

It usually takes several weeks for the heart to heal after a heart attack, depending on its damage. The damage caused by a heart attack can lead to heart problems such as heart failure, valve problems and irregular heart rhythm. However, with proper treatment and lifestyle changes, it is possible to limit or prevent further damage. Please consult your doctor or cardiologist regularly.

What can You do?^{2,3}

Lowering your risk factors can help you prevent a heart attack. This may involve several key lifestyle changes such as:

Manage your blood pressure

Control cholesterol

Reduce blood sugar

Get active and exercise

Have a healthy diet

Maintain a healthy weight

Quit smoking and limit alcohol consumption

If you have had a heart attack, it is important to take your medicine as prescribed every day and maintain healthy lifestyle habits.

What do healthcare providers mean by “physical activity?”⁵

When doctors talk about physical activity, healthcare providers are generally referring to 4 types of activities:



Aerobic exercise

It includes running, swimming, walking, bicycling, and dancing. These activities make your heart beat faster and your lungs work harder.



Muscle-strengthening

It includes push-ups, sit-ups, lifting weights, and doing yard work. These activities strengthen your muscles.



Bone-strengthening

It includes walking, running, and jumping rope. These activities help strengthen your bones.



Stretching

It includes which includes yoga exercises and touching your toes.

Muscle- and bone-strengthening activities can also be aerobic, provided they make your heart and lungs work harder than usual. Running is an example of an activity that is aerobic and bone-strengthening. Of the 4 types of physical activity, aerobic activity benefits your heart the most.

1. Exercise can make your heart stronger^{5,6}

When done regularly, moderate- to vigorous-intensity aerobic activities can strengthen your heart muscles. This will help your heart pump blood more efficiently leading to better blood flow to your muscles and higher oxygen levels in the blood. In addition, tiny blood vessels in your body, called capillaries, widen, allowing them to deliver more oxygen throughout the body.

2. Exercise can reduce risk factors for coronary heart disease (CHD)^{5,6}

Certain traits, medical conditions, or lifestyle choices can raise your risk for CHD. Due to inactive lifestyle, you are more likely to develop CHD than people who are physically active.

Physical activity can help lower some CHD risks because it:

- Lowers blood pressure and triglycerides (harmful fat in the blood)
- Raises HDL cholesterol levels (the good type of cholesterol)
- Helps the body manage blood sugar and insulin levels, which lowers the risk for developing type 2 diabetes

3. Exercise can reduce the risk of having a second heart attack^{5,6}

For people with CHD, regular aerobic activity can help the heart work better. It may also reduce the risk of a second heart attack in people who have already had one. Note that vigorous-intensity aerobic activity may not be safe for everyone with CHD. Talk with your healthcare provider about the physical activities that may be right for you.

Examples of moderate and vigorous-intensity aerobic activities⁶

Aerobic activities can be done with light, moderate, or vigorous intensity. The more fit you are, the harder you will have to work to increase the level of an activity. For example, a fit person who walks regularly will have to walk faster than a less fit person who rarely walks to increase his or her heart rate. The table below lists examples of moderate- and vigorous-intensity aerobic activities.

Moderate - intensity aerobic activities	Vigorous - intensity aerobic activities
Hiking	Running/ jogging
Light gardening/ yard work	Heavy yard work (e.g. splitting wood)
Dancing	Swimming (slow freestyle laps)
Golfing	Basketball
Cycling (less than 10 mph)	Cycling (more than 10 mph)
Walking (3.5 mph)	Walking (4.5 mph)
Weight lifting (light workout)	Weight lifting (vigorous workout)

How much physical activity should You get?⁵

For overall cardiovascular health, the **American Heart Association (AHA)** recommends that people get:

- At least 30 minutes of moderate-intensity aerobic activity at least 5 days per week for a total of 150 minutes OR
- At least 25 minutes of vigorous aerobic activity at least 3 days per week for a total of 75 minutes; or a combination of moderate- and vigorous-intensity aerobic activity

AND

- Moderate- to high-intensity muscle-strengthening activity at least 2 days per week for additional health benefits

For lowering blood pressure and cholesterol, the AHA recommends:

- An average of 40 minutes of moderate- to vigorous-intensity aerobic activity 3 or 4 times per week

Get started now by making a plan and setting a goal. If you have been inactive, keep in mind that some physical activity is better than none. Start slowly and then gradually increase the amount of physical activity you do. Your heart will thank you!

Always talk with your healthcare provider before starting any new physical activity and about the kinds of activities that are best for you.

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