

What is a heart attack?

Your heart works 24 hours a day to make sure that your body gets healthy blood full of oxygen. Your heart gets its own supply of blood through your coronary arteries. A heart attack happens when a coronary artery gets blocked, because this stops your blood from flowing properly into your heart muscle. Cells in the heart muscle that are deprived of oxygen-rich blood begin to die.

Did you know?

That during an average lifetime, your heart will beat more than 2.5 billion times? That's a lot of work!

A block in your coronary artery can be caused in two ways:

1. Your coronary arteries can develop a fatty build-up called “plaque” inside them. When this happens, it is called atherosclerosis. More than 90% of heart attacks are caused by plaque build-up. When plaque builds up, it can break and lead to the formation of a blood clot that seals the break. If a blood clot suddenly cuts off most or all blood supply to the heart, it can cause a heart attack.
2. A heart attack can also happen when a coronary artery temporarily tightens or goes into a severe spasm. This causes the coronary artery to squeeze so tightly that it shuts off the flow of blood to your heart.

Some heart attacks might not affect how your heart works, but other heart attacks can stop your heart from pumping blood the way it's supposed to.

How common are heart attacks?

About 70,000 heart attacks happen each year in Canada.

About 19,000 Canadians die each year because of a heart attack. Most people who die from their heart attacks do not die in the hospital.

QUIZ: Could I be at risk for a heart attack?

To find out if you might be at risk for a heart attack, take this quick quiz:

	Yes	No	I Don't Know
Do you smoke?			
Is your blood pressure 140/90 mm Hg or higher, OR have you been told by your doctor that your blood pressure is too high?			
Has your doctor told you that your total cholesterol level is high or that your HDL (good cholesterol) is too low?			
Did your father or brother have a heart attack before the age of 55?			
Did your mother or sister have a heart attack before the age of 65?			
Do you have diabetes?			
Are you a man over the age of 45?			
Are you a woman over the age of 55?			
Do you have a body mass index (BMI) score of 25 or more? If you don't know your BMI, click here to find out what it is: http://www.hc-sc.gc.ca/fn-an/nutrition/weights-poids/guide-ld-adult/bmi_chart_java-graph_imc_java-eng.php			
Do you get less than a half an hour of physical activity on most days?			
Has a doctor told you that you have angina (chest pains), or have you already had a heart attack?			

If you answered “yes” to any of these questions, you’re at a higher risk of having a heart attack.

Who is at risk for a heart attack?

Both men and women can have heart attacks. But some people are more likely to have heart attacks because they have risk factors. Some of the risk factors for a heart attack are out of your control because you can't change them. But most risk factors are things that you can change. By changing your risk factors, you can help to lower your risk of having a heart attack.

Risk factors you can't control

- Heart disease, including a previous heart attack
- Age
 - For men, the risk of a heart attack increases after age 45
 - For women, the risk of a heart attack increases after age 55
- Family history of early heart disease
 - Your risk of a heart attack increases if your father or brother had heart disease before the age of 55
 - Your risk of a heart attack increases if your mother or sister had heart disease before the age of 65

Risk factors you can control

- Smoking
- Physical inactivity
- High cholesterol
- Being overweight
- High blood pressure
- Diabetes

The more risk factors you have, the more at risk you are. So, it is very important that you do what you can to improve your risk factors.

What can I do to prevent a heart attack?

Be smoke-free

If you smoke, or are exposed to second-hand smoke, you greatly increase your risk of heart attack. Smoking also increases the risk of you having a second heart attack if you've already had one. And women who smoke and use birth control pills are at even greater risk.

By quitting smoking, you greatly reduce your risk of heart attack. And the sooner you become smoke-free, the sooner your body will start to recover. Your risk of a heart attack starts to go down within 48 hours of you quitting smoking. Within 1 year, your risk of suffering a smoking-related heart attack is cut in half. Within 15 years, your risk of heart attack is the same as someone who never smoked at all.

Why is smoking a risk factor for heart attack?

Smoking causes plaque to build-up in your arteries, reduces the oxygen in your blood, increases your blood pressure and makes your heart work harder.

Control your weight

Being overweight is a major risk factor for heart disease and for heart attack. Almost 60% of Canadian adults are either overweight or obese.

If you are able to get and keep yourself at a healthy weight, you can significantly reduce your risk of heart disease and heart attack. Being at a healthy weight can also help to control other conditions, such as high blood pressure, high cholesterol and diabetes.

How do I know if I'm overweight?

One way to determine if you may be overweight is to calculate your Body Mass Index, or BMI for short. If your BMI score is 25 or more, you may be at higher risk. If you don't know your BMI, click here to find out what it is:

http://www.hc-sc.gc.ca/fn-an/nutrition/weights-poids/guide-ld-adult/bmi_chart_java-graph_imc_java-eng.php

Did you know?

That one year after quitting smoking, your risk of heart attack is cut in half?

Health Risk Classification According to Body Mass Index (BMI)		
Classification	BMI Category (kg/m ²)	Risk of developing health problems
Underweight	< 18.5	Increased
Normal Weight	18.5 - 24.9	Least
Overweight	25.0 - 29.9	Increased
Obese class I	30.0 - 34.9	High
Obese class II	35.0 - 39.9	Very high
Obese class III	≥ 40.0	Extremely high

Note: For persons 65 years and older the “normal” range may begin slightly above BMI 18.5 and extend into the “overweight” range.

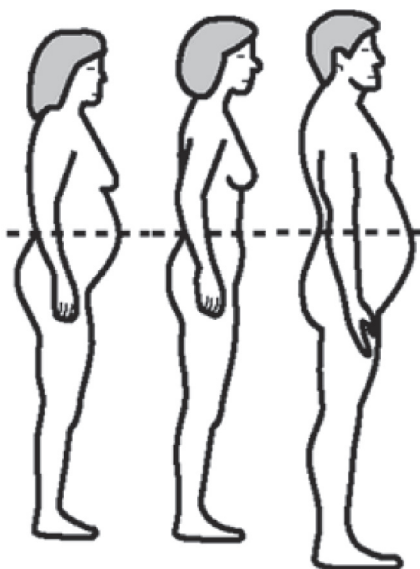
What else can I look for to reduce my risk of heart attack?

The size of your waist is a good measure to take to find out if you are at increased risk of developing health problems such as heart disease, high blood pressure and diabetes.

If you’re a man and your waist measures more than 102 centimetres (40 inches), or if you are a woman and your waist measures more than 88 centimetres (35 inches), you are at increased risk. If you are of Chinese or South Asian descent, you are at increased risk if your waist measures more than 90 centimetres (35 inches) for men or 80 centimetres (32 inches) for women.

How do I measure my waist properly?

1. Remove all clothing, belts or accessories from your stomach area. Stand in front of a mirror with your feet shoulder-width apart and your stomach relaxed. Wrap a measuring tape around your waist.
2. It is important that you measure the correct part of your waist. To find where you should be putting the measuring tape, find the top of your hipbones using the edges of your hands and index fingers—not your fingertips.
 Tip: Many people mistake the part of their hipbone that’s at the front of their body as the top of their hips. This part of the bone is not the top of your hip bones. Follow this spot up and back toward the sides of your body, and you should be able to find the true top of your hipbones.
3. Using the mirror, place the bottom edge of the measuring tape even with the top of your hipbones on both sides of your body.
 Tip: Once you find your hipbones, it may help you to mark the top of your hipbones with a pen or marker in order to help you place the measuring tape in the right spot.
4. Make sure the measuring tape is not twisted.
5. Relax and take two normal breaths. After you let your second breath out, tighten the tape around your waist. The tape should fit you snugly around the waist without being too tight.
 Tip: Remember to keep your stomach relaxed at this point.
6. Still breathing normally, take the reading on the tape.



The drawing to the left shows where you should be measuring your waist:

To see a video on how to take a proper waist measurement, click here http://www.heartandstroke.com/site/c.iklQLcMWJtE/b.3876195/k.87BF/Healthy_Waists.htm

Be physically active

By being physically active, you reduce your risk of heart problems, including heart attack. Physical activity can also improve your cholesterol, high blood pressure, diabetes, and weight.

If you've already had a heart attack, physical activity is also very important for your health.

To protect your heart, you should do at least 30 minutes of a moderate-intensity activity on most days of the week. If you can do 30 minutes of physical activity every day of the week, that's even better! But if 30 minutes is too much for you to do at one time, you can break it up into 3 periods of 10 minutes during the day.

How can I get active?

You don't have to join a gym and go every day to be active. You should choose activities that you enjoy, start slowly, and maybe exercise with a friend to keep you motivated. Doing any physical activity is better than doing none at all. Here are some ideas on how you can incorporate physical activity into your daily routine:

- **Walking.** Walking is probably the simplest activity that you can do to keep your heart healthy. And you don't need any special equipment for it except a good pair of shoes! You can walk to the store, around your neighbourhood after dinner, or add more walking into your daily routine by getting off the bus or subway one stop early and walking the rest of the way on your way to work or home.
- **Gardening.** Canadians love gardening! And gardening is a great choice to get some physical activity, because of all the digging, raking, planting, and watering that's involved in it.
- **Playing.** When was the last time you kicked a soccer ball around, threw a Frisbee, skipped rope, or played tag? Try doing some of these things with your kids or partner to get active while having fun at the same time! Have the whole family take the dog for a walk, or go for a bike ride. By being active with your family, you will also teach your children to enjoy being physically active, which will benefit them in the long run.

If you have not been doing any physical activity, you should start slowly, and increase your physical activity gradually.

If you have heart disease or other medical problems you should check with your healthcare provider before starting a physical activity program.

Control your blood pressure

One in five Canadians has high blood pressure. High blood pressure is one of the biggest risk factors for heart disease, including heart attacks, so it is very important that your blood pressure is properly controlled.

Did you know...?

43% of Canadians with high blood pressure don't even know they have it? This is because high blood pressure has no symptoms.

Why is high blood pressure a risk factor for heart attack?

Over time, high blood pressure can damage blood vessels, leading to the build-up of fatty plaque in your arteries. This build-up can narrow and eventually block your arteries.

If your high blood pressure is properly taken care of, you can reduce your risk of heart attack by up to 25%.

Control your cholesterol

Cholesterol is a type of fat made by your liver. Some of the cholesterol in your body comes from the food that you eat, like eggs, meat and dairy products. But it's not just the cholesterol in food that can raise your cholesterol. Foods that are high in saturated fats can also raise your cholesterol. Saturated fats are mainly found in red meat and high-fat dairy products.

There are two main types of cholesterol:

1. Low-density lipoprotein (LDL) cholesterol. LDL is often called the "bad cholesterol" because high levels in the blood promotes the build-up of plaque in the artery walls
2. High-density lipoprotein (HDL) cholesterol is called the "good cholesterol" because it helps carry LDL-cholesterol away from the artery walls

Triglycerides are not a type of cholesterol, but they are a type of fat that is found in the blood. High triglycerides are associated with excess weight, excess alcohol consumption and diabetes. Your triglyceride level is usually measured at the same time as your blood cholesterol.

Why is high cholesterol a risk factor for heart attack?

You need some cholesterol to stay healthy, but too much of the bad cholesterol in your blood can raise your risk of having a heart attack. If you have too much cholesterol in your blood, your body might store it in your arteries, which can make them narrower. This makes it more difficult for blood to flow through them to your heart and body. And large amounts of cholesterol in your arteries can completely block them. If an artery that supplies blood to your heart becomes blocked, it can cause a heart attack.

Control your diabetes

What is diabetes?

Diabetes is a disease in which your body is not able to control the amount (or level) of glucose (sugar) in the blood. This may happen because:

- your pancreas doesn't produce any insulin
- your pancreas produces insulin but not enough
- your body resists the action of insulin

When your blood glucose level remains high for long periods of time, damage can be done to your heart, your eyes, and your kidneys.

There are 3 main types of diabetes:

- Type 1 diabetes
- Type 2 diabetes
- Gestational diabetes

Simply click on the link that interests you most for a detailed explanation.

Why is diabetes a risk factor for heart attack?

Diabetes increases the risk of high blood pressure, atherosclerosis (narrowing of the arteries), heart disease and stroke. This is especially true if your blood sugar levels are not well controlled. Women with diabetes are much more likely to have heart attacks than men with diabetes.

Approximately 80% of people with diabetes die from heart disease or stroke. Because of this, diabetes is often referred to as a cardiovascular disease. Heart disease or stroke may occur as much as 10 years earlier in people living with diabetes than in people who don't have diabetes.

How do I know if I'm having a heart attack?

Having a heart attack is very scary, and you may not want to think about it happening to you or a loved one. But if you learn to recognize the signs of a heart attack, it could help you save a life, including your own.

Many people think a heart attack happens like you see it in on TV or in the movies—you grab your chest and fall over. The truth is that many heart attacks don't happen like that at all. Instead, they start slowly, and all you may feel at first is mild pain or discomfort. These symptoms may even come and go. And even if you've had a heart attack before, you might not recognize your symptoms if you're having another heart attack, because the symptoms might be different than the first time.

Did you know...?

Over 2 million Canadians have diabetes? This number is expected to increase to 3 million by the year 2010.

It's important that you're able to recognize the signs of a heart attack so that you can get help as quickly as possible. The symptoms that people may experience are:

- Sudden discomfort or pain that does not go away when resting
- Chest pain or discomfort
 - Most heart attacks cause discomfort in the center of the chest that lasts for more than a few minutes, or goes away and comes back. The discomfort can feel like burning, squeezing, heaviness, tightness, or pressure.
- Pain or discomfort in the upper body area
 - This can include one or both arms, the shoulders, back, neck, jaw, or stomach
- Shortness of breath or difficulty breathing
- Breaking out in a cold sweat
- Nausea
- Indigestion
- Vomiting
- Light-headedness

Did you know...?

Half of the deaths caused by heart attacks happen in women?

Do women have the same symptoms as men when they have a heart attack?

Women are often about 10 years older than men when they have a heart attack.

Women can experience the same warning signs as men. But women might describe their pain differently than men. Just like men, the most common heart attack symptom in women is chest pain or discomfort. But women are somewhat more likely than men to experience some of the other common symptoms, such as shortness of breath, nausea or vomiting, and back or jaw pain.

Women are less likely than men to believe they're having a heart attack and more likely to delay in seeking emergency treatment.

What do I do if I think I or someone I know is having a heart attack?

1. The first thing you should always do is **CALL 9-1-1** or your local emergency number. Every minute matters when someone is having a heart attack, and acting fast can save lives. Don't wait more than 5 minutes to call 9-1-1. Calling 9-1-1 is almost always the fastest way to get treatment. When you call 9-1-1, an ambulance will arrive with emergency medical workers. Emergency medical workers can often start treating a heart attack as soon as they arrive. Patients with chest pain who arrive at the hospital by ambulance usually receive faster treatment. It is always best to call 9-1-1 for rapid transport to the emergency room.

If you can't call 9-1-1 for some reason, have someone drive you to the hospital right away. If you're the one having symptoms, **don't drive yourself to the hospital**, unless you have absolutely no other choice.

In a study done in Canadian hospitals, nearly half of people having heart attacks drove themselves to the hospital. The study found that it took longer for these people to receive treatment and life-saving medications than those who did not drive themselves to the hospital.

2. If you think you're having a heart attack, stop all activity and sit or lie down, in whatever position is most comfortable.
3. If you take nitroglycerin, take your normal dosage.
4. If you are experiencing chest pain, **chew and swallow** one adult 325 mg ASA tablet (acetylsalicylic acid, commonly referred to as Aspirin) or two 80 mg tablets. Pain medicines such as acetaminophen (such as Tylenol) or ibuprofen (such as Advil) do not work the same way as ASA (Aspirin) and therefore will not help if you are having a heart attack.
5. Rest comfortably and wait for an ambulance with emergency medical workers to arrive.

Acting fast is so important

Because most people don't recognize the symptoms of a heart attack, they often don't seek help right away. This even happens to people who have already had a heart attack.

If you think that you or someone else is having a heart attack, don't be afraid or unwilling to admit that the symptoms could be serious. Don't be embarrassed about causing a scene if you're in a public place. Don't worry about going to the hospital and finding out it is a false alarm.

Most people having heart attacks wait 2 hours or more after their symptoms begin before they seek medical help. This delay can result in death or permanent heart damage.

Did you know?

Thousands of Canadians die from heart attacks every year because they don't get medical treatment quickly enough?

Why is it so important to act fast?

A heart attack happens when a coronary artery gets blocked, which stops your blood from flowing properly into your heart. Treatments for a heart attack work to open the blocked artery to get your blood flowing again as fast as possible. The faster your blood flow is restored, the less damage to your heart and the less likely it is that you'll have another heart attack.

To be most effective, these treatments must be given fast, preferably within 1 hour from the start of your heart attack symptoms. Acting fast can save your life and limit damage to your heart.

Chain e-mail on how to survive a heart attack when alone

There is a chain e-mail that tells you to send it to everyone you know and recommends that people who think they are having a heart attack should cough long, deeply and frequently. It claims that this will improve blood circulation to the heart keeping you alive until emergency services arrive.

The Heart and Stroke Foundation of Canada recommends **AGAINST** circulating this e-mail.

If you are alone and think you are having a heart attack, you should call 9-1-1 or your local emergency number immediately for help.

QUIZ: Do you know what to do if a heart attack happens?

To find out if you know what to do if a heart attack happens, take this quick quiz.

1. Pain, discomfort or a heavy feeling in the chest can mean that you're having a heart attack.

True False

True. Chest pain or discomfort is the most common heart attack symptom. But the pain may not feel severe or "stabbing." It may just feel uncomfortable. You could also feel short of breath, or feel pain or discomfort in other areas of your upper body, such as your arms, back, neck, jaw, or stomach. Other symptoms you might feel include breaking out in a cold sweat, nausea, or light-headedness.

2. Women do not die from heart attacks as often as men.

True False

False. Nearly half of all heart attack deaths each year happen in women. Women are also less likely to survive a heart attack than men.

3. African-American women die of heart attacks as often as white women.

True False

False. African-American women die from heart attacks more often than white women. In general, women wait longer before calling for help when they are having a heart attack. African-American women are also at greater risk for having high blood pressure and diabetes, which are both risk factors for heart attacks.

4. People who are having the symptoms of a heart attack may wait hours or even days before seeking medical help.

True False

True. Many people having heart attacks do not recognize their symptoms as being serious. That's why it is important to know the warning signs of a heart attack and act fast.

5. Being treated within about an hour of the first symptoms of a heart attack can make a huge difference.

True False

True. The risk of death due to heart attack and damage to your heart can often be reduced if you get treatment within an hour of when your symptoms start.

6. Many people who have had a heart attack say that it wasn't what they'd expected.

True False

True. Many people think a heart attack happens like you see it on TV or in the movies—you have severe pain, grab your chest and fall over. The truth is that many heart attacks don't happen like this at all. Instead, they can start slowly as a mild pain. People who have heart attacks that don't happen the way they thought they would, often wait longer than they should before getting medical help.

7. A family member, such as a husband or wife, can persuade someone having a heart attack to get help immediately.

True False

True. But family members should expect that the person having a heart attack may not realize that they're having one. The person having the heart attack may also deny that the symptoms they're having are anything serious and insist that they don't want anyone to call for help. Whenever you think someone may be having a heart attack, you should call 9-1-1 immediately. Don't wait to call. Don't wait for the person having the heart attack symptoms to agree with you. Take charge and make sure the person gets checked out sooner rather than later.

8. Calling 9-1-1 for chest pain alone would probably turn out to be a waste of the emergency services' time.

True False

False. It's better to be safe than sorry, and sometimes mild chest pain is the only sign of the start of a heart attack. It's okay to be wrong about a heart attack happening. Emergency medical services want you to call to get a heart attack checked out. And even if it turns out to be a false alarm, feeling a little embarrassed is better than not getting help in time for a real heart attack.

9. Most heart attacks occur in people over the age of 65.

True False

True. But nearly half of all heart attacks happen in people under the age of 65. And 5% of heart attacks happen in people under the age of 40.

10. Most of the delay in treating a heart attack comes from the time it takes for an ambulance to get to the person and then drive them to the hospital.

True False

False. The largest part of the delay in time is the time it takes for a person to decide to ask for help. This is why it's important to call 9-1-1 as soon as possible and not wait to see if the symptoms will go away on their own.

How are heart attacks treated?

If you have a heart attack, you will most likely stay in the hospital for several days. You may have to have a medical procedure or operation to help restore proper blood flow to your heart while you are at the hospital.

When you leave the hospital, your treatment doesn't stop. At home, you may have to take some medicines to help prevent or control heart disease to reduce your risk of a first or repeat heart attack. You may also have to change your lifestyle, like quitting smoking, eating healthier foods, increasing your physical activity, and losing weight.

If your doctor does prescribe a medication for you, you should still try to be as physically active as possible and eat healthy foods.

Living well after a heart attack

Many people have heart attacks and go on to live active and full lives. The sooner you ask for help when you start to have the symptoms of a heart attack, the sooner you can get help, which can limit the damage to your heart. And of course, the less damage to your heart, the better.

After a heart attack, you will need to do some things to recover and reduce the long-term complications of your heart attack and also prevent yourself from having another one. Your doctor may recommend:

- Lifestyle changes, such as quitting smoking, eating healthy foods, increasing your physical activity, and losing weight
- Medicines to help your heart, or medicines to lower your blood pressure and/or cholesterol
- Participation in a cardiac rehabilitation program
 - A cardiac rehabilitation program is run by people who will help you get the right kind of physical exercise and educate you on how to make healthy changes in your lifestyle. This type of program will help you learn the best way to take care of yourself after having a heart attack and how to prevent having another one.

If I've already had a heart attack, am I going to have another one?

If you've already had a heart attack, you are at higher risk of having another one. It's important to know the difference between chest pain (called "angina") and a heart attack. The pain of angina usually occurs after you've exerted yourself, like if you've been doing something physically active. But the chest pain of angina goes away after a few minutes when you rest or take medicine that your doctor has prescribed for you. The chest pain that you have during a heart attack is usually more severe than the pain of angina, and this pain doesn't go away when you rest or take medicine.

It's also important to remember that the symptoms of a second heart attack may not be the same as those of a first heart attack. If you're not sure if you're having another heart attack, call 9-1-1 immediately.

Resources

There are a number of websites that have information about heart attacks. Some of them are:

The Heart and Stroke Foundation of Canada

www.heartandstroke.com

The Heart and Stroke Foundation offers a wide range of events across Canada that you might be interested in attending. To find out about events and programs in your community, select your province in the "Events" section of the www.heartandstroke.com website.

The National Heart, Lung and Blood Institute

<http://www.nhlbi.nih.gov/actintime/index.htm>

http://www.nhlbi.nih.gov/health/dci/Diseases/HeartAttack/HeartAttack_WhatIs.html

The American Heart Association

<http://www.heart.org/heart-disease/heart-attack>

Making the Connection

<http://www.makingtheconnection.ca>

Cardiovascular Disease

<http://www.phac-aspc.gc.ca/cd-mc/cvd-mcv/index-eng.php>