

Healthy Hearts

The Basics about your Cardiovascular System

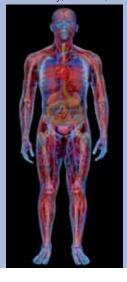
The cardiovascular system brings nutrients and oxygen to your cells, and removes waste products. This system consists of:

- The heart, which acts as a pump to circulate blood. It is at the center of the system. There are four chambers in the heart: the left atria, right atria, left ventricle, and right ventricle. The right side of the heart sends blood through the lungs and the left side sends blood through the rest of the body.
- The ventricles, which act as pumps, are very muscular.
 The left ventricle has much thicker walls than the right ventricle since it needs to pump blood throughout the body. Blood that is low in oxygen and high in carbon dioxide enters the right atrium then flows into the right ventricle, which pumps it through the pulmonary arteries into the lungs.
- The lungs, which exchange carbon dioxide-rich blood for oxygen-rich blood. The blood then has a high oxygen concentration and flows to the left ventricle, which pumps it to the whole body through the aorta.
- The arteries and arterioles, which carry oxygen rich blood to cells throughout the body. The arteries divide into smaller and smaller vessels, much like a branches of a tree, with the smallest vessels being the capillaries.
- The capillaries, which occur in "beds" next to cells and it is through their thin walls that oxygen and nutrients are exchanged for waste products. Capillaries also pick up nutrients from the intestinal track and carry waste products to organs like the liver.
- The veins and smaller vessels called venules, which take blood from the capillaries back to the heart. Valves located in veins prevent blood from flowing backwards. More than half of all your blood is found in the veins and venules at any one time in the body.

The cardiovascular system works involuntarily; however,

many things can damage it or make it difficult to work properly, such as:

- High blood pressure, which makes the heart work harder to move blood.
- Accumulated cholesterol in vessels, which narrows and disrupts the blood flow.
- Interference of the heartbeat, which can affect blood flow.
- Blood clots or cholesterol, which can block the supply of oxygen to cells and cause death.



Heart Attack

A heart attack (myocardial infarction) results when heart tissue doesn't receive enough oxygen for a prolonged period of time. The cardiac tissue dies and the heart cannot pump blood through the body's circulation.

The severity of the heart attack depends upon the area of the heart muscle affected. If a heart attack involves one of the ventricles, then that ventricle may not have enough muscle left to pump. If it involves the areas of the heart that are responsible for regulating the heartbeat, then the heart may not beat. If the infarct is small, no obvious damage may occur, but your risk for other heart problems will increase.

It is estimated that 70,000 heart attacks occur each year in Canada with survival rates greatly diminished when they occur outside of the hospital. If you think you may be experiencing a heart attack call 911 and go to a hospital immediately, don't wait! Learn to recognize the signs of a heart attack:

- Chest pain, a crushing feeling in your chest, heaviness, fullness, or a burning sensation.
- Upper body discomfort in areas such as the neck, jaw, shoulders, and back.
- Shortness of breath.
- Nausea.
- Sweating.
- Light handedness.

Women are equally affected by heart attacks as men, but their symptoms may not involve chest discomfort. Instead, women often report feeling stomach pain, pain in lower extremities (such as the legs), fatigue, and headache.

High Blood Pressure



High blood pressure, or hypertension, is a medical condition in which blood pressure in the arteries is elevated. High blood pressure can result in making the heart work harder. The reverse is also true in that if the heart doesn't work properly, high blood pressure can result.

Unfortunately, high blood pressure can occur without any symptoms. A person may feel fine and by the time he or she realizes that they have high blood pressure, their cardiovascular system may already have damage. For this reason, it's important to know what your blood pressure is.

Blood pressure is measured as a combination of two numbers. The first number, or the systolic, is the blood pressure reading when your heart is working. The second number, or the diastolic, is the reading when your heart is at rest. Normal blood pressure is usually considered to be 120/80. However, there is a range and sometimes factors like your age, medical conditions and risk factors will mean that you have a different target blood pressure range. Usually 140/90 is considered to be high blood pressure.

Healthy Hearts

Coronary Artery Disease

Like every other muscle in your body, the heart needs a good supply of oxygen to function; coronary arteries carry this oxygen to the heart. If the coronary arteries are not able to supply oxygen, ischemia (lack of oxygen) occurs. With lack of oxygen, angina pectoris can occur resulting in chest pain or a squeezing sensation.

Elevated cholesterol levels are the primary cause of ischemia. Porridge-like cholesterol deposits occur in blood vessels including the coronary arteries and blood flow is impeded. This occurs over many years, and may start as early as in childhood. Without sufficient blood flow, oxygen levels are low or blocked completely causing the heart to weaken and eventually leading to heart failure.

The cholesterol build-up of atherosclerosis is referred to as plaque and may harden or rupture. When plaques rupture, a blood clot may form on the surface and further narrow the vessel. Recent research has pointed to both infection and inflammation as contributors to blocked blood vessels. If the coronary arteries are completely occluded, a heart attack is possible.



Stroke ("Brain Attacks")

A stroke occurs when brain cells are deprived of oxygen and because brain cells cannot repair themselves, the damage is permanent. There are about 50,000 strokes each year in Canada; with men and women equally affected.

About 80% of strokes are ischemic, or caused by a lack of oxygen. When an embolism flows through the circulation and plugs vessels in the brain, the supply of oxygen is interrupted. The embolism obstruction could be an air bubble, cholesterol particle or may be a blood clot that has formed elsewhere in the body and broken free of the blood vessel wall. In the brain, the blood vessels are so small that the embolism "sticks" in them.

The remaining 20% of strokes are hemorrhagic, which is the result of an actual break of a blood vessel in the brain. Blood seeps from the ruptured vessel into the brain damaging brain cells; an aneurysm is one cause of a hemorrhagic stroke. Sometimes surgery can repair the damage, but prompt action is needed.

Mini-strokes occur when there is a temporary loss of blood flow for a short period of time. Vision problems, difficulty speaking and moving are the most common symptoms, but they disappear quickly.

Drugs to break up clots in strokes are available, but you need to get to hospital immediately. The key is knowing the symptoms:

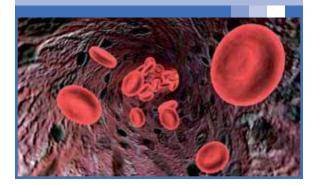
- Weakness, especially on one side.
- Trouble speaking or slurred speech.
- Vision problems.
- A sudden and severe headache.
- Dizziness.

Cardiovascular Risk Factors

Recognizing what your risk factors are and changing those that you can will improve your heart health:

- Family history cardiovascular disease has a genetic tendency. While you cannot change this risk factor, you can recognize it and make sure you take all other measures to reduce your risk.
- Age the older you are, the more your risk is. You cannot change your age, but you can make sure you live a heart-healthy lifestyle.
- Gender both men and women have equal risk, but there is an age difference; the greatest risk occurs after age 45 for men and after 55 for women.
- Smoking even smoking one cigarette a day contributes to atherosclerosis and reduces circulation.
- High blood pressure your heart has to work harder to circulate blood when you have high blood pressure.
- Physical inactivity your heart needs exercise just like any other muscle in your body; aim for 20 to 30 minutes most days of the week.
- Obesity if you are overweight your heart has to work harder to circulate blood; know what your ideal weight should be.
- Elevated cholesterol levels atherosclerosis results from high cholesterol levels; watch your diet and check if you are a candidate for cholesterol-lowering medication.
- Diabetes poor diabetes control contributes to heart disease.
- Unhealthy diets a low fat, high fibre diet is best for healthy hearts.
- Excessive alcohol consumption while red wine is considered beneficial, too much of any type of alcohol increases your risk. Have no more than two drinks per day, 10 per week for women and three drinks per day or 15 per week for men.
- Sleep apnea when you stop breathing, both your circulation and heart are impacted; treatment will reduce the risk.

February is Heart Month!





Ask Your Helpful FHCP Pharmacist

Provided by Marie Berry, Your Family Health Care Pharmacist

Q. What is "A-fib", my doctor says I have it?

A. A-fib (atrial fibrillation) is a heartbeat irregularity and is more common among older individuals. The heartbeat is fast and irregular and you may feel this as palpitations. Usually medications are used to slow the heartbeat, and sometimes a procedure can be performed to correct the problem. Unfortunately, this heartbeat irregularity increases your risk for strokes. Regular use of anticoagulants, such as warfarin, can reduce this risk.

Q. Should I take a daily ASA tablet?

A. The idea of taking a daily ASA tablet is to reduce your risk for cardiovascular conditions. Usually an 81 milligram tablet daily is recommended. If you are older, have an existing cardiovascular condition or a disease (such as diabetes) that can contribute to heart problems, a daily ASA may be recommended. However, if you are young and healthy, you may not need a daily ASA. Remember, if you have a sensitive stomach or an allergy to any salicylates, a daily ASA is not suitable. Other non-steroidal anti-inflammatory drugs such as ibuprofen and naproxen seem to negate the cardiovascular effects of ASA — do not take them at the same time.

Q. Are there any natural remedies for heart health?

A. Natural remedies for heart health are numerous: coenzyme Q10, garlic, lecithin, selenium, and vitamin E. Unfortunately, research has not shown these remedies to be more useful than lifestyle changes such as weight loss, increased activity and smoking cessation. Treating a cardiovascular condition with natural remedies first may delay traditional therapy and result in advancing heart disease. Check with your FHCP Pharmacist before you use any natural remedy and consider using them along with other traditional therapy.

A Healthy Position

Measuring Your Blood Pressure at Home

Measuring your blood pressure at home will help you become more involved in your health. Here are some hints to get the most from your blood pressure monitor:

- Choose one that is easy for you to use. Remember that one of your arms will have the cuff on and you will only have one hand to operate the monitor.
- Read all the instructions and familiarize yourself with the monitor. Many manufacturers have toll free help number and a website.
- Make sure that you have the correct cuff size. Measure your arm and follow the cuff size recommendations.
- The arm that you are using to measure your blood pressure should be bare don't roll-up your sleeve.
- Rest for about 5 minutes before measuring sit in a chair that offers back support with both feet on the floor.
- While you are taking your readings, don't talk, watch television or listen to the radio as these activities can cause blood pressure fluctuations.
- Position the cuff on your arm properly. Check the instructions; the cuff needs to be at the level of your heart.
- To ensure accuracy, take three readings each time and at the same time each day.
- Keep track of your blood pressure readings and take them to your medical appointments.

Take The Check-Up Challenge

Know what your blood pressure is! You can take it at home or have your doctor or nurse take it. Keep a record of it because high blood pressure and changes in blood pressure don't usually have symptoms.

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Next Month's Feature!

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Insomnia

Getting a good night's sleep is everyone's goal but, from time to time, everyone has difficulty falling or staying asleep. The reasons for this can vary from caffeine consumption to stress with a school exam or work presentation. When sleep problems continue, insomnia occurs. Anywhere from one-two% of Canadians are affected by insomnia. When sleepless nights occur, improving your sleep habits may solve your tossing and turning.

In Next Month's Feature Find Out More About:

- What sleep is.
- Normal sleep patterns.
- Factors that can affect sleep.
- Sleep hygiene.
- Strategies for improving sleep.
- Medication for sleep.

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