



Understanding and Managing
Your Blood Pressure



This brochure provides you with a thorough overview of what blood pressure is and how to lower it to avoid developing hypertension, or to control it if you do have hypertension. If you have diabetes, kidney disease, or other health conditions, speak with your health care professional to ensure the information is right for you.

What is blood pressure?

Blood pressure is one of the four vital signs that indicate overall health. Your blood pressure is the force of blood against the walls of your blood vessels. High blood pressure means there is too much pressure in your blood vessels which, over time, can damage your blood vessels and organs. Low blood pressure is a concern when you're feeling dizzy or faint, in which case you should speak to your health care professional.

What causes high blood pressure?

Some risk factors for high blood pressure, like family history, age, and gender, can't be changed. Other factors are controllable, like smoking status, alcohol intake, exercise, and diet. Adopting healthy habits can reduce the level of blood pressure and the risk of developing hypertension.

What is hypertension?

Generally, the terms “hypertension” and “high blood pressure” are used interchangeably. Medically, hypertension is a specific condition in which blood pressure measures consistently higher than normal. Hypertension is often called “the silent killer” as it has no warning signs or symptoms, and can only be diagnosed through blood pressure measurement. It can affect anyone and is more common as we age. Once hypertension develops, it usually lasts for life. Hypertension affects 7.5 million Canadians, and is among the leading causes of death and disability worldwide.

Uncontrolled hypertension increases the risk of:

- stroke
- heart attack
- heart failure
- dementia
- kidney disease
- eye problems (retinopathy)
- erectile dysfunction
- diabetes

The good news is that hypertension can be prevented and controlled with healthy lifestyle strategies, and medication for additional control if needed. The first step is to know and understand your blood pressure.

How is blood pressure measured?

Blood pressure is measured on the upper arm using a device with an inflatable cuff. Blood pressure readings have two numbers, one on top of the other, as in 120/80 mmHg. The abbreviation “mmHg” represents millimeters of mercury, a standard measurement of pressure. The top number is your systolic blood pressure, and is the highest level of pressure reached as your heart beats. The bottom number is your diastolic blood pressure and is the lowest level of pressure as your heart relaxes between beats.

What do my numbers mean?

If your blood pressure is high, your health care professional will evaluate your readings based on the average of two or more blood pressure readings, at two or more visits. The evaluation should also include one reading taken outside of a doctor's office – for example, at a pharmacy kiosk, at home, or by wearing a device while you're going about your day.

What should my blood pressure be?

It's helpful to know the target when aiming to lower blood pressure. Ideally, blood pressure should be below 120/80 mmHg to maintain good health and reduce the risk of stroke, heart disease, and other conditions.

However, the target depends on factors like age and health conditions, and where readings are being taken. If you have diabetes, kidney disease or other health conditions, speak to your health care professional about your readings and the treatment that is right for you. Remember, only your health care professional can tell you what your target blood pressure should be.

Systolic	Diastolic	Action
Below 120	Below 80	Maintain or adopt healthy behaviours.
120-139	80-89	Maintain or adopt healthy behaviours.
140-159	90-99	Adopt healthy behaviours. If goal isn't reached in a month, talk to your health care professional about taking medication(s).
160 and higher	Or 100 and higher	Adopt healthy behaviours. Talk to your health care professional about taking medication(s).

These blood pressure targets are for adults under the age of 80. Ranges may be lower for children and teenagers. Talk to your child's health care professional if you think your child has high blood pressure. Ranges are higher for people over the age of 80.

According to my health care professional, my target blood pressure is _____ / _____ mmHg.

When is high blood pressure an emergency?

High blood pressure readings, for people who are otherwise healthy, are rarely an emergency unless accompanied by signs of stroke or heart attack. If your blood pressure is reading higher than normal, and there are no other symptoms, you should call your health care professional at your earliest opportunity and make an appointment. If, however, you also have signs of a stroke or heart attack, have someone drive you to the emergency department or call 911 if you're alone. With some health conditions, higher blood pressure may require emergency attention. Check with your health care professional to understand what constitutes an emergency for you.

Signs of a stroke:

- **F**ace – is it drooping?
- **A**rms – can you raise both?
- **S**peech – is it slurred or jumbled?
- **T**ime – to call 911 right away.

Signs of a heart attack:

- Chest discomfort (pressure, squeezing, heaviness)
- Discomfort in other areas of the upper body
- Shortness of breath
- Sweating
- Nausea
- Light headedness

Adapted from www.heartandstroke.com





How often should I measure my blood pressure?

For most people with normal blood pressure and without other health conditions, a blood pressure measurement done properly once a year is often enough. If your blood pressure is high, your health care professional will advise you to book an appointment, or advise you to monitor your blood pressure at home, to accurately evaluate your blood pressure.

When and why is home monitoring important?

Your health care professional may want you to monitor your blood pressure at home – to accurately confirm your average blood pressure, or to monitor how well your blood pressure is controlled in your own environment. If you have been diagnosed with hypertension, monitoring over time and keeping detailed records helps you and your health care professional to see how your blood pressure is responding to lifestyle changes or medications. Ask your health care professional for information on how to use a blood pressure log, and bring it with you to your appointments.

Download a blood pressure log at
hypertension.ca

What is white coat hypertension or white coat syndrome?

Some people have higher blood pressure at the doctor's office, yet normal blood pressure otherwise, so they do not have hypertension at all. It is called white coat hypertension or syndrome, referring to the white lab coats worn by some health care professionals, and can be ruled out with home blood pressure monitoring.

What is masked hypertension?

Some people have normal blood pressure at the doctor's office, yet higher blood pressure everywhere else. The use of a blood pressure log, with readings taken at home, can uncover masked hypertension.





Managing your blood pressure

Many lifestyle strategies to prevent hypertension are the same as those needed to control it. Blood pressure is highly responsive to healthy behaviours, and some people may be able to control their blood pressure without medication. Others cannot, through no fault of their own, and will require medication to lower their blood pressure to a safe range. It's important to note that medication never replaces healthy behaviours. Healthy behaviours and taking medication as directed go hand-in-hand to control blood pressure and reduce health risks.



Hypertension prevention tips:

- Eat a healthy diet rich in fruits and vegetables, low-fat milk products, whole grain products and meat alternatives such as beans, legumes, nuts and seeds.
- Choose foods low in saturated fats from meat and milk products, and rich in unsaturated fats like canola or olive oil.
- Limit your salt intake. Adults should consume less than 2000 mg of sodium daily. Choose unprocessed foods and those with a Nutrition Facts Label showing less than 5% Daily Value for sodium per serving.
- Maintain or reduce your weight to a target healthy range for you.
- Be physically active for 30 to 60 minutes most days of the week.
- Manage your stress levels and improve your coping skills.
- Limit your alcohol consumption to one to two standard drinks per day or less.
- Do not smoke and avoid places where others are smoking.

Hypertension control tips:

- Adopt all of the prevention tips, and keep at them. They're as important as medication.
- Adopt the DASH diet (see *Healthy eating for healthy blood pressure* below).
- Take medication as directed and report side effects to your health care professional.
- Do not stop taking your medication without first speaking to your health care professional — unless you are having an allergic reaction.
- Know what your target blood pressure should be.
- Monitor your blood pressure at home, using proper technique, to see your progress.
- Make sure you have the right size blood pressure cuff.
- Have your home blood pressure monitor checked yearly for accuracy.
- Keep a blood pressure log and show it to your health care professional at every appointment.
- Use a blood pressure measurement device that is recommended by Hypertension Canada. Visit www.hypertension.ca.

Healthy eating for healthy blood pressure

Healthy eating is among the most impactful lifestyle strategies you can adopt to control your blood pressure. It does not mean you have to give up all of your favourite foods, miss out on social functions, or only eat at home. All it takes is a little planning to incorporate healthy eating habits into your routine. This section provides quick tips and information on eating at home and in restaurants, meal makeovers, and the DASH diet. Over time, making healthy choices will become easier (and tastier!) and your new habits will feel like second nature.



Quick tips to reduce your sodium intake:

Eating at home:

- Eat more homemade foods prepared with fresh, minimally processed ingredients.
- Limit the use of salty condiments like soy sauce, pickles, gravies and mustard. Be watchful for sodium hidden in foods that do not taste salty, like ketchup.
- Use diluted tomato paste, fresh tomatoes, or homemade stock instead of tomato sauce, powdered bouillon, or canned soup in recipes.
- Avoid adding salt when cooking and baking. Try using lemon or lime juice, herbs and spices to add flavour without adding sodium.
- Remember all types of salt are high in sodium. These salts include sea salt, fleur de sel, and other artisanal and flavoured salts (like onion, garlic, and BBQ seasonings, which can be high in sodium).
- Use low-salt alternatives that contain potassium-salts in moderation.



Eating take-out or at a restaurant:

- Check the nutrition information of menu items to help you choose foods with less sodium. This information may be on a menu, poster or pamphlet at the restaurant, or on their website.
- Choose dishes made from fresh, low-sodium ingredients such as salads.
- Ask for less salt and other seasonings to be added to your food.
- Ask for gravy, sauces, cheese, and salad dressings on the side, and use these items lightly.



Did you know?

As you choose lower sodium foods more often, you may develop a preference for foods with less salt. You may soon find that some processed or restaurant foods taste too salty.

Nutrition Facts table

Do you know how to read nutrition labels? While they can be very helpful in guiding you to make healthy decisions, labels can also be misleading. A serving size may not be the entire package, for example. Always compare labels and choose the food with the lowest amount of sodium per serving. A Daily Value of 5% or less of sodium per serving is the best choice; foods with 15% or more should be avoided.

Menu makeover

Making small substitutions in the foods you eat can make a big difference when it comes to lowering or controlling your blood pressure. Check out the list of healthy substitutions on the next page – give them a try!

Reduced Sodium Menu Makeover

Breakfast menu makeover

Instead of...	Sodium (mg)	Try...	Sodium (mg)
Raisin bran muffin (large)	800	Multigrain bread: 2 slices	300
Butter – 2 pats	75	Peanut butter: 1 tbsp.	75
Flavoured coffee 16 oz	300	Coffee with 2 oz of 1% milk	32
Total	1175	Total	407

Lunch menu makeover

Instead of...	Sodium (mg)	Try...	Sodium (mg)
White pita bread – small	332	Multigrain bread: 2 slices	300
Pastrami deli meat: 3 oz	1225	Leftover roast beef: 2 oz	37
Cheese: 1 slice	176	Lettuce and cucumber	0
Dill pickle	385	Carrot sticks	60
Oatmeal cookie: 32g	150	Low fat fruit yogurt: 175g	123
Total	2258	Total	520

Supper menu makeover

Instead of...	Sodium (mg)	Try...	Sodium (mg)
Fast food chicken burger	990	Grilled chicken breast: 75 g	64
Medium French fries	540	Baked potato + 1 tbsp yogurt	43
Ketchup: 1 tbsp	110	Tomato slices: 6	11
Apple turnover	200	Canned peaches: 1 cup	5
Milkshake: 16 oz	350	1% milk: 8 oz	122
Total	2190	Total	245

Daily Total	5623	Daily Total	1172
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Examples of sodium content in restaurant food:

Menu item	Sodium (mg)
Breakfast egg sandwich	840
Chicken Caesar salad	570
12" pepperoni pizza	5960
Deluxe cheeseburger and medium fries	1910
Fried chicken dinner	2280

The DASH Diet

The Dietary Approach to Stop Hypertension (DASH) diet is similar to Canada's Food Guide and has been shown to lower blood pressure. The DASH diet emphasizes eating plenty of vegetables and fruits, low-fat milk products, whole grains, lean meats, fish, dried beans and nuts. Following the DASH diet and limiting your sodium intake to less than 2000 mg each day is the best way to manage your blood pressure with food.

DASH Diet Choices

Food group	Daily serving	Examples and notes
Whole grains	6-8	Whole wheat breads, cereal, oatmeal, rice, pasta, quinoa, barley, low-fat, low-sodium crackers
Vegetables	4-5	Dark green and orange (fresh or frozen)
Fruits	4-5	Apricots, bananas, grapes, oranges, grapefruit, melons, peaches, berries, mango
Low-fat or fat-free milk foods or alternatives	2-3	Skim, 1% milk, fortified soy beverage or yogurt, 6-18% M.F. (milk fat) cheese
Meats, poultry, fish	Less than 6 oz	Select only lean meats. Choose fish like char, herring, mackerel, salmon, sardines and trout. Trim away fats. Broil, roast or boil and avoid frying. Remove skin from poultry. When choosing deli meats, look for low-sodium and low-fat options.
Nuts, seeds, legumes	4-5 per week	Almonds, peanuts, walnuts, sunflower seeds, soybeans, lentils, chick peas, dried peas and beans, tofu
Fats and oils	2-3 tsp	Soft margarines, mayonnaise, vegetable oil (olive, corn, canola, or safflower), salad dressing
Sweets	Less than 5 tbsp per week	Sugar, jelly, jam, hard candy, ice cream, syrups, sorbet, chocolate



Medications for managing high blood pressure

Once diagnosed with hypertension, medication is often needed to bring blood pressure within a normal range. Don't see that as a failure – it's not. Learn about the medication you're prescribed, and take it as directed to reduce your risk of health complications like stroke and heart disease.

There are many types of medication that lower blood pressure, commonly referred to as 'anti-hypertensives'.

Your doctor may prescribe:

- diuretics (water pills)
- beta blockers
- angiotensin-converting enzyme inhibitors (ACE inhibitors)
- angiotensin receptor blockers (ARBs)
- calcium channel blockers (CCBs)



Why am I on two or more medications?

People respond differently to medication. Many people with high blood pressure need two or more medications, combined with lifestyle changes, to successfully lower their blood pressure. Many types of blood pressure drugs work best when taken together and some are combined in a single tablet at no extra cost.

Keep in mind that many drugs can take up to four weeks before showing full effects. Be patient. Your health care professional may change your medication to find a combination that is best for you. Keeping a blood pressure log helps in those decisions.



My blood pressure is under control. Can I stop taking my medications now?

No, stopping treatment when blood pressure returns to normal can cause your blood pressure to rise again to dangerous levels. While the medication has controlled your blood pressure, your hypertension has not been cured. Once you have hypertension, you will likely have it for the rest of your life.

Important reminders:

- Take your medications as directed, and renew them as prescribed.
- Report side effects to your doctor.
- Do not stop taking your medication without first speaking to your doctor.
- Adopt all of the lifestyle strategies, and keep at them. They're as important to your blood pressure control as is medication.

What type of blood pressure monitor should I buy?

When monitoring your blood pressure, it's important to use a monitor that is validated, or proven, to be accurate so that you and your health care professional can see the impact of lifestyle changes or medications on your blood pressure. With so many devices to choose from, making a purchase can seem daunting. Hypertension Canada provides a list of recommended blood pressure monitors, those that are proven through research studies to be accurate against international standards, to help you in your purchasing decisions. It is also important to purchase a monitor with a cuff size of the right fit. As most blood pressure monitors are available in your community pharmacy, a pharmacist can measure your arm and help you select the model with a cuff size that is right for you.

Visit hypertension.ca for Hypertension Canada's list of recommended blood pressure devices.



Recommended by
Recommandé par
Hypertension Canada
Gold | Or



Recommended by
Recommandé par
Hypertension Canada
Silver | Argent

Most Devices that are recommended by Hypertension Canada carry these logos on their packaging.

Notes & Questions for my Doctor

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For more information, and other resources to help you prevent and control hypertension, visit **hypertension.ca**.

This brochure provides practical information based on Hypertension Canada's clinical practice guidelines for the prevention, diagnosis and treatment of hypertension.

Hypertension Canada's Resource Review Committee has reviewed the content of this brochure for accuracy, reliability, and helpfulness to the intended audience.

This brochure should not replace consultation with, or care instructions provided by, health care professionals.

If you have questions about your medical situation, speak to your health care professional.

