



## A Guide for Patients: Diagnosis and Management of Hypertension

### What is hypertension?

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Hypertension is the medical term for high blood pressure, in which the pressure on your arteries is higher than it should be. Blood pressure refers to the force of blood against the blood vessel walls as it circulates through your body. Naturally, a person's blood pressure rises and falls during the day. However, when blood pressure constantly stays higher than normal pressure a person is considered to have hypertension. A normal blood pressure is considered less than or equivalent to 135/85 mm Hg, but this may vary depending on the individual's factors.

Discuss with your health care professional what measurements are desirable for you.

**My desirable blood pressure is:**

\_\_\_\_\_ / \_\_\_\_\_ mm Hg

### What causes hypertension?

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For about 90 - 95% of peoples with mildly elevated blood pressure, inactive lifestyle, smoking, excess abdominal weight, unhealthy diet (such as high sodium/salt intake and low vegetable and fruit intake), alcohol consumption and stress contribute to the condition. For the other 5 - 10% of people, there may be a serious underlying cause of high blood pressure that requires urgent medical attention.

Risk factors for developing hypertension that you can control include lifestyle choices such as:

- Unhealthy diet (such as high sodium/salt intake and low vegetable and fruit intake)
- Excessive sodium/salt intake
- Physical inactivity
- Excess weight (especially around the waist)
- Excessive alcohol consumption
- Smoking

Risk factors for developing hypertension that you cannot change are:

- Family history of hypertension, heart disease or stroke
- Age (45 years or older for men; 55 years or older for women)
- Ethnicity (including South Asian, Indigenous or African descent)

Another cause of hypertension may be the use of prescription drugs (such as steroids, oral contraceptives, decongestants and nonsteroidal anti-inflammatory drugs).

### How do I know if I have high blood pressure?

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Unfortunately, a person with high blood pressure usually does not see or feel any obvious symptoms of hypertension. To confirm you have hypertension, you need to consult a health care professional. Normally this requires several blood pressure measurements at various times.

## How can I measure my blood pressure?

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There are several ways your blood pressure can be measured, including:

- By a health care professional at their office
- Using an ambulatory blood pressure monitoring device
- Using a home blood pressure monitoring device
- Using a blood pressure monitoring device in a public place (e.g., pharmacy).

For accurate blood pressure measurements, it is important to follow these ABC's:

- **Achieve a calm state** – sit comfortably for 5 minutes, quiet and relaxed. Do not smoke, drink caffeine or alcohol, or exercise within 30 minutes before taking the measurement. Readings are accurate when you are alone, and with no distractions such as reading your email, checking your phone etc.,
- **Body posture** – sit in a chair with back supported, both feet on the floor with the legs uncrossed, and the arm bare and supported at heart level.

- **Calibrate & check equipment** – use a properly calibrated and validated instrument. Follow the instruction manual that comes with the device and reach out to your doctor, pharmacist or other health care professional if you have any questions or to confirm you are measuring your BP correctly. Ensure you use the correct cuff size and position the cuff in the mid-way between the elbow and shoulder. For home blood pressure devices, a list of validated devices is listed on Hypertension Canada's website ([www.hypertension.ca](http://www.hypertension.ca)) and ensure it has the endorsement logo on their package.



## What else do I need to know if I am using a home blood pressure monitoring device?

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- Confirm with your health care professional which arm you should use for measurements.
- Twice a day (once in the morning and once in the evening), take two measurements using the same arm. Wait one minute in between measurements. In the morning, measure blood pressure twice within two hours of waking up, before taking medication and eating, and after your bladder and bowels are empty. In the evening, measure blood pressure twice before taking medication and before going to bed.
- Record the date and time of both measurements. A blood pressure log and further information can be found on the Hypertension Canada's website ([hypertension.ca/hypertension-and-you/](http://hypertension.ca/hypertension-and-you/))

## What else do I need to know if I am using an ambulatory blood pressure monitoring device?

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- Ambulatory blood pressure monitoring includes having a small digital blood pressure monitor attached to a belt around your waist and connected to a cuff around your upper arm. It is small enough for you to carry on with your normal daily life, though some individuals may find it uncomfortable for the 24-hour monitoring period.
- It is important to keep the device in the correct position on the arm and dry (e.g., no showers, baths or heavy sweating).
- When the machine is about to take a measurement, try to: sit down with legs uncrossed, keep the cuff at the same level as your heart, and arm still.
- It is recommended that you do not drive or do vigorous exercise during the monitoring period.
- Keep a diary of your activities each time a measurement is taken. Also include what time you went to sleep. An activity diary and further information can be found on the British Hypertension Society's website ([www.bhsoc.org/resources/abpm/](http://www.bhsoc.org/resources/abpm/)).

## What are the complications of hypertension?

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Hypertension can lead to a number of potentially life-threatening conditions if it is not controlled or treated. The higher your blood pressure, the greater your risk of developing the following problems:

- Heart disease: Hypertension is a major risk factor for heart attack, and the number one risk factor for congestive heart failure.
- Stroke: Hypertension is the leading risk factor for stroke. Very high blood pressure can cause a weakened blood vessel to rupture and bleed into the brain. A blood clot blocking a narrowed artery can also cause a stroke.
- Chronic kidney disease (or CKD): Hypertension is the second leading cause of CKD (diabetes is its leading cause) and kidney failure requiring dialysis or transplant.
- Retinopathy (eye damage): Hypertension can cause small blood vessels in the eye to burst or bleed. This can lead to blurred vision or even blindness.
- Peripheral vascular disease (or PVD): Hypertension is an important risk factor for PVD, which is a narrowing and hardening of arteries that leads to restricted blood flow to the legs, arms, stomach or kidneys.
- Impotence or erectile dysfunction: Hypertension is a common cause of erectile dysfunction in males. Hypertension can lead to changes in the blood vessels that may prevent blood from filling the penis or from remaining there long enough to maintain an erection.

## How can I reduce my blood pressure?

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Discuss with your health care professional what the best management plan is for you. This plan may include lifestyle changes and/or being prescribed an anti-hypertensive medication.

Lifestyle changes may include:

- Stop smoking
- Exercise regularly
- Maintaining a healthy body weight
- Eating a well-balanced diet (e.g., DASH diet) – which includes monitoring sodium/salt intake
- Limiting alcohol consumption
- Relaxation therapies

Medications work in different ways to help lower blood pressure. You may be prescribed one or more of the following drugs:

- Diuretics – which rids the body of excess salt and water
- Vasodilators, angiotensin-converting enzyme inhibitors (ACE-I), angiotensin II receptor blockers (ARBs) and calcium channel blockers – which relax and open up the narrowed blood vessels.

## What should I know about taking medications?

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- Take medication only as prescribed and do not stop taking medications on your own.
- Ensure you are aware of any side-effects or what other substances (e.g., cold medicines) that may interfere with your anti-hypertensive medications. Tell your health care professional of any side effects. Side-effects depends on which drugs you are taking, but common side effects include:
  - ✓ Weakness, tiredness or drowsiness – Avoid getting up quickly from a seated or lying position, as this can cause dizziness and lead to falls
  - ✓ Cold hands and feet
  - ✓ Depression or sluggishness
  - ✓ Slow or fast heartbeat
  - ✓ Impotence
  - ✓ Skin rash
  - ✓ Loss of taste or dry mouth
  - ✓ Dry, constant cough, stuffy nose or asthma symptoms
  - ✓ Ankle swelling, leg cramps or aches in the joints
  - ✓ Headache, dizziness or swelling around the eyes
  - ✓ Constipation or diarrhea
  - ✓ Fever or anemia
- Ensure the medications are stored as instructed by your health care professional.
- Medications only work when you take it regularly, so it is important to remember to take them. To help remember to take your medications:
  - ✓ Take them at the same time each day, at a meal or another daily event (e.g., brushing your teeth)
  - ✓ Use a weekly pill box with separate compartments for each day, or time of day
  - ✓ Use a medicine calendar, and note every time you take your dose.

## Should I use home blood pressure monitoring for my management?

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Tracking your blood pressure using a home blood pressure monitoring can help you see the benefits of treatment and lifestyle changes. It may also remind you to take to stick to your management plan. However, even after your blood pressure is lower, you may still need to take medicine – do not stop taking medications unless directed by a health care professional.

## How can I find out more about hypertension and managing hypertension?

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- **Hypertension Canada**, [www.hypertension.ca](http://www.hypertension.ca)
- **Heart and Stroke Foundation**, [www.heartandstroke.ca](http://www.heartandstroke.ca)
  - **The DASH Diet: Heart and Stroke Foundation:** [www.heartandstroke.ca/dash-diet](http://www.heartandstroke.ca/dash-diet)
- **British Hypertension Society**, [www.bhsoc.org/](http://www.bhsoc.org/)
- **HealthLink BC**, [www.healthlinkbc.ca](http://www.healthlinkbc.ca). You may call HealthLinkBC at 8-1-1 toll-free in B.C., or for the deaf and the hard of hearing, call 7-1-1. You will be connected with an English speaking health-service navigator, who can provide health and health-service information and connect you with a registered dietitian, exercise physiologist, nurse, or pharmacist.
  - **HealthLinkBC**, [High Blood Pressure: Checking Your Blood Pressure at Home](#)
  - **HealthLinkBC**, [Lifestyle Steps to Lower Your Blood Pressure](#)
  - **HealthLink BC:** DASH Diet Sample Menu [www.healthlinkbc.ca/DASH Diet](http://www.healthlinkbc.ca/DASH Diet)
- **Quit Smoking:** [QuitNow.ca](http://QuitNow.ca) provides one-on-one support and valuable resources in multiple languages to help you plan your strategy and connect with a Quit Coach.  
Phone: 1-877-455-2233 (toll-free) Email: [quitnow@bc.lung.ca](mailto:quitnow@bc.lung.ca)
- The **BC Smoking Cessation Program** helps cover the cost of nicotine replacement therapy products (nicotine gum, lozenges, patches, inhaler) and specific smoking cessation prescription drugs (Zyban® or Champix®). For prescription medications to help you quit smoking, speak to your doctor.