

Hypertension – Detection, Diagnosis and Management

A GUIDE FOR PATIENTS

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What is hypertension?

Hypertension is the medical term for high blood pressure. Blood pressure refers to the force of blood against the blood vessel walls. Normally a person's blood pressure rises and falls during the day. However, when blood pressure constantly stays higher than normal (140/90 mm Hg or higher) a person is considered to have hypertension.

What causes hypertension?

For about 90-95% of people with mildly elevated blood pressure, inactive lifestyle, smoking, excess abdominal weight, a fatty diet, 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:

- Smoking
- Physical inactivity
- Excess weight (esp. around the waist)
- High-fat diet
- Excessive salt intake
- Excessive alcohol consumption

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 (high blood pressure is more common in individuals of South Asian, First Nations/Aboriginal, Inuit or African descent)

How do I know if I have high blood pressure?

Unfortunately, a person with high blood pressure usually does not see or feel any obvious symptoms of hypertension. That is why you should have your blood pressure checked by a health care professional. Hypertension is confirmed if blood pressure falls within the following 3 stages of severity:

	Systolic Blood Pressure	Diastolic Blood Pressure
Mild	140 to 159 mm Hg	90 to 99 mm Hg
Moderate	160 to 179 mm Hg	100 to 109 mm Hg
Severe	180 mm Hg or higher	110 mm Hg or higher

What are the complications of hypertension?

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 (CKD): Hypertension is the second leading cause of kidney disease (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 (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. 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 control my blood pressure?

You can reduce your blood pressure and control hypertension. The following lifestyle choices can help you prevent and control hypertension. See Figure 1 for the relative importance of these measures.

✓ Stop smoking

Smoking is a key risk factor for hypertension, heart attack and stroke. Call QuitNow Services at 1 877 455-2233 (toll-free in BC, 24/7/365) for assistance to quit, or obtain self-help materials from their Web site at www.quitnow.ca.

✓ Exercise regularly

Exercise is one of the best things you can do for your health and blood pressure. Build physical activity into your daily routine by walking wherever and whenever you can, stretching and moving around frequently, taking the stairs instead of the elevator and participating in activities that you enjoy. Work towards incorporating at least 30-60 minutes of moderate activity 4-7 days per week (moderate activity includes: walking 3 km [2 miles] in 30 minutes once per day, or 1.5 km [1 mile] in 15 minutes two times per day, jogging, cycling or swimming). The Web site www.actnowbc.ca contains advice on how to increase your physical activity and reduce your weight.

✓ Maintain a healthy body weight

A body-mass index (BMI) greater than 27 or a waist circumference greater than 102 cm (40 inches) for men and 88 cm (35 inches) for women, is associated with an increased risk of cardiovascular disease. To accurately measure your waist, place the tape measure between your hip bone and rib cage (near the belly button). Losing weight through a combination of a healthful diet and increased physical activity will help lower your blood pressure and lower your risk of a heart attack, stroke, kidney disease and type II diabetes.

✓ Eat a well balanced diet

Eat foods that are low in saturated fat, trans-fat and cholesterol (< 300 mg/day) and high in fibre. Recent studies also show a major benefit from consuming vegetables, fruits, fish (> 2 servings per week) and low-fat dairy products, as well as limiting salt intake.

The DASH diet (Web site: www.nhlbi.nih.gov/health/public/heart/hbp/dash/new_dash.pdf) and Mediterranean diet have been shown to lower blood pressure and reduce cardiovascular risk. Eating well doesn't have to mean giving up the foods you love. It simply means choosing wisely from a variety of foods and choosing lower fat and less salty foods more often. For more information, call Dial-a-Dietitian toll free at 1 800 667-3438 or visit www.dialadietitian.org.

✓ **Reduce salt intake**

Reducing salt intake can prevent hypertension and lower elevated blood pressure. In addition to a well balanced diet, a reduced dietary sodium intake of 1500 milligrams per day (approximately 1 tsp of table salt) is recommended for people with hypertension. Call Dial-a-Dietitian at 1 800 667-3438 or visit www.dialadietitian.org to learn about how to manage your diet and reduce your salt intake to control hypertension. Information on reducing salt intake can also be found on the Heart and Stroke Foundation's Web site at www.heartandstroke.ca/bp/.

✓ **Limit alcohol consumption**

Moderate alcohol consumption for most adults is no more than 1-2 standard drinks per day to a weekly maximum of 14 drinks for men and 9 drinks for women. A standard drink is defined as:

- 1 can (341 mL) of 5% beer or
- 1 glass (150 mL) of 12% wine or
- 1.5 oz (45 mL) of 40% spirits

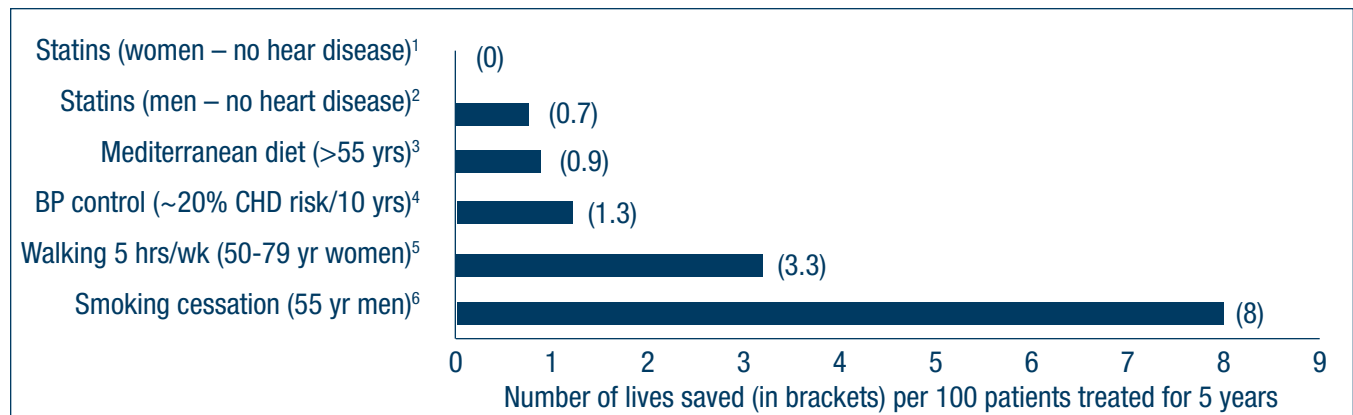
✓ **Medications**

Medications can be very effective in keeping your hypertension under control. Discuss the benefits and risks of taking medications for your hypertension with your doctor. Take medications only as prescribed and at approximately the same time of day each day. If you are on antihypertensive medication(s), avoid getting up quickly from a seated or lying position, as this can cause dizziness and lead to falls.

Additional lifestyle management information, specifically on healthy eating, physical activity and smoking cessation, may be found at www.actnowbc.ca. ActNowBC recommends **0/5/30** as follows:

0	Smoking: Complete avoidance of tobacco smoke
5	Servings of fruits and vegetables per day (minimum)
30	Minutes of moderate-intensity activity per day (minimum)

Figure 1: Mortality benefits of lifestyle modification (smoking cessation, walking, Mediterranean diet) compared to prescription medication management (BP control, statins) for patients without heart disease.



References

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Internet Resources

The **Guidelines and Protocols** Web site (www.BCGuidelines.ca) has more detailed information about the management of diseases such as hypertension and diabetes.

The BC HealthGuide Online (Web site: www.bchealthguide.org search word: high blood pressure) provides detailed information on managing hypertension.

The Heart and Stroke Foundation of Canada (Web site: www.heartandstroke.ca) offers excellent materials for the control of lifestyle factors that contribute to hypertension, heart disease, stroke and kidney disease. This includes public recommendations for the control of high blood pressure, the Blood Pressure Action Plan™ (an online e-tool to help you control your blood pressure), a body mass index calculator, a risk factor calculator and specific dietary information. Telephone: 1 888 473-4636 (Toll free) (BC/Yukon division office)

The Canadian Hypertension Society (Web site: www.hypertension.ca) has more detailed information regarding hypertension and blood pressure.

Dial-A-Dietitian (Web site: www.dialdietitian.org) provides accessible, quality information to the public and health information providers throughout British Columbia about nutrition. Registered dietitians provide nutrition consultation by phone. Telephone: 1 800 667-3438 (Toll free) or 604 732-9191 (Greater Vancouver)

American Heart Association (Web site: www.americanheart.org, search word: high blood pressure)

Mayo Clinic (Web site: www.mayoclinic.com, search word: high blood pressure)

Healthy Heart Society of BC (Web site: <http://www.heartbc.ca/public/BP.htm>)