

Why is controlling blood pressure important for people with diabetes?

When blood pressure is high, it puts stress on the body. This can cause damage to the heart, brain, kidneys, and eyes. High blood glucose levels are a risk factor for hypertension (high blood pressure) as it can lead to hardening of the arteries. Compared to people without diabetes, people with diabetes are much more likely to develop heart disease and/or experience a stroke at an earlier age.

People with diabetes should have their blood pressure checked every time they visit their healthcare team.



What is high blood pressure (hypertension)?

Blood pressure is a measurement of the force of your blood against the blood vessel walls. **The recommended target for people with diabetes is less than 130/80 mm Hg.** The top number is the pressure when your heart contracts and pushes blood out (systolic). The bottom number is the pressure when the heart relaxes between beats (diastolic).

There are often no signs of high blood pressure. This means that you may have high blood pressure and not know it.

Am I doing all that I can to control my blood pressure?

	Yes	No
Do I have my blood pressure checked every time I visit my healthcare team?	<input type="checkbox"/>	<input type="checkbox"/>
Am I at a healthy weight?	<input type="checkbox"/>	<input type="checkbox"/>
Do I follow a healthy diet that includes vegetables, fruits, low-fat dairy products, and is low in sodium and saturated and trans fats?	<input type="checkbox"/>	<input type="checkbox"/>
Am I physically active on a regular basis?	<input type="checkbox"/>	<input type="checkbox"/>
Am I a non-smoker?	<input type="checkbox"/>	<input type="checkbox"/>
Do I manage stress in a healthy way?	<input type="checkbox"/>	<input type="checkbox"/>
Do I limit my alcohol intake?	<input type="checkbox"/>	<input type="checkbox"/>
Do I take my medication as prescribed?	<input type="checkbox"/>	<input type="checkbox"/>

Strategies to lower blood pressure

Healthy eating

Healthy eating plays an important role in managing blood pressure. It is important to reduce your salt intake.

Foods naturally contain small amounts of sodium, but most of the sodium in our diet is added during food processing. Canned and packaged foods are often high in sodium because it is added to preserve food. **Sodium intake should be no more than 1,500 to 2,300 mg per day.** One teaspoon of salt has 2,300 mg of sodium.

Try these healthy eating tips:

- Choose vegetables and fruits more often (fresh or frozen without added salt).
- Choose low-fat (1% or skim) dairy products.
- Choose legumes (dried beans, peas and lentils) more often. Rinse canned beans with water.
- Choose whole grains such as whole wheat breads, cereal, pasta and brown rice.
- Eat fish at least twice a week (fresh, frozen or canned without added salt).
- Choose lean meats and poultry without added salt.
- Limit processed, smoked and cured foods.
- Look for unsalted or 'no added salt' items (e.g. crackers, nuts).
- Avoid using salt at the table and in cooking.
- Avoid seasonings that contain the word 'salt' or 'sodium', such as garlic salt, celery salt, Kosher salt, sea salt or monosodium glutamate (MSG).
- Flavour your foods with herbs, spices, fresh garlic, garlic powder, onion powder, lemon or vinegars.
- Limit frozen convenience foods and fast food restaurant meals.
- With time, your taste buds will adjust to the natural flavours of food without added salt.

Do the DASH!'

Dietary **A**pproaches to **S**top **H**ypertension, or 'DASH' has been shown to help manage and even prevent high blood pressure. The DASH diet can easily be part of a healthy diet for people with diabetes. It emphasizes whole grains, vegetables and fruits, low-fat dairy products, lean meats, and is low in saturated and trans fats.

Food Group	Daily Servings	Serving Sizes (1 serving is equivalent to)
Grains	6-8	<ul style="list-style-type: none">• 1 slice bread• 1 ounce dry cereal• ½ cup cooked rice, pasta, cereal
Vegetables	4-5	<ul style="list-style-type: none">• 1 cup raw leafy vegetables• ½ cup cut up raw or cooked vegetables
Fruits	4-5	<ul style="list-style-type: none">• 1 medium piece of fruit• ¼ cup dried fruit• ½ cup fresh, frozen or canned fruit• ½ cup fruit juice
Fat-free or low-fat milk and milk products	2-3	<ul style="list-style-type: none">• 1 cup milk or yogurt• 1½ ounce cheese
Meat and alternatives: Lean meats, poultry, and fish Nuts, seeds, and Legumes	6 or less	<ul style="list-style-type: none">• 1 ounce cooked meats, poultry, fish, 1 egg• 1/3 cup nuts• 2 tbsp peanut butter• 2 tbsp of seeds• ½ cup cooked legumes
Fats and oils	2-3	<ul style="list-style-type: none">• 1 tsp soft margarine (non-hydrogenated)• 1 tsp vegetable oil• 1 tbsp mayonnaise• 2 tbsp salad dressing

References: (1) Appel, LJ et al, 1997. N Eng J M 336:1117-24. U.S. Department of Health and Human Services; National Institutes of Health; National Heart, Lung, and Blood Institute. *Your Guide to Lowering Your Blood Pressure with DASH*, 2006. (2) Adapted from: Vancouver Coastal Health. *Sodium and Kidney Disease*, 2008.

Talk to a registered dietitian to learn more about healthy eating.

Build physical activity into your day. Regular physical activity can improve blood pressure and heart health.

Changes I will make:

This image shows a blank sheet of white paper with ten horizontal blue lines. The lines are evenly spaced and extend across the width of the page, providing a template for handwriting practice or note-taking. There is no text or other markings on the paper.

Look at the label to make healthy food choices

1. Serving size

Compare the serving size on the package to the amount that you eat.

tells you if there is a little or a lot of nutrient in one serving. For sodium, the percent Daily Value is based on the maximum intake of 2,300 mg per day. Choose foods with a lower % DV for sodium. Foods with a Daily Value of 5% or less are low sodium. Foods with a Daily Value of 15% or more are considered high in sodium.

- Try to avoid foods with 400 mg of sodium or more per serving.
- Beware! **Sodium-reduced** does not necessarily mean low sodium
- **Low in sodium** means less than 140 mg sodium per serving
- **Salt-free** means less than 5 mg sodium per serving

For more information on food labels, visit

<http://www.hc-sc.gc.ca/fn-an/label-etiquet/nutrition/index-eng.php>.



Be a non-smoker

- Smoking affects blood pressure in 2 ways: Nicotine in cigarette smoke causes blood vessels to narrow, which increases blood pressure.
- Smoking makes blood pressure medications work less effectively. Ask your doctor about local programs and medications that may help you to quit.

Managing stress

To help cope with stress, try physical activity, socializing, laughter, and healthy eating. Avoid unhealthy stress busters such as smoking, alcohol use, or poor food choices. Help is available if you need it. Remember to make time for yourself!

Alcohol

Alcohol raises blood pressure by interfering with the blood flow to and from the heart. Drinking alcohol can lead to both high and low blood glucose and possibly high triglycerides. Talk to your doctor to see if alcohol is a choice for you.

Medication

When lifestyle changes are not enough, your doctor may prescribe medication. Most people need two or more drugs to bring down their blood pressure to a healthy level. It is important to take your medications as prescribed. Try to take them at the same time every day.

Treating high blood pressure may require time, patience and care by both you and your doctor. Your doctor might have to try different medications or combinations of medications to see which ones work the best for you with the fewest side effects. It is important to continue taking your medications, even when your blood pressure is at target.

Talk to your doctor or pharmacist if you have any questions about your medications.

THE BOTTOM LINE

Healthy eating, physical activity, managing weight and stress, and taking your medications as prescribed can all help you to control your blood pressure.

Related articles: *Healthy eating and diabetes: reducing your salt intake, Staying healthy with diabetes, your guide to lowering your blood pressure with DASH:* www.nhlbi.nih.gov/health/public/heart/hbp/dash/new_dash.pdf

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Diabetes Canada is making the invisible epidemic of diabetes visible and urgent. Eleven million Canadians have diabetes or prediabetes. Now is the time to End Diabetes - its health impacts as well as the blame, shame and misinformation associated with it. Diabetes Canada partners with Canadians to End Diabetes through education and support services, resources for health-care professionals, advocacy to governments, schools and workplaces, and, funding research to improve treatments and find a cure.

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