

High Blood Pressure and Your Diet Ways to Help Control Your Blood Pressure

What is blood pressure?

Your blood travels through your body in blood vessels. Blood vessels are like tubes, and come in different sizes. As your blood travels along, it pushes on the walls of the tubes. This is called blood pressure.



Your blood pressure is measured with 2 numbers: a **systolic** number and a **diastolic** number.

What does systolic mean?

When your heart is working, it pumps pushing blood forward. This increases the pressure on the walls of the blood vessels. This pressure is called **systolic**. This is the higher of the 2 numbers.

What does diastolic mean?

Between pumps, your heart relaxes. The pressure on the blood vessel walls decreases. This is called **diastolic**. This is the lower of the 2 numbers.

What do the numbers mean?

Blood pressure is written as 2 numbers. There is a number on the top and a number on the bottom.

120 **systolic** = when your heart contracts and is working to pump blood

80 **diastolic** = when your heart is relaxed

In this example the blood pressure is 120 over 80.

You will see members of the health care team write blood pressure like this: **120/80**



What is normal blood pressure?

Below are general guidelines. Talk to your health care provider about what your blood pressure should be.

Most adults including adults with kidney disease	Less than <u>140</u> 90
Adults with diabetes	Less than <u>130</u> 80

References: 2014 Canadian Hypertension Education Program Recommendations;
2010 National Kidney Foundation

What does high blood pressure feel like?

Most people do not feel high blood pressure. This is why it is important to control it. High blood pressure that is not well controlled can lead to problems such as kidney disease, heart disease and stroke.

High blood pressure over a long time causes blood vessels in the body to get thick, narrow and hard. The blood vessels in the heart, brain, and kidneys also get narrow and hard. This makes the heart beat faster and pump harder. This can cause a heart attack, stroke or kidney failure.

Many things can affect your blood pressure such as the food you eat, the amount of salt or sodium you consume, your weight, your level of physical activity, the amount of alcohol you drink, whether or not you smoke and how you manage stress.

The information in this handout shows you how to make changes in your diet to help control your blood pressure

How can I lower my blood pressure?

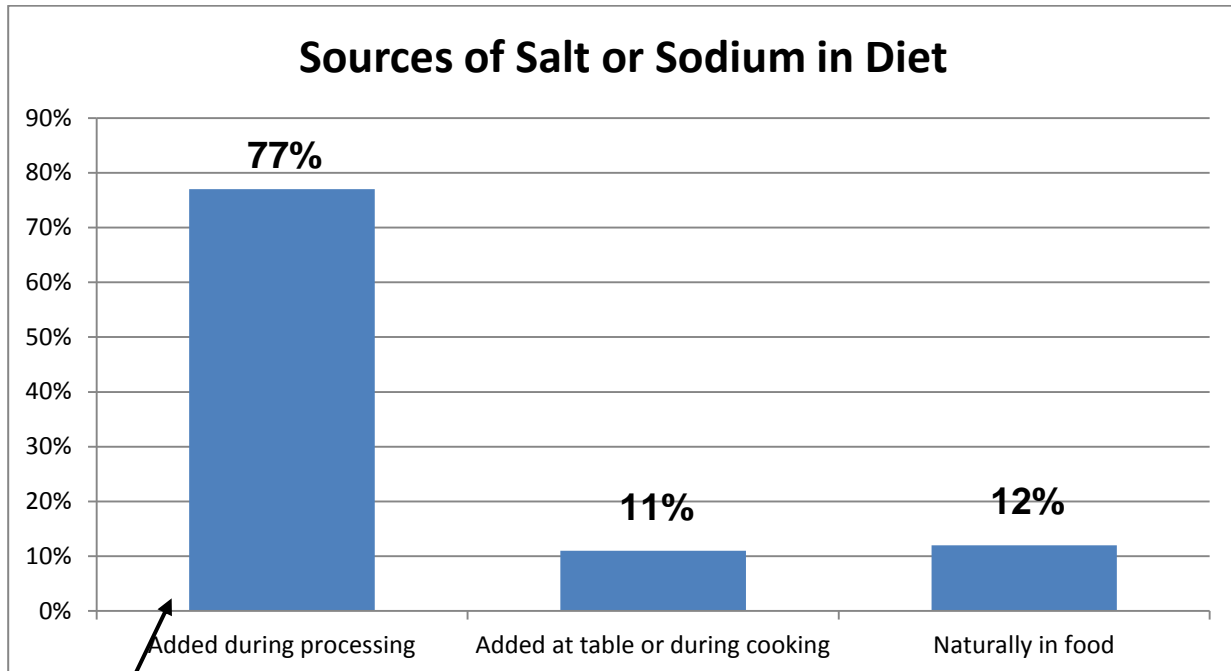
You can lower your blood pressure by making 2 important changes in your diet:

1. Eating less salt or sodium
2. Following the DASH diet. **DASH** stands for **Dietary Approaches to Stop Hypertension**. There is more about the DASH diet later in this handout.

1. Eating Less Salt or Sodium

There are 3 sources of salt or sodium in our diet:

- added during processing - 77%
- added at table or in cooking - 11%
- naturally in foods - 12%



Source: Journal of the American College of Nutrition, 1991

- **Most of the salt or sodium in our diet comes from processed or convenience foods.**
- **A low salt or low sodium diet is more than just getting rid of the salt shaker, but that is a good place to start.**

How much sodium should I consume each day?

The recommended amount of sodium from all foods and drinks is:

- 1500 mg a day for adults less than 50 years old
- 1300 mg a day for adults between the ages of 51 and 70
- 1200 mg a day for adults over 70

No matter how old you are, you should consume no more than 2300 mg of sodium a day.

Most Canadians eat more sodium than this in a day.

How do I decrease my intake of salt or sodium?

There are 2 important ways you can do this:

- Get rid of the salt shaker
- Look for hidden salt in food



1. Get rid of the salt shaker

- Do not use salt at the table or in cooking. Do not use seasonings that have salt in the name such as celery salt, onion salt, garlic salt or sea salt.
- To add flavour without salt, use herbs and spices. Fresh garlic, onion or other vegetables can also be used.
- Make home-made foods. To save time, cook in large amounts and put leftovers in the freezer for future meals.

There are 2 types of salt alternates you can use:

- Products made from dried herbs, vegetables and spices such as Mrs. Dash™. These products are fine to use.
- Salt substitutes such as NoSalt™ or Half Salt™. Ask your health care provider or dietitian if you can use a salt substitute because they contain potassium which you may not be able to have.

All salt is the same. For example, sea salt, pickling salt, kosher salt, Himalayan pink salt and fleur de sel all have similar amounts of sodium per teaspoon like regular table salt. They all have similar effects on blood pressure and raise blood pressure to the same degree.

2. Look for the hidden salt in food

Now it is time to look for the hidden salt or sodium in food products. This section shows you how to:

- read labels to look for salt or sodium in food products
- limit your intake of foods high in salt or sodium

What foods are high in sodium?

In general, canned, convenience or pre-packaged foods tend to be high in sodium. This chart shows the more processed a food is, the higher the sodium content.

Effect of Food Processing

Food	Serving Size	Sodium mg
Tomato, fresh, raw	1 medium	6
Tomatoes, canned, whole	½ cup (125 ml)	162
Tomatoes, canned, stewed	½ cup (125 ml)	298
Tomato juice	½ cup (125 ml)	345
Tomato sauce	½ cup (125 ml)	721

You may need to reduce the amount of processed or convenience foods you have in your diet.



Talk to your dietitian or health care provider about how much sodium to have each day.

How do I know how much sodium is in food?

Reading labels can help you find out how much sodium is in food.

There are 3 places on a label to find information about salt or sodium:

- Nutrition Facts table
- Ingredient List
- Nutrition Claim

All packaged foods must have an Ingredient List. The Nutrition Facts table is on most products and a Nutrition Claim may or may not be listed.

Nutrition Facts Table

The Nutrition Facts table is usually found on the side of a package. This is the best place to see how much sodium is in the food product.

Many facts are listed including calories, fat, carbohydrate, protein and sodium.

You must look at the serving size. This will tell you how much sodium is in one serving.

Nutrition Facts	
Amount	% Daily Value
Per ½ cup (85 g)	
Calories 60	
Fat 0 g	0%
Saturated 0 g	
+ Trans 0 g	0%
Cholesterol 0 mg	
Sodium 35 mg	1%
Carbohydrate 14 g	5%
Fibre 3 g	12%
Sugars 0 g	
Protein 3 g	
Vitamin A	40%
Vitamin C	6%
Calcium	2%
Iron	8%

Amount of food in one serving.
The serving size is the amount most often eaten. This may or may not be the serving size you would have.

Amount of sodium in 1 serving.

% Daily Value for sodium

What is % Daily Value (DV)?

The % Daily Value tells you if there is a little or a lot of a nutrient, such as sodium, in one serving. Daily values are based on the recommended amount of nutrients you should get each day.

Daily values are listed on the Nutrition Facts table on a scale from 0% to 100%. As a general guideline, a % Daily Value for sodium of 5% or less is a small amount.

Choose food with sodium amounts:

- less than 200 mg in 1 serving **or**
- % Daily Value of sodium less than 10%.

Ingredient List

Every food product must have an ingredient list. But not all ingredients say whether they are high in salt or sodium. Soy sauce is an example of an ingredient high in sodium.



You cannot tell how much salt or sodium is in a product just by reading the ingredient list.

Talk to your dietitian if you have questions about a product.

Watch for these ingredients that are high in sodium:

- onion salt
- garlic salt
- celery salt
- soy sauce
- monosodium glutamate (MSG)
- brine
- baking soda
- baking powder
- sodium benzoate
- sodium bicarbonate
- sodium citrate
- sodium nitrate
- sodium saccharin

To find out exactly how much sodium there is in a product, check the Nutrition Facts Table on the package.

Nutrition Claim

A Nutrition Claim is used to highlight a key nutrition feature of a food product. It is often put on the front of a package in big, bold type.

Here are some claims that can be made in Canada about salt and sodium.

Claim	Definition
Sodium-free/Salt-free	Less than 5 mg sodium for each serving listed on the package.
Low-sodium	Not more than 140 mg sodium or less for each serving listed on the package.
Reduced-sodium	At least 25% less sodium when compared to the regular product.
Unsalted or No added salt	No salt or sodium is added to the food during processing.
Lightly	At least 50% less added sodium when compared to the regular product.

If a product has “sodium or salt-free” or “low-sodium” on the label, it is OK to eat as long as you eat the recommended serving size.



Be careful. Products that have “reduced-sodium”, “unsalted” or “no added salt” on the label can still have too much sodium. You will still need to read the Nutrition Facts table on the label.

What about sodium in some medications?

Avoid using non-prescription medications that contain sodium such as laxatives, Eno™ or AlkaSelter™.

Some herbal and homeopathic products may also contain sodium.

If you have questions, ask your doctor, health care provider or pharmacist.

Some high sodium foods and low sodium alternatives

Corned beef (3 oz or 85 g)	995 mg
Roast beef (3 oz or 85 g)	50 mg
Cottage cheese (1/2 cup or 125 ml)	485 mg
Pressed or dry cottage cheese, no salt added (1/2 cup)	26 mg
Garlic salt (1 tsp or 5 ml)	1480 mg
Garlic powder (1 tsp or 5 ml)	1 mg
Ham (3 oz or 85 g)	950 mg
Roast pork (3 oz or 85 g)	56 mg
Instant oatmeal package (1 pouch)	255 mg
Regular cooking oatmeal (1 cup)	2 mg
Salted nuts (1 oz or 30 g)	193 mg
Unsalted nuts (1 oz or 30 g)	2 mg

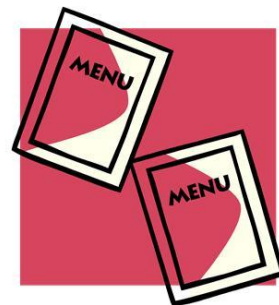
What should I do when I eat out?

When you are on a low-sodium diet, dining out can be a challenge. Choose restaurants that prepare fresh foods.

Do not be afraid to ask for your meal to be specially prepared.

Tips:

- Order baked, broiled, steamed or poached foods without breading or sauces.
- Ask that no salt or salty seasonings, like soy sauce, be added.
- Limit the amount of salad dressing you use. Ask for dressing on the side.



Can I eat at fast food restaurants?

Almost all foods served at fast food restaurants are high in sodium. See the chart on the next page for the sodium content of some common fast foods.

Ask for the nutritional information at the fast food restaurant before making your choice. Some restaurants can limit the amount of salt and high salt seasonings they use.

Tips:

- Choose plain hamburgers or grilled chicken sandwiches with lettuce, tomato and onion. Skip the pickles and other high salt condiments such as ketchup, barbecue sauce, or hot sauce.
- Choose pizza with vegetable toppings instead of pepperoni, sausage and ham toppings.

Sodium content of some fast foods

Food	Sodium content per serving
bean burrito	1170 mg
chicken noodle soup	920 mg
chicken nuggets or strips	700 mg
garden side salad with light dressing	220 – 260 mg
grilled chicken burger	786 mg
large cheeseburger	1170 mg
small hamburger	584 mg
vegetarian burger	700 mg – 1365 mg

- The sodium content may vary at different restaurants.
- Ask for the nutritional information at each restaurant before making your choice.

What is the DASH eating plan?

The DASH eating plan includes fruits and vegetables, low fat milk products, whole grains, fish, poultry and nuts.

The DASH eating plan is:

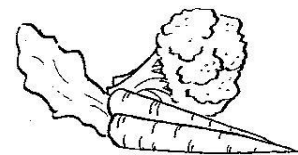
- low in total fat, saturated fat and cholesterol
- low in salt or sodium – DASH eating plan provides less than 2300 mg of sodium a day
- low in red meat, sweets and sweetened drinks
- high in fibre
- high in magnesium, potassium and calcium
- high in vegetable sources of protein such as cooked legumes such as kidney beans, lentils and chick peas



Tips for getting started on a DASH eating plan:

Making changes to what you eat can be a challenge. You may find it helpful to make 1 or 2 small changes at a time such as:

- Add an extra vegetable serving to your lunch and dinner
- Wash and cut up fresh vegetables ahead of time and keep them in a clear container in the fridge. This saves time when you want to use them. Keep frozen vegetables to add to stir-frys, casseroles, soups and sauces.
- Choose whole grain products when you can. These help fill you up and add fibre to your diet (read the box on the next page).
- Make a point of having low-fat milk with meals. Replace sweetened drinks with low-fat milk. Add low-fat milk to cooked cereals and homemade soups.
- Slowly reduce your portion size if you eat larger portions of meat, fish or poultry. Fill your plate with more vegetables and whole grain products instead.



- Try casseroles, pasta and stir-fry dishes. They are great ways to use less meat and more legumes, vegetables and grains.
- Snack on low-fat yogurt or a small piece of low-fat cheese.
- Eat fresh or dried fruit that need little or no preparation and make an easy-to-grab snack.
- Take the salt shaker off the table, do not add salt in cooking and avoid processed foods.
- Use lemon or lime juice, herbs and spices to add flavour.
- Eat a small handful of unsalted nuts and/or seeds several times a week.
- Enjoy meals made with peas, beans, lentils, edamame, chick peas at least once a week. Some ideas include low sodium chili, baked beans, hummus and split pea soup etc.



Fibre Tip

- Increase fibre in your diet slowly.
- If you increase fibre too quickly or without drinking enough liquids you may have more gas, bloating, cramping, diarrhea or constipation.
 1. Add fibre-rich foods slowly to your diet. For example, add one new high fibre food each day for one week.
 2. Drink 8 to 10 cups of fluid a day when increasing your fibre intake if you can have this in your diet. People with heart disease and kidney disease, for example, may need to limit the amount of fluids they have. Talk to your health care provider about this.



Can lifestyle changes help control blood pressure?

Here is how making changes in your lifestyle can help lower high blood pressure.

Lifestyle Change	Target*	Drop in Systolic mmHg	Drop in Diastolic mmHg
Eat healthy and lower the amount of sodium you eat	Follow the DASH diet limits sodium to 1500 to 2300 mg a day	↓ 16	↓ 8
Exercise regularly	Include 30 to 60 minutes of heart-beat raising activity, 4 to 7 days a week	↓ 5	↓ 4
Lose weight if you need to. If you are overweight, losing 5 kg (10 lb) will lower blood pressure.	For each 1 kg (2.2 lb) of weight lost	↓ 1	↓ 1
Limit alcohol (beer, wine, liquor)	Have no more than 2 drinks a day: <ul style="list-style-type: none"> • Men should have no more than 14 drinks a week • Women should have no more than 9 drinks a week 	↓ 4	↓ 2

*Source: 2014 Canadian Hypertension Education Program Recommendations

Other ways to lower blood pressure

If you smoke, quit

Each cigarette you smoke raises your blood pressure.

Talk to your health care provider about programs to help you quit smoking.

The Smokers' Helpline is: 1-877-513-5333 or www.smokershelpline.ca



Reduce your stress

If stress is an issue in your life, see a health care provider about how to manage your stress.



Take blood pressure medication the right way

Take any medication your health care provider prescribes to control your blood pressure.

Do not stop taking any medication for high blood pressure unless told to do so by your health care provider.



Menu Makeover

(How to lower your intake of sodium over a day)

Before (4000 mg sodium)		After (2100 mg sodium)	
	mg sodium		mg sodium
Breakfast		Breakfast	
1 package instant oatmeal	255	¾ cup oatmeal, quick cooking	2
2 tbsp natural bran	0	2 tbsp natural bran	0
1 cup 1 % milk	130	1 cup 1 % milk	130
1 slice whole wheat toast	145	1 slice whole wheat toast	145
1 tsp margarine	35	1 tsp margarine	35
1 banana	1	1 banana	1
Lunch		Lunch	
1 cup Campbells™ Chicken Noodle soup	900	1 cup Campbells™ Healthy Request Chicken Noodle soup	480
tuna salad sandwich on 2 slices whole wheat bread, 3 oz white tuna with 1 tbsp light mayonnaise	695	tuna salad sandwich on 2 slices whole wheat bread, 3 oz white tuna with 1 tbsp light mayonnaise	695
8 baby carrots	66	8 baby carrots	66
½ cup unsweetened applesauce	3	½ cup unsweetened applesauce	3
Supper		Supper	
3 oz frozen breaded chicken breast	738	3 oz roasted skinless chicken breast, no added salt	46
½ cup mashed potatoes made from flakes and 3 tbsp milk	368	½ cup homemade mashed potatoes with no added salt and 3 tbsp milk	56
3 spears broccoli	29	3 spears broccoli	29
½ cup yellow beans	6	½ cup yellow beans	6
1 slice whole wheat bread	145	1 slice whole wheat bread	145
1 tsp margarine	35	1 tsp margarine	35
2 oatmeal cookies, store bought	150	1 medium pear	1
1 cup 1 % milk	130	1 cup 1 % milk	130
Snack		Snack	
½ cup strawberries	1	½ cup strawberries	1
1 cup yogurt	125	1 cup yogurt	125
4000 mg		2100 mg	

Guidelines to eat less sodium

Food	Say Yes	Say No
Grains, Breads and Cereals	<ul style="list-style-type: none">• whole grain breads and rolls• muffins, homemade• cornbread, homemade• most dry cereals such as Shredded Wheat[®], Shreddies[®], Weetabix[®], Life[®], Fibre 1[®]• cooked cereals without added salt• unsalted crackers, breadsticks and rice cakes• low-sodium or homemade bread crumbs• rice, barley, quinoa, couscous, bulgur, kasha, millet• spaghetti, macaroni and other pasta• bread stuffing, homemade	<ul style="list-style-type: none">• breads, rolls and crackers with salted tops• muffin and bread mixes, packaged• instant hot cereals• pancakes (mixes and frozen)• waffles (mixes and frozen)• bread stuffing, packaged• self-rising flour and biscuit mixes• bread crumbs or cracker crumbs, packaged• rice and pasta mixes, packaged• dry cereals with more than 200 mg sodium per serving such as Special K[®], Rice Krispies[®], Corn Bran[®], Bran Squares[®], Vector[®]
Vegetables	<ul style="list-style-type: none">• all fresh and frozen vegetables• low sodium or no added salt canned vegetables• low sodium or salt free vegetable juice• mashed potatoes, homemade• pasta sauce, homemade	<ul style="list-style-type: none">• regular, undrained canned vegetables• sauerkraut, pickles, pickled vegetables and others prepared in brine• vegetables seasoned with ham, bacon or salt pork• regular vegetable or tomato juice• pasta sauce, canned or in a jar• instant mashed potatoes
Fruit	<ul style="list-style-type: none">• most fresh, frozen and canned• all fruit juices	<ul style="list-style-type: none">• fruits processed with salt or sodium-containing ingredients (for example, some dried fruits)

Food	Say Yes	Say No
Milk and Alternatives	<ul style="list-style-type: none"> • milk, includes chocolate milk and eggnog • soy milk • light or partly skimmed hard cheese • low fat yogurt • ricotta cheese 	<ul style="list-style-type: none"> • buttermilk, malted milk, milk shake • regular hard, processed cheese, cheese spreads and sauces
Meat and Alternatives	<ul style="list-style-type: none"> • fresh or frozen beef, lamb, pork, poultry, fish and most shellfish • canned tuna or salmon, low sodium • canned tuna/salmon rinsed • eggs and unflavoured egg substitutes • peanut butter, unsalted • nuts and seeds, unsalted • peas, beans and lentils, dried • cottage cheese - dry curd, low sodium 	<ul style="list-style-type: none"> • Smoked, salted, cured and pickled meats such as sausages, hot dogs, bacon, ham, pickled herring, luncheon meats, canned meats • frozen breaded meats • pickled eggs • salted nuts • canned baked beans • commercial or store bought pot pies • regular cottage cheese
Soups	<ul style="list-style-type: none"> • homemade broths and soups without added salt and made with allowed vegetables • commercially canned and dehydrated soups, broths and bouillons with less than 500 mg sodium per serving 	<ul style="list-style-type: none"> • regular canned soups, broths or bouillon • regular dry soup mixes, bouillon cubes, powder or concentrated liquid
Fats	<ul style="list-style-type: none"> • non-hydrogenated margarine • vegetable oils (unsaturated) • salad dressings, low-sodium • sour cream, light • cream, light • cream cheese 	<ul style="list-style-type: none"> • regular salad dressings with bacon fat, bacon bits and salt pork • snack dips made with instant soup mixes or processed cheese • commercially prepared sauces, gravies

Food	Say Yes	Say No
Other	<ul style="list-style-type: none"> • seasonings or herb shakers such as McCormicks No Salt Added[®] or Mrs. Dash[®] • use a salt substitute such as No Salt[®] with health care provider's approval • pepper • herbs, spices • vinegar • lemon or lime juice • fresh ground horseradish • unsalted pretzels, popcorn • tortilla chips, low sodium • carbonated beverages <p>Limit to 1 serving a day:</p> <ul style="list-style-type: none"> • hot pepper sauce (1 tsp) • salsa (2 tbsp) • soy sauce, reduced-sodium (1/2 tsp) • soy sauce, low sodium (1 serving as labelled) • barbecue sauce (1 tbsp) • relish (1 tbsp) • ketchup (1 tbsp) • mustard (1 tbsp) 	<ul style="list-style-type: none"> • any seasoning made with salt including garlic salt, celery salt, onion salt and seasoned salt and lemon pepper • sea salt • rock salt • kosher salt • meat tenderizers • meat coating mixes • monosodium glutamate • regular soy sauce • teriyaki sauce • steak sauce • Worcestershire sauce • black bean sauce • hoisin sauce • canned gravy and mixes • salted snack foods • olives • softened water used for drinking and cooking • artificial fruit flavoured crystals with salt or sodium-containing ingredients • instant pudding and cake mixes

Measurements:

- tbsp = tablespoon (1 tablespoon = 15 ml)
- tsp = teaspoon (1 teaspoon = 5 ml)
- mg = milligram

We gratefully acknowledge and thank Hamilton Health Sciences for allowing us to use and adapt much of this information for client centred care.

PD 7687 (06-2015) File: peyles