

# PATIENT EDUCATION

## Blood Pressure Handbook

How you and your care team can manage blood pressure through diet, lifestyle choices, and medicine

Name \_\_\_\_\_

Provider \_\_\_\_\_

When you have questions, ask the provider or nurse you see in the clinic.

Call \_\_\_\_\_ from 8 a.m. to 4:30 p.m. weekdays.

**After hours and on weekends**, call Telephone Nurse Advisor

(608) 775-4454 or (800) 858-1050

You have a follow-up visit with the nurse on \_\_\_\_\_. Have

labs drawn 1 to 2 days **before** that day (between \_\_\_\_\_ and

\_\_\_\_\_). We may need to discuss and adjust your dose of medicine(s).

You can also contact care team members through MyCare. Sign up for a secure account at [mycare.gundersenhealth.org](http://mycare.gundersenhealth.org) - or - Call (608) 775-0303 or (800) 362-9567, ext. 50303.

Nutrition Therapy (608) 775-3447 or (800) 362-9567, ext. 53477

Registered dietitians help you change eating habits and make choices to lower and manage blood pressure. Learn about the DASH diet (pp. 5-14).

John & Nettie Mooney Library (608) 775-5995 or (800) 362-9567, ext. 55995

Librarians suggest books, articles, DVDs and websites you can trust.

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## Resources

### General information about blood pressure

- <https://www.heart.org>
- <https://www.nhlbi.nih.gov/health-topics>

### Dietary Approaches to Stop Hypertension (DASH)

In Brief: Your Guide to Lowering Your Blood Pressure with DASH. Print this free 6-page guide at [https://www.nhlbi.nih.gov/files/docs/public/heart/dash\\_brief.pdf](https://www.nhlbi.nih.gov/files/docs/public/heart/dash_brief.pdf)

Your Guide to Lowering Your Blood Pressure with DASH. Print this free 64-page booklet at <https://www.nhlbi.nih.gov/sites/default/files/publications/06-4082.pdf>

- More DASH resources, including cookbooks, are listed on p. 9

### Books about blood pressure in the John & Nettie Mooney Library

- Blood pressure down: The 10-step Plan to Lower Your Blood Pressure in 4 weeks -- Without Prescription Drugs by Janet Bond Brill.
- High Blood Pressure for Dummies by Alan Rubin.
- 100 Questions and Answers about Kidney Disease and Hypertension by Raymond Townsend.
- The Harvard Medical School Guide to Lowering Your Blood Pressure by Aggie Casey.

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## Blood pressure basics: What you need to know

Anyone can have high blood pressure (hypertension). It affects 1 in 3 Americans over age 20. If it is not controlled, it increases risk of stroke, heart attack, heart failure, and other life-threatening conditions.

Blood pressure is likely to rise as you age. If you are overweight, obese, or have diabetes, your risk of high blood pressure is greater. Several of the leading causes of death in this country are linked with high blood pressure. It causes:

- 60 percent of all strokes
- Heart disease
- Kidney disease
- Pregnancy complications

Treating high blood pressure can reduce chances of heart attack, congestive heart failure, stroke, and kidney problems. High blood pressure **can** be controlled – **and prevented**.

### Your numbers are your only warning.

Hypertension is often called “the silent killer” because there may be no symptoms. Learn what your numbers are – or what they should be – and pay attention to them.

### Who is at higher risk?

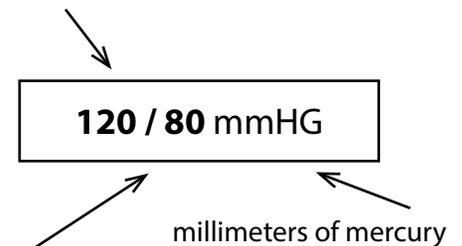
- African Americans
- People over age 35
- Overweight people
- Pregnant women
- People who use too much salt
- People who drink too much alcohol
- People who are not physically active
- People with diabetes, gout, and kidney disease
- People with close blood relatives who have high blood pressure
- Women who take birth control pills or had high blood pressure during pregnancy

Your clinician will advise what blood pressure is right for you.

Here is an example.

#### **Systolic pressure (top number)**

The pressure of blood in vessels when the heart beats



**Diastolic pressure (bottom number)** The pressure in vessels between beats

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## **Why is self-management important?**

You can do some things to live better with a chronic disease or condition. You can take charge of your health at home or wherever you go. When you make choices that control symptoms, we call this self-management. It means that you:

- Take care of your body.
- Change what you do each day to make life and work easier.
- Cope with feelings and thoughts about a condition you may have for a long time – even for the rest of your life.

For your health, you can choose to:

- Learn what you must do and why.
- Ask questions if you do not understand.
- Take your medicine in the right amount at the right time.
- Change your diet.
- Lose weight if you are overweight.
- Think about what causes you stress.
- Exercise more often if you can.

We want to help. We will teach you how to manage your health every day. If there are free community services, we will tell you how to find them. We will help you set and achieve goals. Share concerns and fears with us. Together we can solve little problems before they become big ones.

**Read this booklet and work with us to:**

- Build your confidence.
- Improve how you care for yourself at home.
- Increase your understanding of your condition.
- Set and reach goals that keep you independent and strong.
- Write an action plan.
- Teach family and friends how they can help.
- Make informed health care decisions.

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## 10 things you can do

1. Lose weight if you are overweight. Maintain a healthy weight. Limit portions, especially of high calorie foods. Try to eat only as many calories as you use. To lose weight, eat fewer calories.
2. Follow an eating plan that includes fruits, vegetables, and low-fat dairy products. It should be moderate in total fat and low in saturated fat and cholesterol.
3. Reduce salt and sodium intake. **Read labels.** Choose canned, processed, and convenience foods with less sodium. Avoid high-salt fast foods. Limit daily salt intake to 2,300 mg (about 1 teaspoon). **Tip:** If you stay under 1,500 mg, you might be able to lower your “top number” (systolic).
4. If you drink alcohol, do so in moderation. This means no more than 2 drinks for men and 1 drink for women each day.
  - A 12-ounce bottle of beer is 1 drink.
  - A 4-ounce glass of wine is 1 drink.
  - A 1.5-ounce shot of liquor is 1 drink.
5. Be more active. Work up to at least 30 minutes a day of moderate activity, such as brisk walking or cycling most days. Two 15-minute or three 10-minute periods would also meet this goal.
6. Quit smoking. Smoking can temporarily raise blood pressure. Smoking also raises your risk of stroke, heart disease, blood vessel disease, and several forms of cancer.
7. If you are pregnant, make sure you are under a doctor’s care. High blood pressure is a major cause of complications in pregnancy.
8. Talk with your clinician. Ask what your blood pressure numbers are and what they mean. (See pp. 1 and 4 in this booklet.)
9. Take medicine **as prescribed.** Make sure you know what each medicine is for, how to take it, and when to take it.
10. Learn how to check blood pressure at home. Your numbers may be higher at the clinic due to stress. You should know your regular, relaxed blood pressure. Use an arm cuff and have the device checked for accuracy.

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## Set a goal and take steps – not just medicine

My blood pressure is \_\_\_\_\_ (Systolic /top number) on \_\_\_\_\_ (date)  
\_\_\_\_\_ (Diastolic/bottom number)

**My goal** blood pressure is **less than** \_\_\_\_\_(top number)/\_\_\_\_\_ (bottom number)

**For most adults, goal blood pressure is less than 140/90.** Your clinician may set a lower goal of less than 130/80 in some situations.

If your blood pressure is under control, you reduce your risk of:

- Stroke – Risk drops by more than 30 percent
- Heart attack – Risk drops 20 to 25 percent
- Congestive heart failure – Risk drops more than 50 percent
- Kidney dialysis and death – Risk drops by 38 percent

Most patients eventually need 3 or more types of medicine at once every day to reach their goal. Many clinic visits and blood tests may be required until blood pressure is controlled.

**Taking medicine is not enough!** Why depend on pills alone? By making lifestyle changes you might need fewer pills.

There are 5 main ways to reduce your “top number”. Ask your clinician which ones could help you.

You can earn points for each change you make. Each point lowers the top number of your blood pressure by a single digit.

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Data and recommendations throughout this booklet are based on an article published in the American Heart Association journal, Hypertension (Vol. 71, No. 6, June 2018)  
2017 ACC/AHA/AAPA/ABC/ACPM/AGS/APhA/ASH/ASPC/NMA/PCNA Guideline for the Prevention, Detection, Evaluation, and Management of High Blood Pressure in Adults: A Report of the American College of Cardiology/American Heart Association Task Force on Clinical Practice Guidelines.

Keep this in mind:  
Lower blood pressure and reduced risk are great **DEALS**.

- **Diet:** Follow the DASH diet. You can reduce your blood pressure up to 11 points.
- **Exercise:** Regular aerobic activity can reduce your blood pressure by 4 to 7 points.
- **Alcohol moderation:** Limit alcohol to no more than 1 drink per day if female, or 2 drinks per day if male. You can reduce your blood pressure 2 to 4 points.
- **Lose weight:** For **each** 10 pounds you lose, you can reduce blood pressure up to 3 points.
- **Salt reduction:** Decrease the salt in your diet. You may reduce blood pressure 5 to 10 points.

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## **The DASH Diet: Plan your day – and your plate**

DASH stands for Dietary Approaches to Stop Hypertension. If you follow these guidelines, research shows you can prevent or lower high blood pressure.

DASH combines whole grains, lean meats, poultry, fish, low-fat dairy products, beans, nuts, fruits, and vegetables. It is lower in fat, red meat, sweets, and drinks that contain sugar.

Choices are lower in saturated fat, trans fat, and cholesterol. They contain potassium, magnesium, calcium, protein and fiber, which help lower blood pressure. Learning to choose foods and drinks with less salt and sodium can make this diet even better for you.

Basic DASH principles are:

**Eat more fruits and vegetables.** A serving of fruit or vegetable is about one-half cup. Try to eat 2 cups of fruit and 2 cups of vegetables each day.

**Go easy on fats, oils and sweets.** Choose oils that come from fish, nuts, or vegetables. Eat less butter, lard and shortening.

**Reduce sodium and salt intake.** Limit yourself to 1,500 to 2,300 mg.

This chart and the plate drawing on p. 8 will help you learn:

- The number and size of servings each day and week
- The right foods to have at each meal

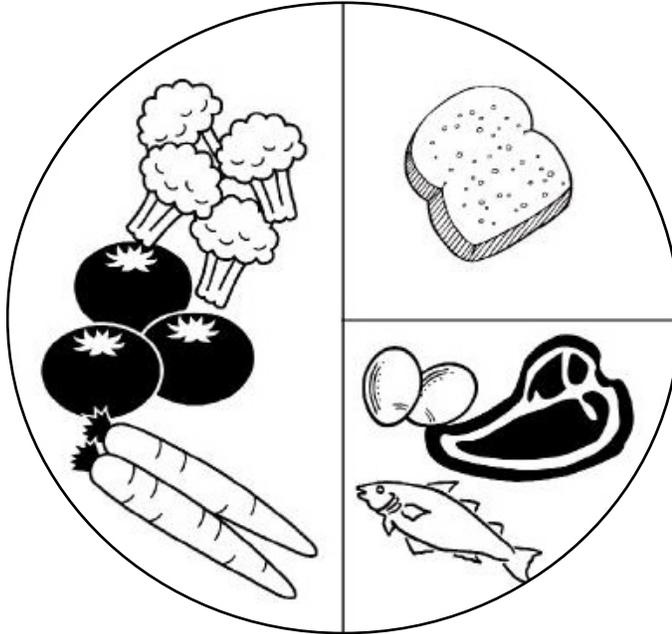
DASH guidelines are based on 2,000 calories a day. To gain or lose weight, simply move the number of servings up or down.

Food Group	Number of Servings	Serving Size Examples
Whole grains and grain products	6 to 8 per day	<ul style="list-style-type: none"><li>• 1 slice whole wheat bread</li><li>• 1 ounce dry cereal</li><li>• ½ cup cooked pasta, rice, or hot cereal</li></ul>
Vegetables	4 to 5 per day	<ul style="list-style-type: none"><li>• ½ cup cooked vegetables</li><li>• ½ cup raw vegetables</li><li>• 1 cup leafy vegetables</li><li>• ½ cup vegetable juice</li></ul>
Fruits	4 to 5 per day	<ul style="list-style-type: none"><li>• 1 medium-size fruit</li><li>• ¼ cup dried fruit</li><li>• ½ cup fresh, frozen, or canned fruit</li><li>• ½ cup of fruit juice</li></ul>

<b>Food Group</b>	<b>Number of Servings</b>	<b>Serving Size Examples</b>
Low-fat or fat-free dairy products	2 to 3 per day	<ul style="list-style-type: none"> <li>• 1 cup (8 ounces) of milk</li> <li>• 1 cup yogurt</li> <li>• 1 ½ ounces of low-fat cheese</li> </ul>
Lean meats, poultry and fish	2 or less per day	<ul style="list-style-type: none"> <li>• 2 to 3 ounces of cooked lean meat, poultry, or fish (about the size of a deck of cards)</li> <li>• 2 eggs (up to 3 or 4 yolks per week)</li> </ul>
Nuts, seeds, and legumes	4 to 5 per week	<ul style="list-style-type: none"> <li>• 1/3 cup or 1 ½ ounces nuts</li> <li>• 2 tablespoons seeds</li> <li>• ½ cup cooked legumes (dry beans or peas)</li> <li>• 2 tablespoons peanut butter</li> </ul>
Fats and oils	2 to 3 per day	<ul style="list-style-type: none"> <li>• 1 teaspoon vegetable oil</li> <li>• 1 teaspoon soft margarine or butter</li> <li>• 1 tablespoon mayo</li> <li>• 2 tablespoons salad dressing</li> </ul>
Sweets and added sugars	5 or fewer per week	<ul style="list-style-type: none"> <li>• 1 tablespoon jelly or jam</li> <li>• 1 tablespoon sugar</li> <li>• 3 pieces hard candy</li> <li>• ½ cup low-fat frozen yogurt</li> <li>• 1 cup lemonade</li> <li>• ½ cup sherbet (sorbet) or fruit gelatin</li> </ul>

# Plan your plate before you eat.

Fill half (1/2) of your plate with vegetables.



Fill one quarter (1/4) of your plate with **whole grain foods** (bread, pasta, rice) or **starchy vegetables** (peas, corn, potatoes).

Fill one quarter (1/4) of your plate with protein foods like lean meat, poultry, fish, or cooked dry beans (legumes).

## Vegetable choices - 4 to 5 per day

- 1/2 cup raw vegetables
- 1 cup leafy vegetables or salad
- 1/2 cup cooked vegetables
- 1/2 cup of vegetable juice

## Whole grain choices - 6 to 8 per day

- 1 bread (single slice, whole grain)
- 1/2 cup hot cereal
- 1/2 bagel or English muffin
- 1/2 cup rice or pasta

## Protein food choices – 2 to 3 per day

- 2 to 3-ounces of cooked lean meat, chicken, turkey or fish. 3 ounces is about the size of a deck of cards.
- 2 eggs
- 1/2 cup tuna or cottage cheese
- 1 1/2 ounces of low-fat cheese
- 2 tablespoons of peanut butter

## Fruit Choices – 4 to 5 per day

- 1 small piece of whole fruit
- 1/2 cup of fruit juice
- 1/2 cup fruit canned in its own juice
- 1/2 cup of cut up fresh fruit
- 1/4 cup dried fruit

## Milk and Dairy Choices – 2 to 3 per day

- 1 cup of fat-free (skim) or low-fat (1%) milk
- 1 cup of low-fat yogurt
- 1 1/2 ounces low-fat cheese

## Nuts, seeds and legume choices – 4 to 5 per week

- 1/3 cup or 1 1/2 ounces of unsalted nuts
- 2 tablespoons unsalted seeds
- 1/2 cup cooked legumes (dry beans or peas)

## More DASH resources

These titles can be checked out of the John & Nettie Mooney Library.

The DASH Diet Action Plan by Marla Heller.

- Proven to lower blood pressure and cholesterol without medication
- If you prefer, you can buy this book or others based on DASH guidelines at [dashdiet.org](http://dashdiet.org)

The Everyday DASH Diet Cookbook by Marla Heller

- Over 150 fresh and delicious recipes to speed weight loss, lower blood pressure, and prevent diabetes

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## Potassium in your diet

Your body needs the right amount of potassium. **If you have too much**, your heartbeat may be weak and not very steady. **If you have too little**, you may have weak muscles and feel tired. There may be other reasons why your doctor will tell you to limit or increase potassium in your diet.

For example, if you have kidney disease, you must watch your potassium intake. Most patients with kidney disease can have up to 2500 milligrams (mg) of potassium daily. If you have more potassium in 1 or 2 meals, you will need to choose low potassium foods for other meals and snacks.

All foods fit into a healthy diet. A registered dietitian can help you make food choices and plan meals to keep your potassium level where it should be. Your provider can arrange for you to meet with a registered dietitian

**To limit potassium** - Choose from low and medium lists.

**To increase potassium** - Choose from medium and high lists.

For most of these foods, a serving is one-half (1/2) cup.

A registered dietitian can help you get the right amount of potassium from what you eat and drink. Call Nutrition Therapy. The number is on the front cover of this booklet. Your provider may need to refer you for this consult.

### **Low potassium fruits - 120 to 200 mg per serving**

- Applesauce
- Blueberries
- Cranberries
- Cranberry juice
- Grape juice
- Lemons
- Peach nectar
- Peaches, canned
- Pears, canned

### **Low potassium vegetables - 120 to 200 mg per serving**

- Alfalfa sprouts
- Bamboo shoots
- Bean sprouts
- Beans, green or wax
- Cabbage, raw
- Chard, raw
- Chinese cabbage, raw
- Cucumber, peeled
- Endive
- Green pepper
- Lettuce (1 cup)

### **Medium potassium fruits - 200 to 250 mg per serving**

- Apples
- Apple juice
- Blackberries
- Canned figs
- Cherries
- Fruit cocktail
- Grapefruits
- Grapes
- Peaches, fresh
- Pineapple
- Plums
- Raspberries
- Strawberries
- Watermelon

### **Medium potassium vegetables - 200 to 250 mg per serving**

- Asparagus
- Cabbage, cooked
- Carrots, cooked
- Cauliflower
- Celery, raw
- Corn (1/2 ear)
- Eggplant
- Mushrooms
- Onions
- Peas
- Spinach, raw

## **High potassium fruits - More than 250 mg per serving**

- Apricots
- Apricot nectar
- Bananas
- Cantaloupes
- Dates, dried
- Figs, dried
- Honeydew melons
- Kiwifruits
- Mangos
- Nectarines
- Oranges
- Orange juice
- Papayas
- Papaya nectar
- Pears, fresh
- Pomegranates
- Prunes
- Prune juice
- Raisins
- Rhubarb
- Tangerines
- Tangerine juice

## **High potassium vegetables - More than 250 mg per serving**

(\*This star means very high potassium.)

- Artichoke
- Avocado
- Beets and beet greens
- Broccoli (especially raw)
- Brussels sprouts
- Carrots, raw
- Chard, cooked
- Collard greens
- Dandelion greens
- Dried beans and peas
- Kohlrabi
- Mushrooms (especially raw)
- \*Parsnips
- \*Potatoes (especially baked, fried, hash browns, French fries)
- Pumpkin
- Spinach, cooked
- \*Squash, butternut
- Squash, winter
- Sweet potatoes (canned)
- Tomatoes (especially cooked)
- Yams, baked in skin

## **Other high potassium sources (\*This star means very high potassium.)**

- Chocolate
- Nuts
- Seeds
- Sports drinks
- Tang drink mix
- Low sodium baking powder
- \*Low sodium canned soups
- \*Salt substitute (potassium chloride)

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## Take your blood pressure the right way at home

Your clinician needs accurate numbers to guide your treatment. Use an **arm** blood pressure machine with the correct cuff size. **Do not** use a wrist or finger machine.

- Do not smoke, exercise, or use caffeine for at least 30 minutes before you take your blood pressure.
- Make sure your bladder is empty.
- Avoid taking readings when you are stressed. They can be higher.

Check your blood pressure before you take medicine in the morning **and** in the evening before supper. Take 2 readings each time and average them. (How to average readings is on p. 13.)

Keep a record of your readings and when they are done. Bring averaged readings with the time of day you took them to your clinician.

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## How and where to sit and prepare yourself

Sit with your back straight and supported and your feet flat on the floor.

- Use a straight-backed chair, not a sofa or recliner.
- The kitchen table might be a good place.
- Rest your arm on a flat surface at the level of your heart for at least 5 minutes. Close your eyes. Be quiet.
- Put the cuff on your **bare** arm - **not** over clothing. The bottom of the cuff should be just above the bend of your elbow.

**Do not talk with or listen to anyone** during this 5-minute rest or while you check your blood pressure.

Bring your device to the clinic once a year for an accuracy check.

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## How to average blood pressure readings

Your blood pressure reading is made up of 2 numbers. They are often shown side-by-side with a “/” between them, like this: 121/55.

- The first number is called the **systolic** (sis-TOL-ick) pressure. It is also sometimes called the top number.
- The second number is called the **diastolic** (dye-ah-STOL-ick) pressure. It is also sometimes called the bottom number.
- In the example here, the systolic number is 121. The diastolic number is 55.



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Here is an example of how to average 2 blood pressure readings:

**Reading 1:**

124/74

**Reading 2:**

138/78

Step 1 - Add the 2 systolic numbers together:  $124 + 138 = 262$ .

Step 2 - Divide the total by 2:  $262 \div 2 = 131$ .

- **Your average of the systolic numbers is 131.**

Step 3 - Now add the 2 diastolic numbers together:  $74 + 78 = 152$ .

Step 4 - Divide that total by 2:  $152 \div 2 = 76$ .

- **Your average of the diastolic numbers is 76.**

The average of the blood pressure readings shown above is **131/76**.

## Ways to lower your top number

The **top number** is the pressure in blood vessels when your heart contracts to pump blood. The **bottom number** is the pressure in blood vessels between heartbeats. If your clinician says you should lower your top number, here are ways to achieve your goal:

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### **Lose weight.**

For each 10 pounds you lose, you can reduce your blood pressure up to 3 points.

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### **Follow the DASH diet.**

You could lower your top number by 11 points. Find out more about this diet (pp. 5-14).

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### **Reduce salt in your diet.**

To lower your top number by 5 to 10 points, limit yourself to less than 1500 mg of sodium per day.

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### **Be more active.**

To lower your top number by 4 to 7 points, aim for at least 90 to 150 minutes of aerobic exercise per week.

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### **Limit alcohol.**

You can lower your blood pressure 2 to 4 points if you have no more than 2 drinks per day (men) or 1 drink per day (women).

## Which lifestyle change do you think you could make, starting today – or very soon?

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This information is meant to inform and educate our patients. It supports the care you receive from your health care team. It does not replace medical evaluation, advice, diagnosis or treatment. Talk to your doctor or health care team before starting any new treatment.

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