Community Blood Pressure Screening Handbook

1st Edition
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Introduction

The purpose of this handbook is to inform you about the basics of blood pressure and detail why it is extremely important to screen the community for hypertension, commonly called high blood pressure.

Blood pressure is a major vital sign, and it can tell a lot about the health status of an individual. High blood pressure can cause major damage to the body. Unfortunately, high blood pressure can go undetected until a life-threatening event takes place. This is why screening and referring is essential in combating this disease.
Know the Facts

- **1 in 3** adults has hypertension.

- **69%** of people who have their first heart attack, **77%** of people who have their first stroke, and **74%** of people who have chronic heart failure **ALL** have high blood pressure.

- Hypertension is a major contributor to a number of the top causes of death in the United States.

- Only about **½** of people with hypertension have their blood pressure controlled.

- **30%** of Americans have prehypertension (Blood pressure higher than normal).

- Hypertension costs the United States **47.5 billion** dollars in medical expenses each year, and **3.5 billion** dollars a year in lost productivity.

It is projected that by the year 2030, the prevalence of hypertension will increase **7.2%** from these 2013 estimates. Together, we can work to combat this epidemic and improve the health and quality of life of our communities.
Blood Pressure Basics

What is blood pressure?

• The force of blood against the arterial wall.

How is blood pressure measured?

• Measured using a sphygmomanometer.
• Systolic number measures the pressure as the heart beats.
• Diastolic number measures the pressure as the heart relaxes.
• Written as Systolic/Diastolic.
• Unit of measurement = mm Hg.

Example:
120/80 mm Hg
What is Hypertension?

• High blood pressure = Hypertension.
• A consistent measure of 140/90 mm Hg or higher is considered high blood pressure or hypertension.
• Hypertension often has no signs or symptoms.
• Diagnosed when a person has 2 or more measurements of 140/90 mm Hg or higher, taken on two separate occasions.

**Basically:** The heart has to pump harder to deliver blood throughout the body.
Why Does Blood Pressure Matter?

- High blood pressure causes the heart to work harder than it normally would.

- High blood pressure increases the risk of heart attack, stroke, kidney damage, eye damage, heart failure, and atherosclerosis (hardening of the arteries).

- If high blood pressure isn’t treated, the heart may have to work harder than it should to pump enough blood and oxygen to the body’s organs and tissues.
Common Causes of High Blood Pressure

1. **Salt in the diet** - Daily salt intake should not exceed 2,300 milligrams or 1 teaspoon.

2. **Being overweight or obese**

3. **Lack of physical activity** - A person should do at least 30 minutes of moderate to vigorous exercise most days of the week.

4. **Heavy alcohol consumption** - More than 2 drinks a day for men, and more than 1 drink a day for women.

5. **Smoking** - Damages blood vessels and creates a choking effect on your arteries.

6. **Having diabetes or kidney disease**

7. **Family history** - If your parents or other close relatives have hypertension, you are more likely to develop it.

8. **Race** - African Americans tend to develop hypertension earlier and more severely than White Americans or Hispanic Americans.

9. **Age** - The older you are, the greater your chances are of developing high blood pressure.

10. **Gender** - Men develop hypertension between the ages of 35-55, women develop hypertension after age 55.
Understanding Blood Pressure Readings

<table>
<thead>
<tr>
<th>Category</th>
<th>Systolic, mm Hg</th>
<th>Diastolic, mm Hg</th>
</tr>
</thead>
<tbody>
<tr>
<td>Normal/Desired</td>
<td>90 - 120</td>
<td>60-80</td>
</tr>
<tr>
<td>Prehypertension</td>
<td>121-139</td>
<td>81-89</td>
</tr>
<tr>
<td>Stage 1 Hypertension</td>
<td>140-159</td>
<td>90-99</td>
</tr>
<tr>
<td>Stage 2 Hypertension</td>
<td>160 or higher</td>
<td>100 or higher</td>
</tr>
</tbody>
</table>

Recommendations:

- Below 130/85: Normal, recheck in 2 years
- 130-139/85-89: High Normal, recheck in 1 year
- 140-159/90-99: Mildly high, follow up within 2 months
- 160-179/100-109: Moderately high, follow up within 1 month
- 180-209/110-119: Severely high, follow up within 1 week
- 210+/120+: Very severe, immediate follow-up care
Measuring Blood Pressure

Before:

• Don’t drink coffee or smoke cigarettes 30 minutes before your blood pressure is taken.

• Before test, sit for five minutes with back supported and feet flat on the ground. Rest arm on a table even with your heart.

• Wear short sleeves so arm is exposed.

• Go to the bathroom before test. A full bladder can affect BP reading.

• Select the correct blood pressure cuff size.

During:

• Sit quietly, with both feet flat on the floor.

• Make sure your arm is relaxed.

• Get 2 readings and average the two of them.

After:

• Ask the doctor, nurse, or health professional to tell you the result in numbers, such as 120/80 or top number is 120 and bottom number is 80.
Instructions for Your Blood Pressure Machine

Insert Instructions for your Blood Pressure Monitoring Equipment Here
Problems Caused By High Blood Pressure
Kidney Disease

• Your kidneys act as filters to rid the body of wastes.

• High blood pressure can narrow and thicken the blood vessels.

• Decreased blood flow to the kidney can result in accumulation of waste in the blood and ultimately kidney failure.

• Dialysis or a kidney transplant may be needed to assist failing kidneys.
Vision Changes

- High blood pressure can eventually cause blood vessels to break and bleed in the eye.

- Hypertension can result in blurred vision or even blindness.
Heart Disease

• High blood pressure is a major risk for heart attack.

    The arteries bring oxygen-carrying blood to the heart muscle. If the heart cannot get oxygen, chest pain known as angina can occur. If the flow of blood is blocked a heart attack results.

• Hypertension is also the number one risk factor of congestive heart failure.

    Congestive heart failure is a condition in which the heart cannot pump enough blood to meet the body’s needs.

    #1 Cause of Death in the United States
Stroke

• High blood pressure is the most important risk factor for stroke.

• Can cause a break in a weakened blood vessel, which then bleeds in the brain.

• A stroke can also happen when a blood clot blocks one of the narrowed arteries in the brain.

• Remember, Act F.A.S.T. and CALL 9-1-1 IMMEDIATELY at any sign of a stroke.
F.A.S.T

• **Face Drooping** Does one side of the face droop or is it numb? Ask the person to smile.

• **Arm Weakness** Is one arm weak or numb? Ask the person to raise both arms. Does one arm drift downward?

• **Speech Difficulty** Is speech slurred, are they unable to speak, or are they hard to understand? Ask the person to repeat a simple sentence, like "the sky is blue." Is the sentence repeated correctly?

• **Time to call 911** If the person shows any of these symptoms, even if the symptoms go away, call 9-1-1 and get them to the hospital immediately.
Other Signs of Stroke

Remember, it is important to catch these signs in time. There are things that can be done to minimize poor outcomes if treated in time.
Prevention
Top 5 Ways to Prevent High Blood Pressure

1. Following a healthy eating pattern

2. Maintaining a healthy weight

3. Being physically active

4. Limiting alcohol

5. Quitting smoking
Diet

~The DASH Diet~

(Dietary Approaches to Stop Hypertension)

**More**
- Fruits
- Vegetables
- Fat-free or Low-fat Milk Products
- Whole Grains
- Fish
- Poultry
- Beans
- Seeds
- Nuts

**Less**
- Salt
- Sweets
- Added Sugars
- Sugar-containing Beverages
- Fats
- Red Meats
Tips on Reducing Sodium in Your Diet

• Buy fresh, plain frozen or canned “no added salt” vegetables.

• Use fresh poultry, lean meat, and fish.

• Use herbs, spices, and salt-free seasonings at the table and while cooking.

• Choose convenience foods low in salt.

• Rinse canned foods to reduce sodium.
Weight

• Blood pressure rises as weight rises.

• Obesity is also a risk factor for heart disease.

• Even a 10 pound weight loss can reduce blood pressure.
Physical Activity

• Helps lower blood pressure and lose or maintain weight.

• 30 minutes of moderate activity on most days of the week. (Can even break it up into 10 minute sessions).

• Use the stairs instead of the elevator.

• Get off the bus 2 stops early.

• Park your car at the far end of the parking lot and walk.
Alcohol raises blood pressure and can harm the liver, brain, and heart.

What counts as one drink?

- 12 ounces of beer
- 5 ounces of wine
- 1.5 ounces of 80 proof whiskey

Recommendations:

- Men- Limit to 2 or fewer drinks per day
- Women- Limit to 1 or fewer drinks per day
Smoking
Quitting Tips

1. Don’t smoke any cigarettes. Each cigarette you smoke damages your lungs, blood vessels, and cells throughout your body. Even occasional smoking is harmful.

2. Write down why you want to quit. Really wanting to quit smoking is very important to how much success you will have in quitting.

3. Know that it will take commitment and effort to quit smoking. Nearly all smokers have some feelings of nicotine withdrawal when they try to quit. Nicotine is addictive. Knowing this will help you deal with withdrawal symptoms that can occur, such as bad moods and really wanting to smoke.

There are many methods available to help you quit.

4. Get help if you want it. Smokers can receive free resources and assistance to help them quit by calling the 1-800-QUIT-NOW quitline (1-800-784-8669) or by visiting CDC’s Tips from Former Smokers. Your health care providers are also a good source for help and support.

5. Remember this Good News! More than half of all adult smokers have quit, and you can too. Millions of people have learned to face life without a cigarette.

Quitting smoking is the single most important step you can take to protect your health and the health of your family.
Treatment
How High Blood Pressure is Treated

• Lifestyle Changes

• Medications
  o Diuretics (water pills), Beta-blockers, ACE Inhibitors, etc..

• It is important for everyone with high blood pressure to consult with his or her health care provider on a consistent basis.

• Take your blood pressure daily and keep a written log of your pressures.

• Remember to take your blood pressure log and medications to your health care visits.

• It is important to stick with your treatment plan, even when your blood pressure readings improve. Inconsistency can make treating hypertension difficult.

• Be honest with yourself and your health care provider. Ask questions and voice your concerns.
Resources
**REACH U.S.: Georgetown**

An organization devoted to improving the health of communities and eliminating health disparities.

(843) 545-8723 (ext. 113)

**Hands on Health-SC**

A consumer health website for South Carolinians. Links to websites with that share understandable health information.


**Medline Plus**

An Internet website that provides reliable health information on a variety of topics.

[http://medlineplus.gov](http://medlineplus.gov)

**American Heart Association**

The American Heart Association is the nation's oldest, largest voluntary organization devoted to fighting cardiovascular diseases and stroke.

[http://www.heart.org/HEARTORG/](http://www.heart.org/HEARTORG/)

**American Stroke Association**

An organization devoted to fighting stroke in America. Their mission is to build healthier lives free of cardiovascular diseases and stroke.

National Stroke Association

National Stroke Association's mission is to reduce the incidence and impact of stroke by developing compelling education and programs focused on prevention, treatment, rehabilitation and support for all impacted by stroke.

http://www.stroke.org/site/PageNavigator/HOME

The National Kidney Foundation

The National Kidney Foundation, a major voluntary nonprofit health organization, is dedicated to preventing kidney and urinary tract diseases, improving the health and well-being of individuals and families affected by kidney disease and increasing the availability of all organs for transplantation.

http://www.kidney.org

Center for Disease Control and Prevention (CDC)

CDC works 24/7 to protect America from health, safety and security threats, both foreign and in the U.S. Whether diseases start at home or abroad, are chronic or acute, curable or preventable, human error or deliberate attack, CDC fights disease and supports communities and citizens to do the same.

http://www.cdc.gov

Smokefree.gov

This website provides information and resources to assist in quitting tobacco. It provides support for immediate and long term quitting.

http://smokefree.gov
Appendix
Blood Pressure Screening Form for Adults 18 years and Older

Name: ___________________________ Home Phone: _______________________

Address: ___________________________ City: ___________________________ State: ______ Zip: ______

I consent to have my blood pressure taken as a screening procedure and will assume responsibility for follow-up with my Primary Care Provider if elevated.
Signature: ___________________________ Date: ______/____/____

Race: (Check one)
- White
- African American
- Other _______________________

Age: ______
Weight: ______
Height: ______
BMI: ______

Do you exercise 30 minutes per day?
- 4+ days/week
- 3 days/week
- 1-2 days/week
- Seldom/never

How many servings of fruit do you eat per day? ______
How many servings of vegetables do you eat per day? ______
How many servings of fried or fatty foods do you eat per day? ______

Have you been diagnosed with high blood pressure? ______ Y N
Do you smoke? ______ Y N

History of current health problems
Self:
- Y N Kidney disease
- Y N Diabetes
- Y N Heart disease
- Y N Stroke
- Y N High cholesterol

Family:
- Y N Kidney disease
- Y N Diabetes
- Y N Heart disease
- Y N Stroke
- Y N High cholesterol

I have a doctor or health care provider: ______ Y N
The last time I have seen my doctor or health care provider was (estimated date) __________
I need a new doctor or healthcare provider that can talk to me about my health: ______ Y N
Are you taking any prescribed or over-the-counter medications: ______ Y N
If so, please list current prescribed and over-the-counter medications: ______________________

<table>
<thead>
<tr>
<th>Date</th>
<th>BP</th>
<th>BP after 5 minutes</th>
<th>Lifestyle Changes Taught</th>
<th>Follow Up with Primary Care</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Y N</td>
<td>Y N</td>
</tr>
</tbody>
</table>

Lifestyle Modifications/Lifestyle Recommendations
- Y N 1. Weight reduction: Maintain normal body weight
- Y N 2. DASH Eating Plan: Adopt a diet rich in fruits, vegetables, and low fat dairy
- Y N 3. Dietary sodium reduction: Reduce dietary sodium intake
- Y N 4. Physical activity: Gradually increase regular physical activity
- Y N 5. Alcohol consumption: Men: limit to 2 or less drinks per day. Women and lighter weight persons: limit to 1 or less per day
- Y N 6. Smoking: Quit

Health Care Recommendations:

Follow-up Recommendations (check one):
- Y N Below 130/85: Normal, recheck in 2 years
- Y N 130-139/85-89: High normal, recheck in 1 year
- Y N 140-159/90-99: Mild high blood pressure, follow up within 2 months
- Y N 160-179/100-109: Moderate high blood pressure, follow up within 1 month
- Y N 180-209/110-119: Severe high blood pressure, follow up within 1 week
- Y N 210+ /120+: Very severe high blood pressure, immediate follow up care

BMI (check one):
- Y N Underweight = <18.5
- Y N Normal weight = 18.5-24.9
- Y N Overweight = 25-29.9
- Y N Obese = 30 or greater
WEIGHT AND BLOOD PRESSURE LOG

Patient Name: ________________________________ My blood pressure target goal is: ____/____ mmHg

<table>
<thead>
<tr>
<th>Date</th>
<th>Time</th>
<th>Weight</th>
<th>Blood Pressure (systolic/diastolic)</th>
<th>Heart rate (pulse)</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ex: 3/4/2011</td>
<td>Ex: 8:00pm</td>
<td>Ex: 178 lbs.</td>
<td>Ex: 130/80</td>
<td>Ex: 85</td>
<td>Ex: At pharmacy</td>
</tr>
</tbody>
</table>

Instructions

- Take your blood pressure at the same time each day (example: morning or evening) or as your health care professional recommends.
- Sit up with your back straight and supported and your feet flat on the floor.
- Support your arm on a flat surface with your upper arm at heart level.
- Seek medical attention as soon as possible if your blood pressure is higher than 180/110 mmHg.
Blood Pressure Medicine:

• What is my blood pressure reading in numbers?
• What is my goal blood pressure?
• Is there a healthy eating plan that I should follow to help lower my blood pressure and lose weight?
• Is it safe for me to do regular physical activity?
• What is the name of my medication? What is the generic name?
• What are the possible side effects of my medication?
• What time of day should I take my blood pressure medicine?
• Should I take it with or without food?
• What should I do if I forget to take my blood pressure medication at the recommended time?

Ask your doctor to help you fill out the information below.

Questions To Ask Your Doctor If You Have High Blood Pressure

Special Instructions:

My Blood Pressure Wallet Card
Carry This Card To Help Prevent or Control High Blood Pressure

My Blood Pressure Diary

Lifestyle Changes To Help Reduce High Blood Pressure

Talk with your doctor about the lifestyle changes that are appropriate for you. Check off the lifestyle changes you are going to use to help lower your blood pressure.

My Lifestyle Changes

- Maintain a healthy weight.
- Do physical activity for 30 minutes most days of the week.
- Eat a diet high in fresh fruits and lowfat dairy products with reduced saturated and total fat.
- Choose foods that are lower in salt and other forms of sodium. Read food labels.
- If you drink alcohol, have no more than one drink a day for women, two drinks a day for men.
- Remember to take your blood pressure medicine.

My Blood Pressure Goal:
How Can Physical Activity Become a Way of Life?

If you aren’t in the habit of being physically active, you’re probably being told you should start. That’s because regular physical activity reduces your risk of heart disease and stroke. It also helps you reduce or manage other risk factors — high blood pressure, high blood cholesterol, excess body weight and diabetes.

But the benefits don’t stop there. You may look and feel better, become stronger and more flexible, have more energy, and reduce stress and tension.

How do I start?

• Talk to your doctor about a physical activity plan that’s right for you if...
  • you’ve been inactive a long time or have medical problems,
  • you’re middle-aged or older and you’re planning a relatively vigorous exercise program.
• Choose activities you enjoy. Pick a start date that fits your schedule and gives you enough time to begin your program.
• Wear comfortable clothes and shoes.
• Start slowly — don’t overdo it!
• Try to exercise at the same time each day so it becomes a regular part of your lifestyle.
• Drink water before, during and after each exercise session.
• Ask a friend to start a program with you — use the buddy system!

• Note the days you exercise and write down the distance or length of time of your workout and how you feel after each session. Aim for at least 150 minutes (2 hours and 30 minutes) of moderate-intensity, or 75 minutes (1 hour and 15 minutes) of vigorous-intensity, aerobic exercise each week.
• If you miss a day, plan a make-up day. Don’t double your exercise time during your next session.

What will keep me going?

• Get your family into physical activity! It’s great to have a support system, and you’ll be getting them into an important health habit.
• Join an exercise group, health club or YMCA.
• Choose an activity you like and make sure it’s convenient for you. If you need good weather, have a back-up plan for bad days (e.g., when it rains, walk in the mall instead of the park).
• Learn a new sport you think you might enjoy, or take lessons to improve at one you know.

(continued)
• Do a variety of activities. Take a brisk walk one day, a swim the next time. Then go for a bike ride on the weekend!
• Make physical activity a routine so it becomes a habit.
• If you stop for any length of time, don’t lose hope! Just get started again — slowly and work up to your old pace.

What else should I know?
• Try not to compare yourself with others. Your goal should be personal health and fitness.
• Think about whether you like to exercise alone or with other people, outside or inside, what time of day is best, and what kind of exercise you most enjoy doing.
• If you feel like quitting, remind yourself of all the reasons you started. Also think about how far you’ve come!
• Don’t push yourself too hard. You should be able to talk during exercise. Also, if it takes more than 10 minutes to recover from exercising, you’re working too hard.

HOW CAN I LEARN MORE?

1 Talk to your doctor, nurse or other healthcare professionals. If you have heart disease or have had a stroke, members of your family also may be at higher risk. It’s very important for them to make changes now to lower their risk.

2 Call 1-800-AHA-USA1 (1-800-242-8721), or visit heart.org to learn more about heart disease.

3 For information on stroke, call 1-888-4-STROKE (1-888-478-7653) or visit us at StrokeAssociation.org.

Do you have questions for the doctor or nurse?
Take a few minutes to write your questions for the next time you see your healthcare provider.
For example:
Should I take my pulse?
Can I exercise “too much”?

We have many other fact sheets to help you make healthier choices to reduce your risk, manage disease or care for a loved one. Visit heart.org/answersbyheart to learn more.
Knowledge is power, so Learn and Live!
IN BRIEF:

Your Guide To
Lowering Your Blood Pressure With DASH

What you eat affects your chances of developing high blood pressure (hypertension). Research shows that high blood pressure can be prevented—and lowered—by following the Dietary Approaches to Stop Hypertension (DASH) eating plan, which includes eating less salt and sodium.

High blood pressure, which is blood pressure higher than 140/90 mmHg,* affects more than 65 million—or 1 out of every 3—American adults. Another 59 million Americans have prehypertension, which is blood pressure between 120/80 and 140/89 mmHg. This increases their chances of developing high blood pressure and its complications.

High blood pressure is dangerous because it makes your heart work too hard, hardens the walls of your arteries, and can cause the brain to hemorrhage or the kidneys to function poorly or not at all. If not controlled, high blood pressure can lead to heart and kidney disease, stroke, and blindness.

But high blood pressure can be prevented—and lowered—if you take these steps:

- Follow a healthy eating plan, such as DASH, that includes foods lower in salt and sodium.
- Maintain a healthy weight.
- Be moderately physically active for at least 30 minutes on most days of the week.
- If you drink alcoholic beverages, do so in moderation.

If you already have high blood pressure and your doctor has prescribed medicine, take your medicine, as directed, and also follow these steps.

The DASH Eating Plan

The DASH eating plan is rich in fruits, vegetables, fat-free or low-fat milk and milk products, whole grains, fish, poultry, beans, seeds, and nuts. It also contains less salt and sodium; sweets, added sugars, and sugar-containing beverages; fats; and red meats than the typical American diet. This heart healthy way of eating is also lower in saturated fat, trans fat, and cholesterol and rich in nutrients that are associated with lowering blood pressure—mainly potassium, magnesium, and calcium, protein, and fiber.

* Blood pressure is usually measured in milligrams of mercury, or mmHg.
How Do I Make the DASH?

The DASH eating plan requires no special foods and has no hard-to-follow recipes. It simply calls for a certain number of daily servings from various food groups.

The number of servings depends on the number of calories you’re allowed each day. Your calorie level depends on your age and, especially, how active you are. Think of this as an energy balance system—if you want to maintain your current weight, you should take in only as many calories as you burn by being physically active. If you need to lose weight, eat fewer calories than you burn or increase your activity level to burn more calories than you eat.

What is your physical activity level? Are you mostly:

- Sedentary? You do only light physical activity that is part of your typical day-to-day routine.
- Moderately active? You do physical activity equal to walking about 1.5–3 miles a day at 3–4 miles per hour, plus light physical activity.
- Active? You do physical activity equal to walking more than 3 miles per day at 3–4 miles per hour, plus light physical activity.

Use the chart below to estimate your daily calorie needs.

Your Daily Calorie Needs

<table>
<thead>
<tr>
<th>Gender</th>
<th>Age (years)</th>
<th>Sedentary</th>
<th>Moderately Active</th>
<th>Active</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female</td>
<td>19–30</td>
<td>2,000</td>
<td>2,000–2,200</td>
<td>2,400</td>
</tr>
<tr>
<td></td>
<td>31–50</td>
<td>1,800</td>
<td>2,000</td>
<td>2,200</td>
</tr>
<tr>
<td></td>
<td>51+</td>
<td>1,600</td>
<td>1,800</td>
<td>2,000–2,200</td>
</tr>
<tr>
<td>Male</td>
<td>19–30</td>
<td>2,400</td>
<td>2,600–2,800</td>
<td>3,000</td>
</tr>
<tr>
<td></td>
<td>31–50</td>
<td>2,200</td>
<td>2,400–2,600</td>
<td>2,800–3,000</td>
</tr>
<tr>
<td></td>
<td>51+</td>
<td>2,000</td>
<td>2,200–2,400</td>
<td>2,400–2,800</td>
</tr>
</tbody>
</table>

Now that you know how many calories you’re allowed each day, find the closest calorie level to yours in the chart on page 3 called “Following the DASH Eating Plan.” This shows roughly the number of servings from each food group that you can eat each day.

Next, compare DASH with your current eating pattern. Fill in the “What’s on Your Plate and How Much Are You Moving?” chart on page 4 for 1–2 days to compare what you usually eat with the DASH plan—and note how active you are. This should help you decide what changes you need to make in your food choices—and in the sizes of the portions you eat.

“A Day With the DASH Eating Plan” on page 6 shows a sample menu based on about 2,000 calories a day. Increase or decrease the serving sizes for your own calorie level. This chart also shows the two levels of sodium, 2,300 and 1,500 milligrams, that DASH allows each day. Because fruits and vegetables are naturally lower in sodium than many other foods, DASH makes it easier to eat less sodium. Try it at the 2,300-milligram level (about 1 teaspoon of table salt). Then, talk to your doctor about gradually lowering it to 1,500 milligrams a day. Keep in mind: The less salt you eat, the more you may be able to lower your blood pressure.

Choose and prepare foods with less salt, and don’t bring the salt shaker to the table. Be creative—try herbs, spices, lemon, lime, vinegar, wine, and salt-free seasoning blends in cooking and at the table. And, because most of the salt, or sodium, that we eat comes from processed foods, be sure to read food labels to check the amount of sodium in different food products. Aim for foods that contain 5 percent or less of the Daily Value of sodium. Foods with 20 percent or more Daily Value of sodium are considered high. These include baked goods, certain cereals, soy sauce, some antacids—the range is wide.

DASH Tips for Gradual Change

Make these changes over a couple of days or weeks to give yourself a chance to adjust and make them part of your daily routine:

- Add a serving of vegetables at lunch one day and dinner the next, and add fruit at one meal or as a snack.
- Increase your use of fat-free and low-fat milk products to three servings a day.
- Limit lean meats to 6 ounces a day—3 ounces a meal, which is about the size of a deck of cards. If you usually eat large portions of meats, cut them back over a couple of days—by half or a third at each meal.
- Include two or more vegetarian-style, or meatless, meals each week.
### Following the DASH Eating Plan

Use this chart to help you plan your menus—or take it with you when you go to the store.

<table>
<thead>
<tr>
<th>Food Group</th>
<th>Servings Per Day</th>
<th>Serving Sizes</th>
<th>Examples and Notes</th>
<th>Significance of Each Food Group to the DASH Eating Plan</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Grains</strong></td>
<td>6</td>
<td>1 slice bread</td>
<td>Whole wheat bread and rolls, whole wheat pasta, English muffin, pita bread, bagel, cereals, grits, oatmeal, brown rice, unsalted pretzels and popcorn</td>
<td>Major sources of energy and fiber</td>
</tr>
<tr>
<td></td>
<td>6–8</td>
<td>1 oz dry cereal†</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>10–11</td>
<td>½ cup cooked rice, pasta, or cereal</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>2–3</td>
<td>3–4</td>
<td>Broccoli, carrots, collards, green beans, green peas, kale, lima beans, potatoes, spinach, squash, sweet potatoes, tomatoes</td>
<td>Rich sources of potassium, magnesium, and fiber</td>
</tr>
<tr>
<td></td>
<td>5–6</td>
<td>3–6</td>
<td>Apples, apricots, bananas, dates, grapes, oranges, grapefruit, grapefruit juice, mangoes, melons, peaches, pineapples, raisins, strawberries, tangerines</td>
<td>Important sources of potassium, magnesium, and fiber</td>
</tr>
<tr>
<td><strong>Vegetables</strong></td>
<td>3–4</td>
<td>1 cup raw leafy vegetable</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>4–5</td>
<td>½ cup cut-up raw or cooked vegetable</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>5–6</td>
<td>½ cup vegetable juice</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Fruits</strong></td>
<td>4</td>
<td>1 medium fruit</td>
<td>Fat-free (skim) or low-fat (1%) milk or buttermilk; fat-free, low-fat, or reduced-fat cheese; fat-free or low-fat regular or frozen yogurt</td>
<td>Major sources of calcium and protein</td>
</tr>
<tr>
<td></td>
<td>4–5</td>
<td>½ cup dried fruit</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>5–6</td>
<td>½ cup fresh, frozen, or canned fruit</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>1½ cup fruit juice</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Fat-free or low-fat milk and milk products</strong></td>
<td>2–3</td>
<td>1 cup milk or yogurt</td>
<td>Fat-free (skim) or low-fat (1%) milk or buttermilk; fat-free, low-fat, or reduced-fat cheese; fat-free or low-fat regular or frozen yogurt</td>
<td>Major sources of calcium and protein</td>
</tr>
<tr>
<td></td>
<td>2–3</td>
<td>1 ½ oz cheese</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Lean meats, poultry, and fish</strong></td>
<td>3–6</td>
<td>1 oz cooked meats, poultry, or fish</td>
<td>Select only lean; trim away visible fats; broil, roast, or poach; remove skin from poultry</td>
<td>Rich sources of protein and magnesium</td>
</tr>
<tr>
<td></td>
<td>6 or less</td>
<td>1 egg‡</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Nuts, seeds, and legumes</strong></td>
<td>3 per week</td>
<td>½ cup or 1½ oz nuts</td>
<td>Almonds, hazelnuts, mixed nuts, peanuts, walnuts, sunflower seeds, peanut butter, kidney beans, lentils, split peas</td>
<td>Rich sources of energy, magnesium, protein, and fiber</td>
</tr>
<tr>
<td></td>
<td>4–5 per week</td>
<td>2 Tbsp peanut butter</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>2 Tbsp or ½ oz seeds</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>½ cup cooked legumes (dry beans and peas)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Fats and oils†</strong></td>
<td>2</td>
<td>1 tsp soft margarine</td>
<td>Soft margarine, vegetable oil (such as canola, corn, olive, or safflower), low-fat mayonnaise, light salad dressing</td>
<td>The DASH study had 27 percent of calories as fat, including fat in or added to foods</td>
</tr>
<tr>
<td></td>
<td>2–3</td>
<td>1 tsp vegetable oil</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>1 Tbsp mayonnaise</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>1 Tbsp salad dressing</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Sweets and added sugars</strong></td>
<td>0</td>
<td>1 Tbsp sugar</td>
<td>Fruit-flavored gelatin, fruit punch, hard candy, jelly, maple syrup, sorbet and ices, sugar</td>
<td>Sweets should be low in fat</td>
</tr>
<tr>
<td></td>
<td>5 or less per week</td>
<td>1 Tbsp jelly or jam</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>≤ 2</td>
<td>½ cup sorbet, gelatin</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>1 cup lemonade</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* Whole grains are recommended for most grain servings as a good source of fiber and nutrients.
† Serving sizes vary between ½ cup and 1¼ cups, depending on cereal type. Check the product’s Nutrition Facts label.
‡ Since eggs are high in cholesterol, limit egg yolk intake to no more than four per week; two egg whites have the same protein content as 1 oz of meat.
∫ Fat content changes serving amount for fats and oils. For example, 1 Tbsp of regular salad dressing equals one serving; 1 Tbsp of a low-fat dressing equals one-half serving; 1 Tbsp of a fat-free dressing equals zero servings.

Abbreviations: oz = ounce; Tbsp = tablespoon; tsp = teaspoon.
What’s on Your Plate and How Much Are You Moving?

Use this form to track your food and physical activity habits before you start on the DASH eating plan or to see how you’re doing after a few weeks. To record more than 1 day, just copy the form. Total each day’s food groups and compare what you ate with the DASH eating plan at your calorie level.

<table>
<thead>
<tr>
<th>Date:</th>
<th>Number of Servings by DASH Food Group</th>
</tr>
</thead>
<tbody>
<tr>
<td>Food</td>
<td>Amount (serving size)</td>
</tr>
<tr>
<td>Example: whole wheat bread, with soft (tub) margarine</td>
<td>2 slices 2 tsp</td>
</tr>
<tr>
<td>Breakfast</td>
<td></td>
</tr>
<tr>
<td>Lunch</td>
<td></td>
</tr>
<tr>
<td>Dinner</td>
<td></td>
</tr>
<tr>
<td>Snacks</td>
<td></td>
</tr>
<tr>
<td>Day’s Totals</td>
<td></td>
</tr>
</tbody>
</table>

2,000 calorie level example: Compare yours with the DASH eating plan at your calorie level.

Enter your calorie level and servings per day:

Physical Activity Log

Aim for at least 30 min of moderate-intensity physical activity on most days of the week. When your heart is beating noticeably faster, the activity is probably moderately intense.

Record your minutes per day for each activity: Time: Type of activity:
- Increase servings of vegetables, brown rice, whole wheat pasta, and cooked dry beans. Try casseroles and stir-fry dishes, which have less meat and more vegetables, grains, and dry beans.

- For snacks and desserts, use fruits or other foods low in saturated fat, trans fat, cholesterol, sodium, sugar, and calories—for example, unsalted rice cakes; unsalted nuts or seeds, raisins; graham crackers; fat-free, low-fat, or frozen yogurt; popcorn with no salt or butter added; or raw vegetables.

- Use fresh, frozen, or low-sodium canned vegetables and fruits.

**DASH Hints**

- Be aware that DASH has more servings of fruits, vegetables, and whole grain foods than you may be used to eating. These foods are high in fiber and may cause some bloating and diarrhea. To avoid these problems, gradually increase the amount of fruit, vegetables, and whole grain foods that you eat over several weeks.

- If you have trouble digesting milk products, try taking lactase-enzyme pills (available at drug stores and groceries) with milk products. Or buy lactose-free milk, which includes the lactase enzyme.

- If you don’t like or are allergic to nuts, use seeds or legumes (cooked dried beans or peas).

- If you take medicines to control your high blood pressure, keep taking them. But tell your doctor that you are now eating the DASH way.

**Other Lifestyle Changes**

Making other lifestyle changes while following the DASH eating plan is the best way to prevent and control high blood pressure.

**Lose Weight, If Necessary, While Following DASH**

DASH is rich in lower calorie foods, such as fruits and vegetables, so it can easily be changed to support weight loss. You can reduce calories even more by replacing higher calorie foods, such as sweets, with more fruits and vegetables. The best way to take off pounds is to do it slowly, over time, by getting more physical activity and eating fewer calories. To develop a weight-loss or weight-maintenance program that’s tailored for you, talk to your doctor or registered dietitian.

**Be Physically Active While Following the DASH Eating Plan**

Combining DASH with a regular physical activity program, such as walking or swimming, will help you shed pounds and stay trim for the long term. Start with a simple 15-minute walk during your favorite time of day and gradually increase the amount of time you are active. You can do an activity for 30 minutes at one time, or choose shorter periods of at least 10 minutes each. The important thing is to total about 30 minutes of moderate activity on most days. To avoid weight gain or sustain weight loss, try for 60 minutes of moderate-to-vigorous activity each day.

**Make the DASH for Life**

DASH can help you prevent and control high blood pressure. It can also help you lose weight, if you need to. It meets your nutritional needs and has other health benefits for your heart. So get started today and make the DASH for a healthy life.

**To Learn More**

Contact the National Heart, Lung, and Blood Institute (NHLBI) for information on heart disease and heart health.

NHLBI Health Information Center
P.O. Box 30105
Bethesda, MD 20824-0105
Phone: 301–592–8573
TTY: 240–629–3255
Fax: 301–592–8563

Also check out these heart health resources:

NHLBI Web site: www.nhlbi.nih.gov


## A Day With the DASH Eating Plan

### 2,300 mg Sodium (Na) Menu

#### Breakfast
- 1/2 cup instant oatmeal
- 1 mini whole wheat bagel:
  - 1 Tbsp peanut butter
  - 1 medium banana
  - 1 cup low-fat milk

#### Lunch
- chicken breast sandwich:
  - 2 slices (3 oz) chicken breast, skinless
  - 2 slices whole wheat bread
  - 1 slice (9/4 oz) natural cheddar cheese, reduced-fat
  - 1 large leaf romaine lettuce
  - 2 slices tomato
  - 1 Tbsp mayonnaise, low-fat
  - 1 cup cantaloupe chunks
  - 1 cup apple juice

#### Dinner
- 1 cup cooked spaghetti:
  - 9/4 cup low-salt vegetarian spaghetti sauce
  - 3 Tbsp Parmesan cheese
- Spinach salad:
  - 1 cup fresh spinach leaves
  - 1/4 cup fresh carrots, grated
  - 1/4 cup fresh mushrooms, sliced
  - 1 Tbsp vinegar and oil dressing
  - 1/2 cup corn, cooked from frozen
  - 1/2 cup canned pears, juice pack

#### Snacks
- 1/3 cup almonds, unsalted
- 1/4 cup dried apricots
- 1 cup fruit yogurt, fat-free, no sugar added

<table>
<thead>
<tr>
<th>Nutrients Per Day</th>
<th>2,300 mg</th>
<th>1,500 mg</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calories</td>
<td>2,027</td>
<td>2,078</td>
</tr>
<tr>
<td>Total fat</td>
<td>64 g</td>
<td>68 g</td>
</tr>
<tr>
<td>Calories from fat</td>
<td>28%</td>
<td>30%</td>
</tr>
<tr>
<td>Saturated fat</td>
<td>13 g</td>
<td>16 g</td>
</tr>
<tr>
<td>Calories from saturated fat</td>
<td>6%</td>
<td>7%</td>
</tr>
<tr>
<td>Cholesterol</td>
<td>114 mg</td>
<td>129 mg</td>
</tr>
<tr>
<td>Sodium</td>
<td>2,035 mg</td>
<td>1,560 mg</td>
</tr>
<tr>
<td>Calcium</td>
<td>1,370 mg</td>
<td>1,334 mg</td>
</tr>
<tr>
<td>Magnesium</td>
<td>535 mg</td>
<td>542 mg</td>
</tr>
<tr>
<td>Potassium</td>
<td>4,715 mg</td>
<td>4,721 mg</td>
</tr>
<tr>
<td>Fiber</td>
<td>34 g</td>
<td>34 g</td>
</tr>
</tbody>
</table>

**Substitution To Reduce Sodium to 1,500 mg**

#### Breakfast
- 1/2 cup regular oatmeal with 1 tsp cinnamon

#### Lunch
- 1 slice (9/4 oz) natural Swiss cheese, low-sodium

**Nutrients Per Day**

Abbreviations: mg = milligram; Tbsp = tablespoon; tsp = teaspoon; oz = ounce; g = gram.
Blood Pressure Screening Presentation CD

Insert Here