

PROTECTING our FAMILY and COMMUNITY

How to Prevent High Blood Pressure

It's Important To Know About High Blood Pressure

High blood pressure, also called hypertension, is a risk factor for heart and kidney diseases and stroke. This means that having high blood pressure increases your chance (or risk) of getting heart or kidney disease, or having a stroke. This is serious business. Heart disease is the number one killer in the United States, and stroke is the third most common cause of death.

About one in every four American adults has high blood pressure. High blood pressure is especially dangerous because it often gives no warning signs or symptoms. Fortunately, though, you can find out if you have high blood pressure by having your blood pressure checked regularly. If it is high, you can take steps to lower it. Just as important, if your blood pressure is normal, you can learn how to keep it from becoming high. This fact sheet will tell you how.

What Is Blood Pressure— And What Happens When It Is High?

Since blood is carried from the heart to all of your body's tissues and organs in vessels called arteries, blood pressure is the force of the blood pushing against the walls of those arteries. In fact, each time the heart beats (about 60-70 times per minute at rest), it pumps out blood into the arteries. Your blood pressure is at its greatest when the heart contracts and is pumping the blood. This is called **systolic pressure**. When the heart is at rest, in between beats, your blood pressure falls. This is the **diastolic pressure**.

Different actions make your blood pressure go up or down. For example, if you run for a bus, your blood pressure goes up. When you sleep at night, your blood pressure goes down. These changes in blood pressure are normal. Some people have blood pressure that stays up all or most of the time. Their blood pushes against the walls of their arteries with higher than normal force. If untreated, this can lead to serious medical problems such as:

- **Arteriosclerosis ("hardening of the arteries").** High blood pressure harms the arteries by making them thick and stiff. This speeds the build up of cholesterol and fats in the blood vessels, like rust in a pipe, which prevents the blood from flowing through the body. In time, it can lead to a heart attack or stroke.
- **Heart attack.** Blood carries oxygen to the body. When the arteries that bring blood to the heart muscle become blocked, the heart cannot get enough oxygen. Reduced blood flow can cause chest pain (angina). Eventually, the flow may be stopped completely, causing a heart attack.

- **Enlarged heart.** High blood pressure causes the heart to work harder. Over time, this causes the heart to thicken and stretch. Eventually the heart fails to function normally, and this causes fluids to back up into the lungs. Controlling high blood pressure can prevent this from happening.
- **Kidney damage.** The kidneys act as filters to rid the body of wastes. Over a number of years, high blood pressure can narrow and thicken the blood vessels of the kidneys. Less fluid is filtered by the kidneys, and waste builds up in the blood—the kidneys may fail altogether. If this occurs, medical treatment (dialysis) or a kidney transplant may be needed.
- **Stroke.** High blood pressure harms the arteries by causing them to narrow faster, therefore allowing less blood to get to the brain. If a blood clot blocks one of the narrowed arteries, a stroke (thrombotic stroke) may occur. A stroke can also occur when very high blood pressure causes a break in a weakened blood vessel in the brain (hemorrhagic stroke).

Who's Likely To Develop High Blood Pressure

Anyone can develop high blood pressure, but some people are more likely to develop it than others. For example, high blood pressure is more common—it develops earlier and is more severe—in African-Americans than in whites. In the early and middle adult years, men have high blood pressure more often than women. But as men and women age, the reverse is true. After menopause, more women have high blood pressure than men of the same age. Also, the number of **both** men and women with high blood pressure increases rapidly in older age groups. More than half of all Americans over age 65 have high blood pressure. And, older African-American women who live in the Southeast are more likely to have high blood pressure than those in other regions of the United States. In fact, the southeastern states have some of the highest rates of death from stroke.

High blood pressure is the key risk factor for strokes. Other risk factors include cigarette smoking and being overweight. These 11 states—Alabama, Arkansas, Georgia, Indiana, Kentucky, Louisiana, Mississippi, North Carolina, South Carolina, Tennessee and Virginia—have such high rates of stroke among persons of all races and in both sexes that they're called the "Stroke Belt States."

Finally, heredity can make some families more likely than others to get high blood pressure. If your parents or grandparents had high blood pressure, your risk may be increased. While it is mainly a disease of adults, high blood pressure can occur in children as well. Even if everyone is healthy, be sure you and your family get your blood pressure checked. Remember, high blood pressure has no signs or symptoms.

How Is Blood Pressure Checked?

Having your blood pressure checked is quick, easy and painless. Your blood pressure is measured with an instrument called a sphygmomanometer (sfig'-mo-ma-nom-e-ter). It works like this: a blood pressure cuff is wrapped around your upper arm and inflated to stop the blood flow in your artery for a few seconds. A valve is opened and air is then released from the cuff. The sounds of your blood rushing through an artery are heard through a stethoscope. The first sound heard and registered on the gauge or mercury column is called the **systolic** blood pressure. It represents the maximum pressure produced in the artery as the heart contracts and the blood begins to flow. The last sound heard as more air is released from the cuff is the **diastolic** blood pressure. It represents the lowest pressure that remains within the artery when the heart is at rest.

What do the numbers mean?

Blood pressure is always expressed in two numbers that represent the systolic and diastolic pressures. These numbers are measurements of millimeters (mm) of mercury (Hg). The measurement is written one above or before the other, with the systolic number on the top and the diastolic number on the bottom. For example, a blood pressure measurement of 120/80 mm Hg is expressed verbally as “120 over 80.” See the box below which shows categories for blood pressure levels in adults.

(AGE 18 YEARS AND OLDER) Blood Pressure level (mm Hg)		
Category	Systolic	Diastolic
Normal	130	85
High normal	130-139	85-89
High Blood Pressure		
Stage 1	140-159	90-99
Stage 2	160-179	100-109
Stage 3	180-209	110 119
Stage 4	210	120

For those not taking medication for high blood pressure and not having a short term serious illness. These categories are from the National High Blood Pressure Education Program.

Your blood pressure is considered normal if it is less than 140/90 mm Hg. However, a blood pressure below 120/80 mm Hg is even better for your heart and blood vessels. People use to think that low blood pressure (for example, 105/65 mm Hg in an adult) was unhealthy. Except for rare cases, this is not true. High blood pressure, or “hypertension,” is classified by stages and is more serious as the numbers get higher.

What Causes High Blood Pressure?

For most people, high blood pressure has no single known cause. High blood pressure with an unknown origin is called “primary” or “essential” hypertension. This type of blood pressure can’t be cured, although in most cases it can be controlled. That’s why it is so important for everyone to take steps to reduce their chances of developing high blood pressure.

In a few people, high blood pressure can be traced to known causes such as tumors of the adrenal gland, chronic kidney

disease, hormone abnormalities, use of birth control pills, or pregnancy. This is called “secondary” hypertension. Secondary hypertension is usually cured if its cause passes or is corrected.

Source: Dietary Guidelines for Americans, U.S. Department of Agriculture, U.S. Department of Health and Human Services, Third edition, 1990 (adapted from McArdle, et al., “Exercise Physiology,” 1986).

How Can You Prevent High Blood Pressure?

Everyone—regardless of race, age, sex or heredity—can help lower their chance of developing high blood pressure. Here’s how:

1. *Maintain a healthy weight—lose weight if you’re overweight.*
2. *Be more physically active.*
3. *Choose foods lower in salt and sodium.*
4. *If you drink alcoholic beverages, drink in moderation.*

These rules are also recommended for treating high blood pressure, although medicine is often added as part of the treatment. It is far better to keep your blood pressure from getting high in the first place.

Another important measure for your health is to not smoke. While cigarette smoking is not directly related to high blood pressure, it increases your risk of heart attack and stroke.

Let’s look more closely at the four rules to prevent high blood pressure and keep a healthy heart:

1) *Maintain a healthy weight—lose weight if you are overweight.*

As your body weight increases, your blood pressure rises. In fact, being overweight can make you two to six times more likely to develop high blood pressure than if you are at your desirable weight. Keeping your weight in the desirable range is not only important to help prevent high blood pressure, but also for your overall health and well being.

It is not just how much you weigh that is important—it also matters where your body stores extra fat. Your shape is inherited from your parents just like the color of your eyes or hair. Some people tend to gain weight around their belly—others around the hips and thighs. “Apple-shaped” people who have a pot belly (that is, extra fat at the waist) appear to have higher health risks than “pear-shaped” people with heavy hips and thighs.

No matter where the extra weight is, you can reduce your risk of high blood pressure by losing weight. Even small amounts of weight loss can make a big difference in helping to prevent high blood pressure. Losing weight, if you are overweight and already have high blood pressure, can also help lower your pressure. To lose weight, you need to eat fewer calories than you burn. But, don’t go on a crash diet to see how quickly you can lose those pounds. The healthiest and longest-lasting weight loss happens when you do it slowly, losing 1/2 to 1 pound a week. By cutting back by 500 calories a day by eating less and being more physically active, you can lose about 1 pound (which equals 3,500 calories) in a week.

Losing weight and keeping it off involves a new way of eating and increasing physical activity for life. Here's how to eat and get on your way to a lower weight:

Choose foods low in calories and fat. Naturally, choosing low-calorie foods cuts calories. But did you know that choosing foods low in fat also cuts calories? Fat is a concentrated source of calories, so eating fewer fatty foods will reduce calorie intake. Some examples of fatty foods to cut down on are: butter, margarine, regular salad dressings, fatty meats, poultry skin, whole milk dairy foods like cheese, fried foods, and many cookies, cakes, pastries and snacks.

Choose foods high in starch and fiber. Foods high in starch and fiber are excellent substitutes for foods high in fat. They are lower in calories than foods high in fats, and are also good sources of vitamins and minerals.

Limit serving sizes. To lose weight, it's not just the type of foods you eat that is important, but also the amount. To take in fewer calories, you need to limit your portion sizes. Try to take smaller helpings of high calorie foods like high fat meats and cheeses—and try not to go back for seconds.

Here's a good tip to help you control or change your eating habits. Keep track of what you eat, when you eat and why, by writing it down. Note whether you snack on high fat foods in front of the television, or if you skip breakfast and then eat a large lunch. Once you see your habits, you can set goals for yourself. Cut back on TV snacks, and when you do snack, have fresh fruit, unsalted air popped popcorn or unsalted pretzels. If there's no time for breakfast at home, take a low fat muffin, bagel (skip the cream cheese), or cereal with you to eat at work. Changing your behavior will help you change your weight for the better.

Increase physical activity. There's more to weight loss than just eating less. Another important ingredient is increasing physical activity, which burns calories. Cutting down on fat and calories combined with regular physical activity can help you lose more weight and keep it off longer than either way by itself.

2) *Be more physically active.*

Besides losing weight, there are other reasons to be more active. Being physically active can reduce your risk for heart disease, help lower your total cholesterol level, raise HDL cholesterol (the "good" cholesterol that does not build up in the arteries), and help lower high blood pressure. People who are physically active have a 20 to 50 percent lower risk of getting high blood pressure than people who are not active. You don't have to be a marathon runner to benefit from physical activity. Even light activities, if done daily, can help lower your risk of heart disease.

More vigorous exercise has added benefits. It helps improve the fitness of the heart and lungs, and that in turn protects you more against heart disease. Activities like swimming, brisk walking, running and jumping rope are called "aerobic." This means that the body uses oxygen to make the energy it needs for the activity. Aerobic activities can condition your heart and lungs if done at the right intensity for at least 30 minutes, three to four times a week. But, if you don't have 30 minutes for exercise, try to find two 15-minute periods or even three 10-minute periods. Try to do some type of aerobic activity in the course of a week.

BE MORE ACTIVE EVERYDAY

- *Take a walk at lunch time or after dinner.*
- *Use the stairs instead of the elevator.*
- *Get off the bus one or two stops early. Walk the rest of the way.*
- *Park farther away from the store or office.*
- *Ride a bike.*
- *Work in the yard or garden.*
- *Go dancing.*

Most people don't need to see a doctor before they start exercising, since a gradual, sensible exercise program has few health risks. But, if you have a health problem like high blood pressure, have pains or pressure in the chest or shoulder area, if you tend to feel dizzy or faint, if you get very breathless after a mild workout, or if you are middle-aged or older and have not been active and are planning a vigorous exercise program, you should check with your doctor first. Otherwise, get out, get active, and get fit—and help prevent high blood pressure.

3) *Choose foods lower in salt and sodium.*

Americans eat more salt (sodium chloride) and other forms of sodium than they need. And guess what? They also have higher rates of high blood pressure than people in other countries who eat less salt. Often, if people with high blood pressure cut back on salt and sodium, their blood pressure falls. Cutting back on salt and sodium also prevents blood pressure from rising. Some people like African-Americans and the elderly are more affected by sodium than others. Since there's really no practical way to predict exactly who will be affected by sodium, it makes sense to limit salt and sodium intake to help prevent high blood pressure.

All Americans, especially people with high blood pressure, should eat no more than about 6 grams of salt a day, which equals about 2,400 milligrams of sodium. That's about 1 teaspoon of table salt. But, remember to keep track of ALL salt eaten—including that in processed foods and added during cooking or at the table. Americans eat 4,000 to 6,000 milligrams of sodium a day, so most people need to cut back on salt and sodium.

You can teach your taste buds to enjoy less salty foods. Here are a few tips:

- Check food labels for the amount of sodium in foods. Choose those lower in sodium most of the time. Look for products that say "sodium free," "very low sodium," "low sodium," "light in sodium," "reduced or less sodium," or "unsalted," especially on cans, boxes, bottles and bags.
- Buy fresh, plain frozen, or canned with "no-salt-added" vegetables. Use fresh poultry, fish and lean meat, rather than canned or processed types.
- Instead of salt, use herbs, spices and salt-free seasoning blends in cooking and at the table.
- Cook rice, pasta and hot cereals without salt. Cut back on instant or flavored rice, pasta and cereal mixes because they usually have added salt.
- Choose "convenience" foods that are lower in sodium. Cut back on frozen dinners, mixed dishes like pizza, packaged mixes, canned soups or broths, and salad dressings (which often have a lot of sodium).

- When available, buy low or reduced sodium, or “no-salt-added” versions of food.
- Rinse canned foods like tuna to remove some sodium.

4) *If you drink alcoholic beverages, drink in moderation.*

Drinking too much alcohol can raise your blood pressure. It may also lead to the development of high blood pressure. To help prevent high blood pressure, if you drink alcohol, limit how much you drink to no more than two drinks per day. For overall health, the “Dietary Guidelines for Americans” recommends that women should limit their alcohol to no more than one drink a day.

What Else Might Prevent High Blood Pressure?

Other things may also help prevent high blood pressure. Here’s a variety of what’s being said—and whether it’s true or not.

Dietary supplements—potassium, calcium, magnesium, fish oils

Potassium. Eating foods rich in potassium appears to protect some people from developing high blood pressure. You can probably get enough potassium from your diet, so a supplement isn’t necessary. Many fruits, vegetables, dairy foods and fish are good sources of potassium.

Calcium. Populations with low calcium intake have high rates of high blood pressure. However, it has not been proven that taking calcium tablets will prevent high blood pressure. But, it is important to be sure and get at least the recommended amount of calcium—800 milligrams per day for adults (breast-feeding and pregnant women need more)—from the foods you eat. Dairy foods, like low fat selections of milk, yogurt and cheese are good sources of calcium. Low fat and nonfat dairy products have even more calcium than the high fat types.

Magnesium. A diet low in magnesium may make your blood pressure rise. But, doctors don’t recommend taking extra magnesium to help prevent high blood pressure—the amount you get in a healthy diet is enough. Magnesium is found in whole grains, green leafy vegetables, nuts, seeds, dry peas and beans.

Fish oils. A type of fat called “omega-3 fatty acids” is found in fatty fish like mackerel and salmon. Large amounts of fish oils may help reduce high blood pressure, but their role in prevention is unclear. Taking fish oil pills is not recommended—high doses can cause unpleasant side effects. The pills are also high in fat and calories. Of course most fish, if not fried or made with added fat, are low in saturated fat and calories and can be eaten often.

Other factors

Fats, Carbohydrates and Protein. It is crucial to limit the amount of fat in your diet, especially the saturated fat found in foods like fatty meats and whole milk dairy foods. Saturated fats raise your blood cholesterol level, and a high blood cholesterol level is another risk factor for heart disease. Foods high in fat are also high in calories.

Remember, foods high in complex carbohydrates (starch and fiber) are low in fat and calories. Eating these foods in moderate amounts, instead of high fat foods, can help you lose weight if you are overweight, or prevent you from gaining weight.

Caffeine. The caffeine in drinks like coffee, tea and sodas may cause blood pressure to go up, but only temporarily. In a short time it will go back down. Unless you are sensitive to caffeine, and your blood pressure does not go down, you do not have to limit caffeine to prevent developing high blood pressure.

Garlic and Onions. Increased amounts of garlic and onions have not been found to affect blood pressure. Of course, they are tasty substitutes for salty seasonings and can be used often.

Stress Management. Increased stress can elevate blood pressure for a while. Over time, it may contribute to the cause of high blood pressure. It’s natural to think that stress management techniques like biofeedback, meditation and relaxation would help prevent high blood pressure, but it doesn’t seem to be true. The few studies that have been reviewed do not show that stress management helps to prevent high blood pressure. Of course, stress management techniques are beneficial if they help you feel better, or help you stick to a weight-loss and/or exercise program.

By following the guidelines outlined in this lesson, you can help reduce or prevent high blood pressure for life, and in turn, lower your risk of heart disease and stroke.

References

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