



Hypertension

Guide to Good Health

Healthy Living Guide

- ▶ Asthma
- ▶ Chronic Fatigue Syndrome (CFS)
- ▶ Chronic Obstructive Pulmonary Disease (COPD)
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What is Hypertension?

Hypertension is a chronic medical condition in which the blood pressure is elevated. “Blood pressure” is the force of blood pushing against the walls of the arteries as the heart pumps out blood. If this pressure rises and stays high over time, it can damage the body in many ways.

Overview & Facts

- About 1 in 3 adults in the United States have high blood pressure (HBP). HBP itself usually has no symptoms. You can have it for years without knowing it. During this time, though, it can damage the heart, blood vessels, kidneys and other parts of your body.
- Blood pressure numbers include systolic (sis-TOL-ik) and diastolic (di-a-STOL-ik) pressures.
 - ✓ Systolic blood pressure is the pressure when the heart beats while pumping blood.
 - ✓ Diastolic blood pressure is the pressure when the heart is at rest between beats.
 - ✓ You will most often see blood pressure numbers written with the systolic number above or before the diastolic, such as 120/80 mmHg. (The mmHg is millimeters of mercury—the units used to measure blood pressure.)
- Blood pressure tends to go up and down, even in people who have normal blood pressure. If your numbers stay above normal most of the time, you’re at risk.

Signs & Symptoms

- ✓ High blood pressure doesn’t usually cause symptoms. Most people don’t know they have it until they go to the doctor for some other reason.
- ✓ Very high blood pressure can cause headaches, vision problems, nausea and vomiting. Malignant high blood pressure (hypertensive crisis), which is blood pressure that rises very fast, can also cause these symptoms. Malignant high blood pressure is a medical emergency.

Causes

- Blood pressure tends to rise with age, unless you take steps to prevent or control it.
- Certain medical problems, such as chronic kidney disease, thyroid disease, and sleep apnea may cause blood pressure to rise.

Risk Factors

Older Age: Blood pressure tends to rise with age. If you’re a male older than 45 or a female older than 55, your risk for HBP is higher. Over half of all Americans aged 60 and older have HBP.

Race/Ethnicity: HBP can affect anyone. However, it occurs more often in African American adults than in Caucasian or Hispanic American adults.

Category	Systolic		Diastolic
Normal	<120	and	<80
Prehypertension	120 – 139	or	80 – 89
High Blood Pressure			
*Stage 1	140 – 159	or	90 – 99
* Stage 2	160 or higher	or	100 or higher

- The ranges in the table above apply to most adults (aged 18 and older) who don’t have short-term serious illnesses. All levels above 120/80 mmHg raise your risk, and the risk grows as blood pressure levels rise.
- “Prehypertension” means that you’re likely to end up with HBP, unless you take steps to prevent it.
- If you’re being treated for HBP and have repeat readings in the normal range, your blood pressure is under control. However, you still have the condition. You should see your doctor and stay on treatment to keep your blood pressure under control.
- Following a healthy lifestyle helps some people delay or prevent this rise in blood pressure.

- ✓ Without treatment, high blood pressure can damage the heart, brain, kidneys or eyes. This damage causes problems like coronary artery disease, stroke and kidney failure.



- Certain medicines, such as asthma medicines (for example corticosteroids) and cold-relief products, also may raise blood pressure.



Overweight or Obesity: You’re more likely to develop hypertension or HBP if you’re overweight or obese. Overweight is having extra body weight from muscle, bone, fat and/or water. Obesity is having a high amount of extra body fat.

Gender: Fewer adult women than men have HBP. But, younger women (aged 18 – 59) are more likely than men to be aware of and get treatment for HBP.

Risk Factors continued

Unhealthy Lifestyle Habits: A number of lifestyle habits can raise your risk for HBP, including:

- Eating too much sodium (salt).
- Drinking too much alcohol.
- Not getting enough potassium in your diet.
- Not doing enough physical activity.
- Smoking.



Other Risk Factors:

- A family history of HBP.
- Long-lasting stress.
- Pre-hypertension - Pre-hypertension means that your blood pressure is in the 120-139/80 -89 mmHg range.

Risk Factors for Children and Teens: Overweight is on the rise in youth younger than 18 years. As a result, pre-hypertension and HBP also are becoming more common in this age group. Boys are at higher risk for HBP than girls. Like adults, children and teens need to have routine blood pressure checks. This is even more important if a young person is overweight.

Other Possible Risk Factors Include:

- Low intake of potassium, magnesium and calcium.
- Sleep apnea and sleep-disordered breathing.
- Long-term use of pain medicines like NSAIDs—for example naproxen (such as Aleve) or ibuprofen (such as Motrin or Advil), or COX-2 inhibitors, such as celecoxib (Celebrex). Aspirin does not increase your risk for developing high blood pressure.



Questions to Ask Your Provider

- ✓ Call a doctor if:
 1. Your blood pressure is 140/90 mmHg or higher on two or more occasions. If one blood pressure measurement is high, have another reading taken by a doctor or nurse to verify the first reading. Many doctor's offices or clinics will take blood pressure measurements without an appointment.
 2. You have significant side effects from any medicine you take for high blood pressure. The side effects may be so bad that you do not want to take your medicine anymore. Talk with your doctor before you stop taking your medicine.

- ✓ Call a doctor immediately if you have high blood pressure and:
 1. Your blood pressure is usually normal or well controlled, but it suddenly goes well above the normal range on more than one occasion.
 2. Your blood pressure is 180/110 millimeters of mercury (mmHg) or higher.

Diagnostic Workup

How is High Blood Pressure Diagnosed? Your doctor will diagnose HBP using the result of blood pressure tests. These tests will be done several times to make sure the results are correct. If your numbers are high, your doctor may have you return for more tests to check your blood pressure over time. If your blood pressure is 140/90 mmHg or higher over time, your doctor will likely diagnose you with HBP. If you have diabetes or chronic kidney disease, a blood pressure of 130/80 mmHg or higher is considered HBP.

How is Blood Pressure Tested?

A blood pressure test is easy and painless. This test is done at a doctor's office or clinic.



Diagnosing High Blood Pressure in Children and Teens: Doctors measure blood pressure in children and teens the same way they do in adults. Your child should have routine blood pressure checks starting at 3 years of age. Blood pressure numbers normally increases with age and body size. Newborn babies often have very low blood pressure numbers, while older teens have numbers similar to adults. The ranges for normal blood pressure and HBP are generally lower for youth than for adults. These ranges are based on the average blood pressure numbers for age, gender and height.

What Does a Diagnosis of High Blood Pressure Mean? If you're diagnosed with HBP, you will need treatment. You also will need to have your blood pressure tested again to see how treatment affects it. Once your blood pressure is under control, you need to stay on treatment. "Under control" means that your blood pressure numbers are normal. You also will need regular blood pressure tests. Your doctor can tell you how often you should be tested.

Treatment and Care

1. Medical

How is High Blood Pressure Treated? HBP is treated with lifestyle changes and medicines. Most people who have HBP will need lifelong treatment. Sticking to your treatment plan is important. It can prevent or delay the problems linked to HBP and help you live and stay active longer.

Goals of Treatment: The treatment goal for most adults is to get and keep blood pressure below 140/90 mmHg. For adults who have diabetes or chronic kidney disease, the goal is to get and keep blood pressure below 130/80 mmHg.

2. Pharmacological

Medicines: Today's blood pressure medications can safely help most people control their blood pressures. These medicines are easy to take. The side effects, if any, tend to be minor. If you have side effects from your medicines, talk to your doctor. He or she may be able to adjust the doses or prescribe other medicines. You should not decide on your own to stop taking your medicines. Blood pressure medicines work in different ways to lower blood pressure. Some remove extra fluid and salt from the body to lower blood pressure. Others slow down the heartbeat or relax and widen blood vessels. Often, two or more medicines work better than one.



- a. **Diuretics:** Diuretics are sometimes called water pills. They help your kidneys flush excess water and salt from your body. This lessens the amount of fluid in your blood, and your blood pressure goes down.
- b. **Beta Blockers:** Beta Blockers help your heart beat slower and with less force. Your heart pumps less blood through your blood vessels and your blood pressure goes down.
- c. **ACE Inhibitors:** ACE Inhibitors keep your body from making a hormone called Angiotensin II. This hormone normally causes blood vessels to narrow. ACE Inhibitors prevent this, so your blood pressure goes down.
- d. **Angiotensin II Receptor Blockers:** Angiotensin II Receptor Blockers (ARBs) are newer blood pressure medicines that protect your blood vessels from Angiotensin II. As a result, blood vessels relax and widen, and your blood pressure goes down.
- e. **Calcium Channel Blockers:** Calcium Channel Blockers (CCBs) keep calcium from entering the muscle cells of your heart and blood vessels. This allows blood vessels to relax, and your blood pressure goes down.

- f. **Alpha blockers:** Alpha Blockers reduce nerve impulses that tighten blood vessels. This allows blood to flow more freely, causing blood pressure to go down.
- g. **Nervous System Inhibitors:** Nervous System Inhibitors increase nerve impulses from the brain to relax and widen blood vessels. This causes blood pressure to go down.
- h. **Vasodilators:** Vasodilators relax the muscles in blood vessel walls. This causes blood pressure to go down.

- ❖ If you have HBP, you will need to treat and control it for life. This means making lifestyle changes, taking prescribed medicines and getting ongoing medical care.
- ❖ You should take all blood pressure medicines that your doctor prescribes. Take your medicines exactly as your doctor directs—don't skip days or cut pills in half. If you are having side effects from your medicines, talk to your doctor. He or she may need to adjust the dose or prescribe other medications.
- ❖ Many pregnant women who have HBP have healthy babies. However, HBP can cause problems for both the mother and fetus. If you're thinking about having a baby and you have HBP, talk to your healthcare team. You can take steps to control your blood pressure before and while you're pregnant. With such care, most women and babies have good outcomes.

3. Emotional/Psychological

Lifestyle Changes: Healthy habits can help you to control HBP. Healthy habits include:

- Following a healthy eating plan.
- Doing enough physical activity.
- Maintaining a healthy weight.
- Quitting smoking.
- Managing your stress and learning to cope with stress.



If you combine the above measures, you can achieve even better results than taking single steps. Making lifestyle changes can be hard. Start by making one healthy lifestyle change and then adopt others. Some people can control their blood pressure with lifestyle changes alone, but many people can't. Keep in mind that the main goal is blood pressure control. If your doctor prescribes medicines as a part of your treatment plan, keep up your healthy habits. This will help you better control your blood pressure.

Treatment and Care continued

4. Physical

- ▶ Following a healthy lifestyle is an important step for controlling HBP. A healthy lifestyle includes following a healthy eating plan, losing weight (if you're overweight or obese), doing regular physical activity and not smoking.
- ▶ Go for medical checkups or tests as your doctor advises. Your doctor may need to change or add medicines to your treatment plan over time. Regular checkups allow your doctor to change your treatment right away if your blood pressure goes up again. Have your blood pressure checked on the schedule your doctor advises. You may want to learn how to check your blood pressure at home. Each time you check your own blood pressure, you should write down your numbers and the date.
- ▶ Your blood pressure can be checked:
 - At a clinic where you work or go to school.
 - At health fairs, fitness centers, community centers, fire stations and ambulance stations.
 - By a nurse practitioner or physician assistant.
 - By a primary care doctor.



Do Enough Physical Activity: Regular physical activity can lower HBP and also reduce your risk for other health problems.

Check with your doctor about how much and what kinds of activity are safe for you. Unless your doctor tells you otherwise, try to get at least 30 minutes of moderate-intensity activity on most or all days of the week. You can do it all at once or break it up into shorter periods of at least 10 minutes each.

Moderate-intensity activities include brisk walking, dancing, bowling, riding a bike, working in a garden and cleaning house.

If your doctor agrees, you also may want to do more intense activities such as jogging, swimming and playing sports.

5. Nutritional

Follow a Healthy Eating Plan: Your doctor may recommend the Dietary Approaches to Stop Hypertension (DASH) eating plan if you have HBP. The DASH eating plan focuses on fruits, vegetables, whole grains and other foods that are heart healthy and lower in sodium (salt). Go to the website, www.nhlbi.gov, for more information on the DASH eating plan. This eating plan is low in fat and cholesterol. It also features fat-free or low-fat milk and dairy products, fish, poultry, and nuts. The DASH eating plan suggests less red meat (even lean red meat), sweets, added sugars, and sugar-containing beverages. The plan is rich in nutrients, protein and fiber.

To help control HBP, you should limit the amount of salt that you eat. This means choosing low-salt and “no added salt” foods and seasonings at the table or when cooking. The Nutrition Facts label on food packaging shows the amount of sodium in the item. You should eat no more than about 1 teaspoon of salt a day, including the salt already in your foods.

Resources

- ❖ National Heart Lung and Blood Institute (NHLBI): www.nhlbi.nih.gov
- ❖ WebMD: www.webmd.com
- ❖ Medline Plus: www.nlm.nih.gov/medlineplus
- ❖ Hypertension: Interactive Tutorial: www.nlm.nih.gov
- ❖ Clinical Trials: www.clinicaltrials.gov - Current Research