

Live Well to  
Learn Well

Web:  
[health.cornell.edu](http://health.cornell.edu)

Phone (24/7):  
607-255-5155

Fax:  
607-255-0269

Appointments:  
Monday–Saturday

Check web for hours,  
services, providers,  
and appointment  
information

110 Ho Plaza,  
Ithaca, NY  
14853-3101

High blood pressure, also known as hypertension, is a serious condition that needs early intervention and treatment.

- High blood pressure usually does not cause symptoms.
- Have your blood pressure checked regularly. A blood pressure test is simple, painless, and fast.
- Over time, high blood pressure can damage your blood vessels and raise your risk of heart disease and stroke.
- If you have high blood pressure, talk to your clinician about ways to lower it, such as exercise, a healthy diet, and medicine if needed.

## What is blood pressure?

Blood pressure is the force of blood against the blood vessels that is created when the heart contracts. Pressure is exerted in waves; it is highest when the heart contracts (systolic pressure), and lowest when the heart completely relaxes between contractions (diastolic pressure). Blood pressure is always reported in millimeters of mercury using two numbers, the systolic pressure over the diastolic pressure (e.g., 120/80).

## How do you measure it?

A blood pressure cuff is wrapped around the upper arm. It is inflated to levels higher than the pressure in the artery, temporarily stopping the flow of blood. A stethoscope is placed over the artery beyond the cuff. The pressure in the cuff is gradually decreased. As soon as the pressure in the cuff is lower than that in the artery, the stethoscope picks up the sound of the blood beginning to flow strongly through the artificially narrowed artery. The pressure in the cuff at this time represents the “systolic” pressure. The cuff continues to be deflated until its pressure is lower than the lowest pressure in the artery (the “diastolic” pressure), and the unimpeded blood flow is audible.

## How common is hypertension, and who’s likely to have it?

The World Health Organization reports that the number of people with hypertension worldwide is estimated at over 600 million. There is evidence to support that, in addition to heredity, factors related to lifestyle habits, including diet, exercise, and stress, may influence blood pressure levels. Here in the United States, as many as 50 million people may have high blood pressure. It is more common in some families, and in some races, as well as specific geographical locations. Hypertension can occur in children, but it is



*In addition to heredity, lifestyle habits such as diet, exercise, and stress influence blood pressure.*

generally a disease of adults, and risk increases with age. Among people 65 and older, about 40% of Caucasians and 50% of African-Americans have high blood pressure.

## What constitutes high blood pressure?

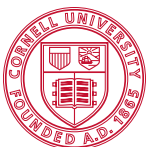
Blood pressure varies with normal activities during the day. It goes up with exercise and goes down with rest and during sleep. This is normal. Some people, however, have readings that are elevated even at rest.

It is now recognized that the risk of complications from untreated hypertension rises with the degree and duration of elevation of blood pressure. This understanding has led to guidelines that classify blood pressure readings for adults into different levels.

CLASSIFICATION	SYSTOLIC	DIASTOLIC
normal	<120	<80
high-normal	120-139	or 80-89
<b>hypertension</b>		
stage I	140-159	or 90-99
stage II	≥160	or ≥100
stage III	≥180	or ≥110

## What causes high blood pressure?

Occasionally, high blood pressure is caused by an underlying medical illness. In these cases, treatment of the underlying medical



condition may lower the blood pressure. However, the vast majority of people with hypertension have what is called essential hypertension or primary hypertension. This means that their elevated blood pressure is not related to any underlying medical condition. This type of blood pressure cannot be cured, but it can usually be adequately controlled with medication and/or lifestyle changes.

### What are the symptoms of high blood pressure?

Most people with high blood pressure have no symptoms, unless their pressure is very high or they have developed other medical complications of hypertension.

### What are the dangers of chronic, uncontrolled high blood pressure?

High blood pressure increases your risk of developing heart disease (including heart attack and heart failure), kidney disease, and stroke. The higher your blood pressure and the longer it is uncontrolled, the greater your risk of developing complications.

### What evaluation is required for hypertension?

Your health care provider will use the following steps to determine the best treatment for your hypertension.

#### 1. Evaluate your cardiovascular risks

Risk factors include:

- Smoking
- History of elevated blood lipids (e.g., cholesterol)
- History of diabetes mellitus
- Age greater than 60 years
- Sex (male or postmenopausal female)
- Family history of heart disease

- #### 2. Evaluate you for any current complications related to high blood pressure
- , such as heart disease, eye or kidney diseases, or other conditions affecting blood vessels, as well as for evidence of any underlying disorder that may be causing hypertension. The evaluation includes a review of your medical history and current symptoms (if any), a physical exam, and usually lab work.

- #### 3. Evaluate your blood pressure readings.
- An accurate assessment of the degree of your hypertension is based on a series of blood pressure readings over a period of time.

### What treatment measures are recommended?

These lifestyle changes are very important for managing high blood pressure.

- smoking cessation
- exercise
- weight reduction
- salt restriction
- moderation of alcohol use
- regular, sufficient sleep

Medications may be used in initial management, or may be started if lifestyle changes alone have not resulted in normalization of blood pressure.

Many anti-hypertensive medications are available. In order to choose the best medication for you, your health care provider must consider factors such as:

- severity of your hypertension
- other medications you may be taking
- medication allergies
- concurrent medical conditions
- budget
- age
- race

Many patients require more than one medication, with dose adjustments over time. Be sure your provider is aware of any medications that you take, including prescription and over-the-counter medications, as well as herbal and alternative treatments, so drug interactions can be avoided.

### How long will I need to take medication?

If medication is prescribed for you, you may well need to be on it for the rest of your life, though with lifestyle changes or correction of underlying medical problems, some people are able to discontinue their medication.

During follow-up visits, your health care provider will monitor the effectiveness and side effects of the medication(s).

### Additional Information

National Heart, Lung, and Blood Institute Information Center  
P.O. Box 30105  
Bethesda, MD 20824-0105

Reference

*Conn's Current Therapy, 2000*