High blood pressure

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. Blood pressure is lower than the lowest pressure in the artery (the “diastolic” pressure), and the unimpeded blood flow is audible.

What level of blood pressure 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.

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

2. Measure your blood pressure.

Blood pressure is measured by taking two numbers:

- Systolic pressure: The pressure in the arteries when the heart contracts.
- Diastolic pressure: The pressure in the arteries when the heart relaxes.

Blood pressure is always reported in millimeters of mercury using two numbers, the systolic pressure over the diastolic pressure.

3. Determine your blood pressure classification.

Your blood pressure classification will depend on your systolic and diastolic pressures.

- Normal blood pressure is less than 120/80.
- High blood pressure is 120/80 or higher.
- Stage I hypertension is between 120/80 and 140/90.
- Stage II hypertension is between 140/90 and 160/100.
- Stage III hypertension is 160/100 or higher.

4. Identify other factors that may contribute to your high blood pressure.

Factors that may contribute to your high blood pressure include:

- Age
- Gender
- Family history of high blood pressure
- Race
- Obesity
- Physical inactivity
- Smoking

5. Discuss your treatment options with your health care provider.

Your treatment options may include:

- Lifestyle changes, such as eating a healthy diet, getting regular exercise, and losing weight.
- Medications, such as diuretics, beta-blockers, and angiotensin-converting enzyme (ACE) inhibitors.
- Surgery or other procedures, such as coronary artery bypass grafting (CABG) or angioplasty.

6. Follow up with your health care provider.

It is important to follow up with your health care provider to monitor your blood pressure and adjust your treatment as needed.

Blood pressure classification

<table>
<thead>
<tr>
<th>Classification</th>
<th>Systolic</th>
<th>Diastolic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Normal</td>
<td>&lt; 120</td>
<td>&lt; 80</td>
</tr>
<tr>
<td>High-normal</td>
<td>120-139</td>
<td>80-89</td>
</tr>
<tr>
<td>Hypertension</td>
<td></td>
<td></td>
</tr>
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<td>Stage I</td>
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<tr>
<td>Stage II</td>
<td>≥ 160</td>
<td>≥ 100</td>
</tr>
<tr>
<td>Stage III</td>
<td>≥ 180</td>
<td>&gt; 110</td>
</tr>
</tbody>
</table>

Classification: normal, high-normal, hypertension, stage I, stage II, stage III.
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 medical disorder that may be causing your hypertension. This 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 usually 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

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Monday–Friday  8:30 am–5:00 pm
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