Low Blood Pressure

Introduction
Low blood pressure, or hypotension, is when your blood pressure reading is 90/60 or lower. Some people have low blood pressure all of the time. In other people, blood pressure drops below normal because of some event or medical condition.

Low blood pressure is a problem only if it causes dizziness, fainting or in extreme cases, shock. Thankfully, treatment is available.

This reference summary explains low blood pressure and how it can be prevented and controlled.

Blood Pressure
The cells of the body need oxygen and food to survive. Oxygen and nutrients are carried to all parts of the body through the blood. The heart pumps blood out of its chambers through blood vessels. The blood vessels that carry fresh blood from the heart to the body are called “arteries.” Blood pressure is the force of blood as it presses against the walls of the arteries, like the pressure of water in a garden hose.

Two numbers are used to describe blood pressure. The top number is called “systolic” blood pressure. It measures blood pressure when the heart pumps. A normal, healthy top number is less than 120. The second number is lower than the systolic pressure. It measures blood pressure when the heart rests. It is known as “diastolic” blood pressure. A normal, healthy bottom number is 80 or below.
For example, a patient may have a blood pressure of 125/70, typically pronounced “one twenty-five over seventy.” This means that the patient has a reading of 125 systolic and 70 diastolic blood pressure.

Blood pressure doesn't stay the same all the time. It lowers as you sleep and rises when you wake up. Blood pressure also rises when you're excited, nervous or active. Your body is very sensitive to changes in blood pressure. For example, if you stand up quickly, your blood pressure may drop for a short time. Your body adjusts your blood pressure to make sure enough blood and oxygen are flowing to your brain, kidneys and other vital organs.

**Low Blood Pressure**

Normal blood pressure in adults is lower than 120/80. Low blood pressure, or hypotension, is blood pressure that's lower than 90/60. Most forms of low blood pressure happen because your body can't bring blood pressure back to normal or can't do it fast enough. For the most part, low blood pressure is a medical concern only if it causes symptoms or is linked to a serious condition such as heart disease.

There are several types of low blood pressure. People who always have low blood pressure have chronic asymptomatic hypotension. They usually have no signs or symptoms and need no treatment. Low blood pressure is normal for them.

Other types of low blood pressure happen if blood pressure suddenly drops too low. The symptoms range from mild to severe. The three main types of low blood pressure are:

- Orthostatic hypotension.
- Neuromediating hypotension.
- Severe hypotension linked to shock.

Orthostatic hypotension happens when standing up from a sitting or lying down position. You may feel dizzy or light-headed, or you may even faint. It happens if your body isn't able to adjust blood pressure and blood flow fast enough for the change in position.
With orthostatic hypotension, the drop in blood pressure usually lasts only for a few seconds or minutes after you stand up. You may need to sit or lie down for a short time while your blood pressure returns to normal. It can be a symptom of another medical condition.

A form of orthostatic hypotension called postprandial hypotension is a sudden drop in blood pressure after a meal. This type of low blood pressure mostly affects older adults. People who have high blood pressure or a central nervous system disorder, such as Parkinson's disease, also are at increased risk. Parkinson's disease is a brain disorder that leads to shaking or tremors and difficulty with walking, movement and coordination.

With neurally mediated hypotension, or NMH, blood pressure drops after you've been standing for a long time. You may feel dizzy, faint or sick to the stomach as a result. NMH also can happen as the result of an unpleasant, upsetting or scary situation. NMH affects children and young adults more often than people in other age groups. Children often outgrow NMH.

Severe hypotension linked to shock is another kind of low blood pressure. Shock is a life threatening condition in which blood pressure drops so low that the brain, kidneys and other vital organs can't get enough blood to work well. Blood pressure drops much lower in shock than in other types of hypotension.

Many factors can cause shock. Examples include:

- Certain severe infections, burns and allergic reactions.
- Major blood loss.
- Poisoning.

Shock can be fatal if it's not treated right away.
Symptoms
The signs and symptoms of low blood pressure include:

- Blurry vision.
- Confusion.
- Dizziness or light-headedness.
- Fatigue.
- Nausea.
- Sleepiness.
- Weakness.

You may feel that you're going to faint or you may actually faint. If you have symptoms of hypotension, you should sit or lie down right away. Put your feet above the level of your heart. If your signs or symptoms don't go away quickly, you should seek medical care.

If you have low blood pressure caused by shock, you may lose consciousness. Shock often is fatal if not treated right away. Other signs and symptoms of shock vary depending on the cause. When low blood volume or poor pumping action in the heart causes shock, the:

- Person begins to breathe very quickly.
- Pulse becomes weak and rapid.
- Skin becomes cold, sweaty and blue or pale in color. If pressed, the color returns to normal more slowly than usual. A bluish network of lines appears under the skin.

When extreme relaxation of blood vessels causes shock, a person feels warm and flushed at first. Later, the skin becomes cold and sweaty, and the person feels very sleepy.

Shock is an emergency and must be treated right away. If a person has signs or symptoms of shock, call 9–1–1.

Even mild forms of low blood pressure can cause dizziness, fainting and a risk of injury from falls. Severely low blood pressure can prevent your body from getting enough oxygen to carry out its normal functions, causing damage to your heart and brain.
Causes

Conditions or factors that disrupt the body's ability to control blood pressure cause hypotension. The different types of low blood pressure have different causes.

Orthostatic hypotension has many causes. Causes may include:

- Dehydration, or the body's loss of more water than it takes in.
- Pregnancy, in which blood pressure often returns to normal after birth.
- Older age, since an older body doesn't manage changes in blood pressure as well as a younger body.

Certain medical conditions can also raise your risk of orthostatic hypotension, such as:

- Anemia.
- Central nervous system disorders, such as Parkinson's disease.
- Endocrine conditions, such as thyroid disorders, low blood sugar and diabetes.
- Heart conditions, such as heart attack, heart valve disease, a very low heart rate and heart failure.
- Severe infections.

Anemia is a medical condition in which there is a lack of red blood cells or of hemoglobin in the blood. Hemoglobin is a protein that helps move oxygen to different parts of the body. Anemia can make a person look very pale and feel very tired and weak.

Some medicines for high blood pressure and heart disease can raise your risk of orthostatic hypotension. Medicines for conditions such as anxiety, depression, erectile dysfunction and central nervous system disorders also can increase your risk of orthostatic hypotension. Other substances, when taken with high blood pressure medicines, also can lead to orthostatic hypotension. These substances include alcohol and some prescription and over-the-counter medicines.

Finally, other factors or conditions that can trigger orthostatic hypotension include being out in the heat or being immobile for a long time. "Immobile" means you can't move around very much.

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Neurally mediated hypotension, or NMH, happens when the brain and heart don't communicate with each other properly. In NMH, the body mistakenly tells the brain that blood pressure is high. In response, the brain slows the heart rate. This makes blood pressure drop, causing dizziness and other symptoms.

Many factors and conditions can cause severe hypotension linked to shock. Some of these include:
- A heart attack, pulmonary embolism or an irregular heartbeat. A pulmonary embolism is a blockage of a blood vessel in the lungs, usually due to a blood clot.
- A major decrease in the heart’s ability to pump blood.
- A severe loss of blood or fluids from the body.
- Certain severe infections.

A sudden and extreme relaxation of the arteries linked to a drop in blood pressure can also cause shock. It can happen due to:
- A reaction to certain medicines.
- A severe allergic reaction, called “anaphylactic shock.”
- A severe head injury.
- Liver failure.
- Poisoning.

**Diagnosing Low Blood Pressure**

Low blood pressure is diagnosed based on your medical history, a physical exam and test results. Your health care provider will want to know:
- The type of low blood pressure you have and how severe it is.
- Whether an underlying condition is causing the low blood pressure.

Shock is a life threatening condition that requires emergency treatment. For other types of low blood pressure, your health care provider may recommend tests to find out how your blood pressure responds in certain situations. The test results will help your health care provider understand the cause of your symptoms.
Blood tests may be done to look for causes of low blood pressure. Blood tests can show whether anemia or low blood sugar is causing your hypotension.

An EKG is a simple test that detects and records your heart's electrical activity. It shows how fast your heart is beating and whether its rhythm is steady or irregular. An EKG also shows the strength and timing of electrical signals as they pass through each part of your heart.

Holter and event monitors are small, portable devices that record your heart's electrical activity. These monitors are similar to an EKG. However, a standard EKG only records your heartbeat for a few seconds. Holter and event monitors can be worn while you do your daily activities, recording your heart for a longer period.

Echocardiography, or echo, is a test that uses sound waves to create a moving picture of your heart. The picture shows how well your heart is working and its size and shape. There are several types of echo, including stress echo. This test is done as part of a stress test. Stress echo usually is done to find out whether you have decreased blood flow to your heart, a sign of coronary heart disease.

Some heart problems are easier to diagnose when your heart is working hard and beating fast. During stress testing, you exercise or are given medicine if you're unable to exercise to make your heart work hard and beat fast while heart tests are done.

Valsalva maneuver is a simple test for the part of your nervous system that controls functions such as your heartbeat and the narrowing and widening of your blood vessels. If something goes wrong with this part of the nervous system, blood pressure problems may happen. During Valsalva maneuver, you take a deep breath and then force the air out through your lips. You will do this several times. Your heart rate and blood pressure will be checked during the test.

Health care providers use a tilt table test to diagnose orthostatic hypotension and neurally mediated hypotension, or NMH. People who have NMH usually faint during this test. The test can help your health care provider find any underlying brain or nerve condition.
For a tilt table test, you lie on a table that moves from a lying down to an upright position. Your health care provider checks your reaction to the change in position.

Controlling Low Blood Pressure
Treatment depends on the type of low blood pressure you have and the severity of your symptoms. The goal of treatment is to bring blood pressure back to normal to relieve symptoms. Another goal is to manage any underlying condition causing the low blood pressure. In a healthy person, low blood pressure without signs or symptoms usually isn't a problem and needs no treatment.

Many treatments are available for orthostatic hypotension. If you have this condition, your health care provider may advise making lifestyle changes, such as:

- Drinking little or no alcohol.
- Drinking plenty of fluids.
- Standing up slowly.

Other lifestyle changes are:

- Eating small, low-carbohydrate meals if you have postprandial hypotension.
- Not crossing your legs while sitting. Crossing your legs can interfere with blood flow.
- Slowly increasing the amount of time you sit up if you’ve been immobile for a long time because of a medical condition.

Talk with your health care provider about using compression stockings. These stockings apply pressure to your lower legs. The pressure helps move blood throughout your body.

If you have neurally mediated hypotension, or NMH, you may also need to make lifestyle changes. These may include:

- Avoiding situations that trigger symptoms, such as standing for long periods.
- Drinking plenty of fluids.
- Increasing your salt intake as your health care provider advises.
- Learning to recognize symptoms that happen before fainting and taking action to raise your blood pressure.
If medicine is causing your low blood pressure, your health care provider may change the medicine or adjust the dose you take. Several medicines are also available to treat orthostatic or neurally mediated hypotension.

People who have shock need prompt treatment from medical personnel. If a person has signs or symptoms of shock, call 9–1–1 right away. The goals of treating shock are to:

- Restore blood flow to the organs as quickly as possible to prevent organ damage.
- Find and reverse the cause of shock.

Blood or special fluids are put into the bloodstream to restore blood flow to the organs. Medicines can help raise blood pressure or make the heart beat stronger. Depending on the cause of the shock, other treatments, such as antibiotics or surgery, may be needed.

**Summary**

Low blood pressure, or hypotension, is when your blood pressure reading is 90/60 or lower. Some people have low blood pressure all the time. They have no symptoms and their low readings are normal for them. In other people, blood pressure drops below normal because of some event or medical condition.

Low blood pressure is a problem only if it causes dizziness or fainting. Some people may experience symptoms of low blood pressure when standing up too quickly. In extreme cases, low blood pressure may cause shock. Shock is a life threatening emergency. If a person has signs or symptoms of shock, call 9–1–1 right away.

Treatment for low blood pressure depends on the type and the severity of your symptoms. The goal of treatment is to bring blood pressure back to normal to relieve symptoms. Another goal is to manage any underlying condition causing the low blood pressure.

Health care providers can successfully treat low blood pressure. If you have low blood pressure, you can take steps to prevent or limit symptoms such as dizzy spells and fainting.