
Blood Pressure Explained

What It Is and Why It Matters

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Cite as: Blood Pressure Explained: What It Is and Why It Matters. Brisbane (AU): Exon Publications; 2025. Published on 03 Apr. DOI: <https://doi.org/10.36255/blood-pressure-explained>

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Abstract

Blood pressure is one of the most important indicators of your overall health. It tells us how hard your heart is working to pump blood through your body. This article is written for the general public and explains in simple terms what blood pressure is, how it is measured, what the numbers mean, and why it's essential to keep it in a healthy range. You will also learn about the causes of high and low blood pressure, common symptoms, diagnostic methods, treatment options, lifestyle changes, and tips for prevention.

Introduction

Most people have had their blood pressure measured at some point, whether at a doctor's office, pharmacy, or even

at home. Despite how routine this measurement is, many people do not fully understand what those numbers represent or why blood pressure is so crucial to health. High blood pressure can develop silently and cause damage to your organs without any obvious symptoms. Low blood pressure, while less common, can also pose significant health risks. In this article, we provide a complete, easy-to-understand guide to what blood pressure is, what affects it, how it is diagnosed and treated, and what steps you can take to keep it within a healthy range (1-5).



Blood pressure is the force of blood pushing against the walls of your arteries as your heart pumps it around your body. A normal blood pressure reading is generally considered to be around 120/80 millimeters of mercury, written as 120 over 80. Image Credit: jmsilva from Getty Images Signature via canva.com.

What Is Blood Pressure?

Blood pressure is the force of blood pushing against the walls of your arteries as your heart pumps it around your body. Each time your heart beats, it sends blood into your

arteries with a force that creates pressure. This pressure ensures that blood can reach all parts of the body, supplying oxygen and nutrients to the tissues and organs.

Systolic and diastolic pressure

When your heart contracts and pumps blood out, the pressure is at its highest. This is known as systolic pressure. When your heart relaxes between beats, the pressure falls. This is called diastolic pressure. Together, these two readings make up your blood pressure measurement.

How Blood Pressure Works in the Body

The circulatory system includes the heart, blood, and blood vessels. Blood pressure helps move oxygen-rich blood from the lungs to other parts of the body. Arteries are designed to be flexible so they can handle the pressure of the blood being pushed through them.

However, when the pressure is consistently too high, it causes the arteries to become stiff or narrow, which can lead to damage in various organs. On the other hand, when pressure is too low, the body's organs may not receive enough oxygen and nutrients to function properly.

Understanding Blood Pressure Readings

Blood pressure is measured using a device called a sphygmomanometer, commonly known as a blood pressure cuff. The result is expressed as two numbers. The first number (top number), called systolic pressure, measures the pressure in your arteries when your heart beats. The second number (bottom number), called diastolic pressure, measures the pressure in your arteries when your heart rests between beats. A normal blood

pressure reading is generally considered to be around 120/80 millimeters of mercury, written as 120 over 80.

Normal versus abnormal blood pressure

Normal versus abnormal blood pressure levels have been clearly defined by medical guidelines. A reading below 120/80 is considered normal.

If the top number is between 120 and 129, and the bottom number is below 80, this is called elevated blood pressure. If your reading falls between 130 and 139 for systolic or 80 and 89 for diastolic, you are considered to have Stage 1 hypertension.

Readings of 140 or higher for systolic or 90 or higher for diastolic fall into Stage 2 hypertension. A hypertensive crisis is when your blood pressure exceeds 180/120 and requires immediate medical attention.

Why Blood Pressure Matters to Your Health

Maintaining a healthy blood pressure is essential for your well-being.

High blood pressure

High blood pressure, also known as hypertension, is a major risk factor for heart disease, stroke, kidney failure, and other serious health issues. Over time, high pressure damages the arteries and reduces the flow of blood to critical organs. Because high blood pressure usually has no symptoms, many people do not realize they have it until serious damage has already occurred. For this reason, hypertension is often referred to as the "silent killer."

Low blood pressure

Low blood pressure, or hypotension, is less common but can still be dangerous. It can lead to fainting, dizziness, and even shock in severe cases. When blood pressure is too low, organs may not receive enough blood to function properly, which can result in complications, especially for older adults or those with chronic conditions.

Common Causes of Abnormal Blood Pressure

Blood pressure can be affected by a variety of factors. Some are within your control, while others are not. Age is a significant factor, as blood pressure tends to rise as you get older. Genetics also play a role, meaning if high blood pressure runs in your family, you may be at increased risk. Lifestyle factors such as lack of exercise, poor diet, obesity, smoking, and high alcohol consumption can all contribute to elevated blood pressure. Chronic stress and certain health conditions, such as diabetes and kidney disease, can also increase the risk. Low blood pressure may result from dehydration, blood loss, hormonal imbalances, or side effects of medication.

Recognizing the Symptoms of Blood Pressure Problems

Most people with high blood pressure do not experience any symptoms. This is why regular monitoring is so important. However, extremely high blood pressure may cause symptoms such as headaches, chest pain, vision problems, or shortness of breath. In rare cases, it can lead to a medical emergency. Low blood pressure is more likely to cause noticeable symptoms. These include dizziness, fainting, blurred vision, fatigue, and cold, clammy skin. If you notice

any of these signs, you should consult your healthcare provider.

How Blood Pressure Is Diagnosed

Diagnosing blood pressure issues is straightforward. Your healthcare provider will measure your blood pressure using a cuff around your upper arm. To get an accurate diagnosis, your provider may take several readings on different days or recommend home monitoring. In some cases, a 24-hour ambulatory blood pressure monitor is used to track blood pressure throughout your daily activities. This helps to confirm whether your blood pressure is consistently high or low.

Treatment Options for Blood Pressure Disorders

Treatment for abnormal blood pressure depends on whether the pressure is too high or too low, as well as the underlying cause.

Treatment for high blood pressure

For high blood pressure, doctors typically recommend lifestyle changes as the first line of treatment. This includes adopting a heart-healthy diet, reducing salt intake, losing weight, increasing physical activity, quitting smoking, and limiting alcohol. If lifestyle changes are not enough, medications may be prescribed. These include diuretics, beta-blockers, ACE inhibitors, calcium channel blockers, and other drugs that help lower blood pressure by different mechanisms.

Treatment of low blood pressure

For low blood pressure, treatment often focuses on addressing the root cause. If it is due to dehydration,

increasing fluid and salt intake may help. If medications are causing the problem, your doctor may adjust the dosage or switch to a different drug. In some cases, compression stockings, medications, or dietary changes may be recommended to help maintain adequate blood pressure.

Living With Blood Pressure Issues

Managing blood pressure is a lifelong commitment, but with the right approach, it is entirely possible to live a normal and healthy life. People with high blood pressure should monitor their condition regularly, take medications as prescribed, and attend follow-up appointments. Adopting a consistent exercise routine, reducing stress through relaxation techniques, and maintaining a healthy weight can all contribute to better blood pressure control. Those with low blood pressure should stay well-hydrated, avoid sudden position changes, and consult their doctor if symptoms persist.

Preventing Blood Pressure Problems

Prevention is always better than cure. By adopting healthy habits early, you can reduce your risk of developing high or low blood pressure. This includes eating a balanced diet rich in fruits, vegetables, and whole grains, limiting salt and processed foods, maintaining a healthy body weight, exercising regularly, getting enough sleep, and avoiding tobacco and excessive alcohol. Even if you have normal blood pressure now, regular checkups can help catch any changes early.

Frequently Asked Questions About Blood Pressure

Can high blood pressure be cured?

High blood pressure cannot usually be cured, but it can be controlled very effectively. With the right combination of lifestyle changes and medication, many people are able to manage their blood pressure and reduce their risk of serious health complications. It is important to remember that even if your blood pressure improves, you should continue to follow your treatment plan and see your doctor regularly.

Is low blood pressure dangerous?

Low blood pressure is not always dangerous, but it can become a concern if it causes symptoms like dizziness, fainting, or blurred vision. In some cases, it may be a sign of an underlying medical condition or the result of medication. If you experience ongoing symptoms, it is important to speak with a healthcare provider so they can determine the cause and recommend the right treatment.

Can I check my blood pressure at home?

Yes, you can check your blood pressure at home using an automatic blood pressure monitor. These devices are easy to use and available at most pharmacies. Regular monitoring at home can help you keep track of your numbers, especially if you are managing high blood pressure. It is helpful to keep a log of your readings and share them with your doctor during visits.

What is white coat hypertension?

White coat hypertension is when your blood pressure reading is higher at a doctor's office than it is at home. This usually happens because some people feel anxious during

medical visits, which can temporarily raise their blood pressure. In such cases, home monitoring can provide a more accurate picture of your usual blood pressure.

Does diet really make a difference?

Diet plays a big role in managing blood pressure. Eating more fruits, vegetables, whole grains, and foods rich in potassium can help lower blood pressure. Reducing salt, processed foods, and unhealthy fats is also important. A healthy diet combined with other habits like regular exercise and avoiding smoking can significantly improve your heart health.

How often should I get my blood pressure checked?

If your blood pressure is normal, checking it once every year or two may be enough. If you have elevated or high blood pressure, your doctor may recommend checking it more often, either at home or during office visits. Regular monitoring helps catch any changes early and allows your treatment plan to be adjusted if needed.

Conclusion

Blood pressure is a vital sign of your health, but it is often overlooked until problems arise. Understanding what your blood pressure numbers mean, how they affect your body, and what you can do to manage them is an important step toward better health. Whether you are dealing with high or low blood pressure, small changes in your lifestyle can make a big difference. Talk to your doctor, monitor your condition, and take control of your health today.

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