

What is blood pressure?

Blood is carried from the heart to all of the body's organs and tissues through vessels called arteries. Blood pressure is the pressure of the blood against the walls of these arteries as the heart pumps the blood around the body.

How do we measure blood pressure?

Blood pressure can be measured using a variety of techniques but the standard method is using an arm cuff and a stethoscope. Blood Pressure is recorded as two numbers eg 130/70. The first number represents the *systolic reading*. This is the pressure in the arteries as the heart squeezes out blood during a beat. The second number represents the *diastolic reading*, which is the pressure of the blood in the arteries when the heart relaxes before the next beat.

What is a normal blood pressure reading?

Since the distribution of blood pressure varies over the population and within individuals during any one day, there are no fixed rules about what blood pressure reading is 'normal', but the following figures can be a useful guide:

Normal blood pressure: less than 130/85

Borderline: between 130/85 and 140/90

High: more than 140/90

If you are over 65, blood pressure up to 150/90 can be considered normal.

If you have a confirmed blood pressure that is higher than this, you have high blood pressure, often called 'hypertension'.

A single high reading is not enough to make the diagnosis – you need to have persistently high readings taken at different times on different days.

Does blood pressure stay the same?

No, your blood pressure does not stay the same. For this reason a series of blood pressure readings will need to be taken in order to accurately assess your blood pressure.

Your blood pressure will change in order to meet the demands of your body. It is usually at its highest when we exercise, and lowest when we sleep. It can also rise due to anxiety, excitement, activity or nervousness.

What's so bad about high blood pressure?

If blood pressure is left uncontrolled and remains high, it can damage the vessels that supply oxygenated blood to your internal organs. The very small vessels are often the first to be affected. This can go on to cause kidney disease, heart attack, stroke and loss of vision if left untreated.

How will I know that my blood pressure is high?

Although some people with high blood pressure experience symptoms like headaches, dizziness or nosebleeds, high blood pressure does not usually give warning signs. Often high blood pressure is detected accidentally. The only way to know if your blood pressure is high is to have it checked regularly. You may have high blood pressure and feel perfectly well.



Is high blood pressure related to kidney disease?

Yes, high blood pressure is closely related to kidney disease in a couple of different ways.

High blood pressure can cause kidney damage and kidney damage can cause high blood pressure. It is often a bit like the "chicken and egg syndrome". It can sometimes be difficult to tell which came first.

The kidneys produce a hormone called renin; this helps to control blood pressure in the body. If the kidneys aren't functioning properly, renin release can be increased, raising the blood pressure.

If high blood pressure is left unchecked, it can cause blood vessels in the kidneys to become thickened and narrowed, possibly leading to reduced blood supply and reduced kidney function. Severe uncontrolled blood pressure may cause severe or total kidney failure.

High blood pressure can develop as a result of almost all kidney diseases. It can also be caused by renal artery stenosis – narrowing of the main artery to one or both kidneys. In addition, salt and fluid retention in a person with kidney failure can cause high blood pressure.

These effects can be prevented if the blood pressure is brought under control with treatment. Correcting a kidney problem may also eliminate high blood pressure in some cases.

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What are the other potential causes of high blood pressure?

The causes of high blood pressure can vary. In 90% of cases, no underlying pathological cause is identified. It may be due to narrowing of the arteries, greater volume of blood or the heart beating faster or more forcefully than it should. This form of high blood pressure is called 'primary' or 'essential' hypertension. Sometimes high blood pressure is due to a disease or illness. When this is the cause, it is referred to as 'secondary hypertension'. Treating the disease causing the high blood pressure can help to reduce it.

Some people are at greater risk of developing hypertension than others. These include older people, people with a family history of hypertension, and people who are overweight. Smoking, high cholesterol, high fat and salt intake, high alcohol intake, and too little exercise can contribute to high blood pressure or make its effects more serious.

High blood pressure can occasionally be caused by an abnormality in the endocrine gland, such as the adrenal gland. These cases are relatively rare and can be cured by treatment of the gland abnormality. Certain drugs, such as birth control pills, decongestants and diet pills can also raise blood pressure. Your doctor can provide advice on these issues.

If I have high blood pressure, what should I do?

If high blood pressure is detected, your doctor may suggest lifestyle changes such as:

- Losing excess weight
- Limiting your alcohol intake
- Reducing your fat and salt intake
- Exercising regularly
- Not smoking

If changes to your lifestyle do not reduce your blood pressure, or if your blood pressure is high, your doctor will prescribe medications. These medications will lower your blood pressure, and in most cases, will need to be taken for the rest of your life. It is important to take any blood pressure medications exactly as prescribed. It can be dangerous to stop or change unless your doctor tells you to. If you experience any side effects while taking blood pressure medication, report these to your doctor immediately.

How can people with high blood pressure help themselves?

- Understand your medication regimen
- Take your blood pressure medications as prescribed
- Do not stop taking your medications of your own accord – this can be dangerous
- Follow your doctor's recommendations with regard to possible lifestyle changes
- Ask your doctor if it is suitable for you to take your own blood pressure readings

You and your doctor will need to work together to keep your blood pressure under control. It is important to remember that blood pressure can be controlled and successfully treated. Early detection and long-term treatment are the keys to a longer healthier life by preventing kidney failure.

For more information please phone the
Kidney Health New Zealand Information Line
(free phone) 0800 543 639.

Blood Pressure and Kidney Disease



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