# About high blood pressure



## What is high blood pressure?

When your heart beats, blood is pumped into a network of blood vessels and transported to all parts of your body. Blood pressure (BP) is produced by the force created when blood pushes against the artery (a type of blood vessel) walls. When BP exceeds the safe range, a person is said to have high BP, which is also known as hypertension.

## The body's control of blood pressure

The body is able to increase or decrease blood pressure (BP) via specific mechanisms controlled by the heart and the kidneys.


Hence, whenever there is a temporary increase in BP (eg, when you are sprinting or feeling very angry), one of the body's mechanisms is triggered to counteract the change and keep your BP at normal levels. It is when your BP is too high for too long that there is a risk of serious health problems.

## Blood pressure reading and what they mean


A blood pressure (BP) reading consists of two sets of numbers separated by a slash, such as 114/78 mmHg (mmHg is read as millimetres of mercury). The first number is called the systolic BP, which refers to the pressure when the heart contracts. The second number is the diastolic BP, referring to the pressure when the heart is relaxed between beats. The following table lists the categories of BP in adults aged 18 years and older[4].

| Category | Systolic BP (mmHg) | | Diastolic BP (mmHg) |
|---|---|---|---|
| Optimal | <120 | and | <80 |
| Normal | <130 | and | <85 |
| High normal | 130–139 | and/or | 85–89 |
| Stage I hypertension | 140–159 | and/or | 90–99 |
| Stage II hypertension | 160–179 | and/or | 100–109 |
| Stage III hypertension | ≥180 | and/or | ≥110 |

## How common is high blood pressure?

High blood pressure (BP) is more common in low- and middle-income countries compared with high-income countries. Weaker health systems in low- and middle-income countries also result in higher number of individuals with undiagnosed, untreated and uncontrolled high BP.[1]

All over the world[1,2]:

- **1 billion** people have high BP
- **1 in 5** adults have high BP
- **9 million** deaths occur annually due to complications from high BP

In Malaysia[4]:

- **30.3%** of adults have high BP and **3 in 5** are unaware of it
- The prevalence increases with age, peaking at **75.4%** among those aged 70–74 years
- **33.5%** live in rural areas compared with **29.3%** in urban areas
- Men and women are equally affected

## Why are the cases increasing?

The prevalence of high blood pressure is increasing worldwide due to[1]:


Population growth


Ageing


Unhealthy diet


Alcohol abuse


Lack of physical activity


Excess weight


Persistent stress

## What types of high blood pressure are there?

High blood pressure (BP) without a known cause is known as **primary hypertension.** This condition affects 85% to 95% of individuals with high BP. While we do not know the exact reason for the raised BP, it is thought to be due to a combination of changes in the heart and blood vessels. This may involve an increased amount of blood being pumped, constricted blood vessels, excessive amounts of sodium in the body, or a lack of substances which expand the small arteries.

Individuals with a known cause of high BP are said to have **secondary hypertension.** They mainly arise from a kidney disorder, since the kidneys play an important role in BP control. Sometimes, secondary hypertension can also be caused by hormonal disorders and the use of certain drugs and oral contraceptives.

## Why is high blood pressure dangerous?

If your blood pressure (BP) is high, it means the heart has to work harder in order to pump blood. If this is left uncontrolled, it can result in a heart attack, an enlargement of the heart and eventually heart failure. It also presents risk of damage to blood vessels in major organs such as the brain and kidneys, leading to stroke and kidney failure, respectively.

The good news is that all these are preventable. High BP is the most significant preventable cause of heart disease and stroke worldwide. Early detection and treatment of high BP and other risk factors can prevent deaths from heart disease and stroke.

Now that you have the facts and figures at your fingertips, check out the next section on risk factors and symptoms of high BP.

## References

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