

# High blood pressure and stroke

High blood pressure is the biggest single risk factor for stroke. This guide explains what high blood pressure is, how it can cause stroke and what you can do to lower your blood pressure.

## What is high blood pressure?

Your heart pumps blood all around your body. Blood pressure is a measure of how strongly the blood presses against the walls of your arteries. If this pressure is too high, it puts a strain on your arteries and your heart. If it's not controlled, it can increase your risk of having a stroke or heart attack. A diagnosis of high blood pressure means that your blood pressure stays high over a long period. The medical term for this is hypertension.

Your blood pressure can go up and down over the course of a day, such as during exercise or sleep. These short-term changes are not likely to cause stroke. But when your blood

pressure stays high over a long period of time, this leads to damage to the blood vessels and can eventually cause a stroke.

High blood pressure is a common condition in Malawi. **Studies show that one in every three (up to 33%) adults in Malawi have high blood pressure.** Unfortunately, many people do not know that they have the condition until they experience a complication from untreated high blood pressure like stroke or heart attack. Given that usually high blood pressure has no symptoms, having it measured is the only way of knowing if your blood pressure is high.

## What is the link between high blood pressure and stroke?

### Strokes due to a clot in the blood supply to the brain (ischaemic stroke):

High blood pressure puts a strain on all the blood vessels throughout your body, including the ones leading to the brain. This strain can damage your blood vessels, causing them to become harder and narrower, a condition called atherosclerosis. This makes a clot more likely to occur, which could cause a stroke or transient ischaemic attack (TIA or mini stroke).

### Stroke due to bleeding in or around the brain (haemorrhagic stroke):

The extra strain that high blood pressure puts on your blood vessels may cause a weakened blood vessel to burst inside the brain, causing bleeding on and into surrounding tissues. This is called a haemorrhagic stroke.

## Who is at risk of high blood pressure?

You are more likely to have high blood pressure if you have one or more of these risk factors:

- Age: the risk of having high blood pressure rises as you get older.
- Family history of high blood pressure.

- Race: Black people have an increased risk of having high blood pressure.
- Eating too much salt.
- Being inactive.
- Being overweight.
- Drinking large amounts of alcohol.
- High blood pressure can sometimes be caused by health conditions:
  - Kidney diseases.
  - Diabetes.
  - Obstructive sleep apnoea (interrupted breathing during sleep).
- Pregnant women can develop pre-eclampsia, which causes high blood pressure.
- Immune disorders like Lupus
- Hormone problems like hypothyroidism, hyperthyroidism, adrenal glands disorders

Some medications can affect blood pressure including the combined oral contraceptive pill (pill), steroids and non-steroidal anti-inflammatory drugs (NSAIDs). Illegal drugs such as cocaine and amphetamines can also raise blood pressure.

## Stress and high blood pressure:

Feeling stressed can raise your blood pressure for a short time, but it isn't a direct cause of high blood pressure. However, if you're under stress you might eat unhealthy

food, drink too much or lose out on sleep. All these things can eventually lead to high blood pressure. So it's a good idea to reduce your stress levels as part of a healthy lifestyle.

### **How is blood pressure measured?**

Measuring your blood pressure is quick, simple and painless, and can be carried out at any hospital, clinic or some pharmacies. Blood pressure can be checked manually, using a stethoscope, arm cuff, pump and dial or automatically using a digital blood pressure machine.

### **Understanding your blood pressure reading**

Your blood pressure reading is recorded as two numbers: The first number is the greatest pressure your arteries experience when your heart beats (this is called systolic pressure). The second number is the lower pressure when your heart relaxes between beats (diastolic pressure). Both pressures are measured in millimetres of mercury, written as 'mmHg'. The ideal blood pressure is between 90/60 mmHg and 120/80 mmHg. Both numbers are equally important, and blood pressure is counted as being high if either number is high.

### **How is high blood pressure diagnosed?**

You are usually diagnosed with high blood pressure if it is consistently higher than 140/90 mmHg. If you have diabetes, you may be treated with medication if your blood pressure is consistently above 130/80 mmHg and you have any complications of diabetes such as eye or kidney problems. Before diagnosing high blood pressure, your doctor may take a few readings over a period of days or weeks to make sure that the high reading is consistent over time. Some people can have a higher reading if they are feeling anxious about seeing a medical professional. This is sometimes called 'white coat effect'.

### **How often should my blood pressure be checked?**

All adults should have their blood pressure checked regularly. If you have normal blood pressure, try to be checked at least once every year. Your blood pressure should be checked more frequently (every six months) if it is nearer 140/90 mmHg, as you have a higher risk of developing high blood pressure. If you've had a high or borderline reading in the past, your blood pressure should be measured at least once every six months. Women taking the contraceptive

pill, who are pregnant or taking hormone replacement therapy (HRT), also need to have their blood pressure checked more often. And if you are already taking medications to control your blood pressure, you will need to have it checked regularly as advised by your health care professional. If you can manage, it is advisable to buy an automatic BP machine so that you can measure yourself at home.

If you are using a machine at home, you will usually be advised to take your blood pressure twice a day; at the beginning and the end of the day to start with. If you are thinking of buying an automatic BP machine, discuss with your health care professional how it can help you achieve your target blood pressure.

### **How is high blood pressure treated?**

Many people can lower their blood pressure by making changes to their lifestyle. If you are overweight, losing some weight can make a big difference. Doing some more exercise, eating healthier food, and reducing alcohol can also cause a big improvement in blood pressure levels.

You may be advised to take medication, especially if you have some additional risk factors. To help you make a decision about medication, your doctor will assess

your personal risk of developing stroke or heart disease in future. They look at whether your high blood pressure has caused problems in the body already. You may have a blood test, a urine test, and an electrocardiogram (ECG) to check for heart problems.

If your blood pressure is consistently above 140/90 mmHg (or 135/85 mmHg at home) but your overall risk of a stroke is low, you'll be advised to make some changes to your lifestyle such as losing weight or stopping smoking.

If your blood pressure is consistently above 140/90 mmHg (or 135/85 mmHg at home) and your risk of stroke is high, you'll be offered medication to lower your blood pressure and advice about making lifestyle changes.

If your blood pressure is consistently above 160/100 mmHg, you'll be offered medication to lower your blood pressure, even if your risk of a stroke is low, as well as advice on making lifestyle changes.

### **Medications for high blood pressure**

Once you have been diagnosed with high blood pressure, and lifestyle changes have failed to lower the blood pressure, your doctor may decide to start you on high blood pressure medicines.

There are different types of high blood pressure drugs that work in different ways in the body. Your doctor will prescribe you medications that are tailored to your individual needs. You might be given one type of medication or a combination of two or more types. This is because the drugs work in different ways, and rather than take more of one type, it can be more effective to take two or more different types.

Like any other drug, blood pressure medications may cause side effects in small number of cases. Blood pressure medications may react negatively with other health conditions or other types of medications that you may be taking, including over-the-counter ones. When this occurs, you should immediately contact your doctor who will help you accordingly. It is important to know that many people experience no side effects when taking their medication.

### **How long should I take high blood pressure medications?**

The aim of the medication is to keep your blood pressure low and stable over many years. This helps to keep your blood vessels healthy and reduce the risk of a stroke. Some people may be advised to continue taking medication for high blood

pressure for the rest of their lives. Talk to your health care professional to find out more about what is causing your high blood pressure, and the best treatment options for you. Do not stop taking your medicines without being told to do so by your health care professional.

### **High blood pressure in Pregnancy**

If you have high blood pressure during pregnancy, your blood pressure will be monitored during pregnancy, labour and after the birth. If it's very high, you may need to stay in hospital until it improves.

If you are on blood pressure medication before becoming pregnant, you might need to change to a different type as some types are not safe to use in pregnancy. You should speak to your doctor to discuss the best way to manage your blood pressure during pregnancy.

After delivery, it is important to keep monitoring your blood pressure and be seen by doctors. In some people, their blood pressure may remain high even after delivery and they may need continuation of blood pressure medication.

## What can I do to help myself?

To give yourself the best possible chance of lowering your blood pressure, take your medication as advised by your health care professional. You should have your blood pressure checked, and your medication reviewed as frequently as possible by your doctor. Your doctor may want to check this more regularly soon after initiating or changing any treatments.

These tips for healthy lifestyle choices can also help to lower your blood pressure:

- Reduce your salt intake. Don't add salt to your food and avoid processed foods that contain a lot of salt.
- Eat at least five portions of fruit and vegetables each day.
- Lose weight if you need to.
- Reduce your caffeine intake.
- Give up smoking.
- Reduce your alcohol intake and avoid binge drinking (taking too much alcohol at once)
- Be more active.
- Reduce your stress levels and take time to relax.
- Try to get at least six hours sleep a night.

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## Where to get information:

Stroke Support Organisation (Malawi)

Contact us on 0888267713

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