

## Renal Services

# Blood pressure

### What is it?

Blood pressure is the measurement of the pressure exerted by the blood on the vessel walls. Put in simple terms, it is the pressure which drives the blood around the body.

The higher the blood pressure (BP) the greater the risk of complications such as strokes, heart failure and kidney problems. Studies over the last thirty years have shown that lowering the BP lowers the risk.

### Hypertension

This is the medical term for persistently high blood pressure. Blood pressure can be affected by many factors including:

- genetics
- environmental factors
- obesity
- excessive alcohol intake
- kidney disorders

This can have an effect on other areas of the body:

### The heart

Continued hypertension will cause the heart to fail as a result of having to pump harder over many years.



## Patient Information

### **The Central Nervous System**

It may cause damage to the eyes or cause a stroke.

### **The kidneys**

The kidneys are supplied with blood through a network of small blood vessels. Continual hypertension causes them to thicken. This causes a narrowing of the vessel which will reduce the flow of blood to the kidney. As a result, the kidney becomes gradually more and more damaged.

- Renal disease can be both the cause and effect of hypertension.
- Recent research recommends the BP should not exceed 140/90 mmHg. (NICE Aug 2019)

### **How can I help myself?**

Some people can reduce high blood pressure by changing to a healthier lifestyle:

- Healthy eating - increase fruit and vegetables and low fat dairy products. Cut down on salt.
- Lose excess weight and maintain a healthy body weight.
- Regular exercise (discuss with your doctor first).
- Quit smoking.
- Limit alcohol intake.

If your readings remain consistently above 140/90 mmHg your doctor may ask you to begin medication.

There is a large range of medications available and studies have shown that for people to reach their optimal blood pressure a combination of two or more may be necessary.

### **Medicines**

A five stage strategy to reduce blood pressure is recommended. Below are some common examples on how they work. Many others are available and further information can be obtained from your doctors.

## Patient Information

- Diuretics (water tablets). These work by increasing the amount of salt the kidneys lose. This reduces blood volume, which results in a decrease in blood pressure.
- Beta blockers work in two ways. They reduce heart rate and the force of contraction of the heart. ACE inhibitors (angiotensin-converting enzyme) also work by reducing the amount of angiotensin-II, a hormone which is produced by the kidney to keep blood pressure up.
- Angiotensin-2 Receptor Blockers (ARB'S). These work by blocking the effect of angiotensin II on blood vessels .
- Calcium Channel Blockers. Work by relaxing the muscles in the walls of the blood vessels so allowing them to open up and lower the pressure.

Remember these are only examples and many more are available, but your doctor will be able to advise you if you have questions.

Hypertension can be known as the silent killer because you can have it for years without knowing. The only way to tell is to have your BP checked. Ask your GP to arrange this for you. Early detection reduces the chance of later problems.

### **Remember the following key points:**

- Hypertension can be successfully treated.
- Modern medicines are very effective.
- They are more effective if you try to lead a healthier lifestyle.

For more information and frequently asked questions go online at [www.bpassoc.org.uk](http://www.bpassoc.org.uk)

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