



## Living with Low Blood Pressure

Understand the medical jargon and tips on how to cope with low Blood Pressure (BP)

### What is low blood pressure?

Blood pressure (BP) is measured in millimetres of mercury (mm Hg). E.g 120/70 mm Hg

Blood pressure recordings consist of 2 numbers:

**Systolic** - The top number is the systolic blood pressure and relates to the peak pressure achieved when blood is pumped around the body.

**Diastolic** - The bottom number is the diastolic recording and is the lowest pressure achieved in the arterial circulation.

Blood pressure measurements vary throughout the day and night which is why doctors may prefer to look at recordings over 24 hours rather than a single reading.

Low blood pressure is also known as hypotension. This is usually defined in an adult as a systolic recording of less than 90 mmHg, although it has been suggested that under 110 mmHg is a more appropriate definition in elderly people.

Blood pressure and heart rate are controlled by the autonomic nervous system (the nervous system that controls bodily functions that we do not have to think about).

### What are the symptoms of low blood pressure?

It is important to recognise that low blood pressure can cause no symptoms at all and is a common normal finding in young people and athletes.

However, in some people, low blood pressure causes symptoms which can significantly interfere with their quality of life. These can include syncope (fainting), pre-syncope (near fainting, usually associated with feeling light-headed), sweating, tiredness, slow thinking (brain fog), nausea, visual blurring, hearing disturbances, headache, palpitations, neck pain, breathlessness and chest pain.

A drop in systolic BP to 60 mmHg or below is usually associated with loss of consciousness, although pressure may not need to fall this far, especially in older persons.



## What causes low blood pressure?

There are many factors which can contribute to low blood pressure. In some people, they only have one factor e.g. dehydration. In others, there is a combination which add together to cause problems. For example, prolonged standing, heat, alcohol and hyperventilation (over-breathing) may also contribute.

It occurs more often in older people who are taking a lot of medication. However, it can cause symptoms in younger people. There may be underlying medical conditions such as Joint Hypermobility Syndrome, Diabetes, Parkinson's disease, Addison's disease or Autonomic Failure. Dehydration, hunger\*, low body weight and deconditioning (being chronically out of shape/unfit) can reduce blood pressure.

## Different types of low blood pressure

**Orthostatic hypotension** (sometimes called **postural hypotension**) is a sustained (prolonged) fall in systolic BP of at least 20 mm Hg or diastolic BP of 10 mm Hg within 3 min of standing up (or with head-up tilt to at least 60° on a tilt table).

'**Orthostatic**' means caused by upright posture; people with low blood pressure mostly have problems when they are standing, and occasionally with prolonged sitting\*. This is the result of the brain being above the level of the heart.

**Head rush** is also known as **initial orthostatic or postural hypotension** and occurs within the first 15 seconds of standing up suddenly. The autonomic

nervous system usually corrects this fall in BP very quickly and symptoms are usually very short-lived. 'Head rush' can occur in young, healthy people.

## Neurally mediated hypotension

There are many different names and definitions for this type of low blood pressure and it can be very confusing.

When blood pressure drops as a result of a change in the activity of the autonomic nervous system then this is called **neurally mediated hypotension**.

Neurally mediated syncope (also known as **neurocardiogenic syncope or vaso-vagal syncope**) occurs when this drop in blood pressure results in fainting. This may also be referred to as '**the common faint**' or '**simple faint**'.

When there is also a drop or pause in heart rate, the term '**cardio-inhibitory vaso-vagal syncope**' is used. When it occurs suddenly, it can be called **reflex syncope**.

Neurally mediated syncope is a symptom which has many different causes. The term situational syncope is used when there is a specific trigger (or situation) that provokes the faint such as coughing, swallowing and passing urine or faeces. Fear or pain may also be triggers.

**Vasodepressor syncope** and **presyncope**  
**Vasodepressor** means a drop in blood pressure when blood vessels are unable to narrow (constrict) sufficiently to maintain blood pressure. Blood pressure tends to drift down more slowly as blood pools (collects) in the veins of the limbs and abdomen. The heart rate may increase slightly to compensate.



## 'Shock'

People can suddenly develop hypotension when severely unwell e.g. due to loss of circulating blood volume (haemorrhage), loss of fluid (burns, dehydration) or when the heart doesn't pump efficiently (heart failure). This situation is sometimes called 'shock'.

## Post-prandial hypotension

If blood pressure falls as a consequence of eating food, this is called **post-prandial hypotension**. 'Prandial' means related to a meal. This problem is thought to be caused by dilation of blood vessels in the abdominal cavity and increased blood flow to the bowel, which reduces overall blood pressure.

## How is low blood pressure treated?

If you feel faint - act immediately! Try to sit or squat down, or better still, lie down and elevate your legs in the air. If you are unable to do this, cross your thighs, clench your buttocks and tummy\* muscles and make tight fists. Taking a short walk or rocking up and down on your toes may help. These counter-maneuvres squeeze blood back up towards the heart and head\*. Drink 2 glasses of water as soon as possible.

## How to prevent problems with low blood pressure

- ♥ First, the cause of low BP should be identified and removed or treated, if possible. Medication is a common cause and culprits include antihypertensives (for treatment of high BP), diuretics (water tablets), anti-Parkinson's drugs and tricyclic antidepressants.

- ♥ High fluid intake is usually recommended i.e. 2-3 litres per day (except in conditions such as heart failure and severe kidney disease). Drink 2 glasses of water before undertaking activities that may worsen symptoms e.g. shopping
- ♥ There is some evidence that a high salt intake can help, but only on the advice of your doctor as this can be dangerous in some medical conditions such as heart and kidney disease. 6g of salt is equivalent to one teaspoon or 10 Slow Sodium tablets)
- ♥ Post-prandial hypotension can be lessened by eating small meals often. Refined carbohydrates (found in foods made with white flour, sugary foods, white pasta etc) should be avoided or eaten later in the day when patients can lie down afterwards\*.
- ♥ It is important to keep as physically fit as possible. Exercise in the horizontal or seated position may be better tolerated eg swimming, recumbent exercise bike, Pilates.
- ♥ Avoid triggers like prolonged standing, heat and alcohol.
- ♥ Some people find support tights (class 3, waist high) and abdominal binders to be helpful.
- ♥ Elevate the head end of the bed with wooden blocks or bricks (10cm).
- ♥ Take care first thing in the morning as people often find this is when symptoms are worse.
- ♥ Get out of bed slowly (especially when getting out of bed at night to go to the toilet). Drink 2 glasses of water 30 minutes before rising.
- ♥ Keep your weight within the normal range – BMI 19-25. People who are very underweight are more prone to low BP.
- ♥ Observe your posture - elevating legs; sitting cross legged and fidgeting can help symptom. Get up slowly from a lying, squatting or sitting



position.\*

- ♥ Tilt training involves spending increasingly longer periods standing or on a tilt table. Patients have to be very motivated to persist with this treatment.
- ♥ If all else fails, medication may be used to elevate BP. Examples include fludrocortisone, desmopressin, midodrine, pyridostigmine and octreotide.

## POTS and low blood pressure

The symptoms of PoTS and orthostatic hypotension can be very similar. In fact a number of people experience both problems at the same time. During a stand test or a tilt table test, people with PoTS have an increase in heart rate of 30 beats per minute or more within 10 minutes of becoming upright (or to more than 120 bpm). Although the definition says that there is no BP drop in PoTS, some people with PoTS also drop their BP and, occasionally, heart rate. This is because the abnormalities in the autonomic nervous system that cause PoTS can also cause a drop in BP. This combination of findings is common in joint hypermobility syndrome and chronic fatigue syndrome.

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\*Currently no available medical evidence but generally accepted by experts.

Details regarding the sources of evidence used in the production of this leaflet are available on the PoTS UK website.  
[http://www.potsuk.org/sources\\_of\\_evidence](http://www.potsuk.org/sources_of_evidence)

