

Living with low blood pressure



Understand the medical jargon and tips on how to cope with low 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 in your arteries when blood is pumped around the body (when your heart beats).

Diastolic

The bottom number is the **diastolic** recording and is the pressure the arterial circulation when the heart is resting (between beats).

Blood pressure measurements and symptoms 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 older 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).

There is a lot of overlap between low blood pressure, vasovagal syncope and PoTS (see last paragraph for further detail), and these conditions can exist in one person.

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.

- ♥ Light-headedness
- ♥ Dizziness (spinning sensation or feeling off balance)
- ♥ Transient loss of consciousness
- ♥ Falls
- ♥ Blurry vision
- ♥ Visual field deficits
- ♥ Difficulty concentrating
- ♥ Cognitive slowing (brain fog)
- ♥ Weakness
- ♥ Fatigue
- ♥ Shortness of breath
- ♥ Chest pain
- ♥ Backache
- ♥ Lower extremity pain
- ♥ "Coat hanger" pain (pain in the posterior neck and shoulders when upright)

A drop in systolic BP of 50- 60 mmHg or more is usually associated with loss of consciousness.

Pre-syncope is when patients experience the above symptoms which may or may not lead on to syncope.

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

There are many different names and definitions for different types of low blood pressure and this can seem very confusing.

Orthostatic hypotension (also called postural hypotension)

This is a fall in systolic BP of at least 20 mm Hg or diastolic BP of 10 mm Hg usually within 3 min of standing up.

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

Head rush (also known as initial orthostatic or postural hypotension)

This 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

This is when blood pressure drops because of a change in the activity of the autonomic nervous system.

Situational syncope

This term is used when a specific trigger (or situation) provokes vasovagal syncope such as coughing, swallowing, laughing and passing urine or faeces. Fear, pain or blood tests may also be triggers.

Vasovagal syncope (also known as neurally mediated syncope, neurocardiogenic syncope, or reflex syncope)

This occurs when this drop in blood pressure and/or heart rate results in fainting. This may also be referred to as 'the common faint' or 'simple faint'. Your doctor may classify this further into cardioinhibitory or vasodepressor vasovagal syncope:

Cardio-inhibitory vaso-vagal syncope: When there is also a drop or pause in heart rate, this term is used.

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 and the pulse pressure (difference between systolic and diastolic blood pressure) can become smaller. The heart rate may increase to compensate.

'Shock'

People can suddenly develop hypotension when severely unwell eg 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 called 'shock' when the low blood pressure results in inadequate blood supply to the body organs.

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 to manage fainting associated with low BP

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-manoevres squeeze blood back up towards the heart and head*.

How to prevent problems with low blood pressure

♥ **Try to identify the cause of low BP** and remove or treat, where 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). Try to boost fluid intake before rising as people are often a little dehydrated on waking. Drink 2 glasses of water before undertaking activities that may worsen symptoms eg shopping or if you develop symptoms of low blood pressure.

♥ **High salt intake** can help if you have low or low-normal blood pressure, but only on the advice of your doctor as this can be dangerous in some medical conditions such as heart and kidney disease.

♥ **Eating smaller meals more often** can help post-prandial hypotension. 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*.

♥ **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, warm environments and alcohol.

♥ **Support tights** (class 2, waist high) and abdominal binders can be helpful.

♥ **Elevate the head end of the bed** with wooden blocks or bricks (10 degrees).

♥ **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.

♥ **Aim to 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 symptoms. Get up slowly from a lying 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.

♥ **Medication** may be used to elevate BP if the above measures fail. Examples include fludrocortisone and midodrine. There may be benefit from other emerging drugs such as droxidopa and pyridostigmine, but there is not enough evidence to incorporate these into routine guidelines yet.

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

This information is general information about PoTS and is not an alternative to medical advice from your doctor or other healthcare professional. You must always consult your doctor or healthcare professional.

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