

Dizziness - orthostatic hypotension

When we stand up from sitting or lying down, our blood vessels respond to gravity by narrowing to prevent our blood pressure falling. This ensures a steady supply of oxygenated blood to the brain.

Orthostatic hypotension is a form of low blood pressure. It happens when the blood vessels do not constrict (tighten) as you stand up. It is usually a symptom of an underlying disorder rather than a disease in itself. The condition is also known as postural hypotension.

Everyone is likely to experience a mild form of postural hypotension at some time. It's the lightheaded feeling you may get if you leap out of bed very quickly.

Symptoms of orthostatic hypotension

The drop in blood pressure reduces the flow of oxygenated blood to the brain. Symptoms may include:

- Blurry vision
- Dizziness
- Light-headedness
- Mental confusion
- Nausea
- Muscle tremors
- Fainting.

Blood pooling explained

Gravity dramatically affects blood flow whenever you stand up from sitting or lying down – on average, about 800ml of blood temporarily pools in the blood vessels of the legs. Sensors called baroreceptors located in the three major arteries – the aorta and the two carotid arteries – detect this drop in blood pressure.

In a healthy person, the cardiovascular system and the autonomic nervous system quickly respond by increasing the heart rate and directing blood vessels in the legs and abdomen to constrict (tighten). These measures maintain adequate blood pressure to the brain.

This compensatory mechanism to increase blood pressure does not occur, or may be delayed, in a person with orthostatic hypotension. Their blood pressure remains low, which triggers symptoms. Blood pressure typically returns to normal once the person sits or lies down again, but this depends on the severity of the underlying cause.

Causes of orthostatic hypotension

Orthostatic hypotension usually results from an underlying disorder. It is not a disease in itself. Some of the many causes of orthostatic hypotension include:

- Fever
- Prolonged bed rest
- Excessive amounts of alcohol
- Some medications, such as some diuretics or antihypertensive (high blood pressure) medications
- Dehydration due to vomiting, diarrhoea or both, as in gastroenteritis
- Certain conditions, such as anaemia, diabetes, varicose veins or adrenal insufficiency
- Nervous system disease, such as Parkinson's disease or neuropathy

- Heart problems, including irregular heart beat (heart arrhythmia), congestive heart failure, aortic stenosis or heart attack
- Spinal cord conditions such as syringomyelia
- Shy Drager syndrome, a degenerative disorder of the brain and spinal cord that affects functioning of the autonomic nervous system
- Significant blood loss.

Other causes of dizziness

Remember there are other causes of dizziness, light-headedness and nausea, apart from postural hypotension. One example is ear disease. It is always important to seek medical advice for any unexplained symptoms.

Old age is an important risk factor

The incidence of orthostatic hypotension increases with age. One US study found that every elderly participant had some degree of orthostatic hypotension. Factors that seem to increase the risk in elderly people include:

- **Digestion** – when you eat and then digest food, an increased blood supply is sent to your intestines. Orthostatic hypotension is more likely to occur about 15 to 45 minutes after eating a meal (this is known as post-prandial hypotension).
- **Standing** – if you stand up for a long time, it causes a slow but steady drop in blood pressure.
- **Frailty and chronic sickness** – these are more common in old age.

Diagnosis of orthostatic hypotension

Tests used to diagnose orthostatic hypotension include:

- Medical history, including medical conditions and drugs taken on a regular basis
- Physical examination
- Measuring blood pressure when lying down versus standing up
- Blood tests to check, for example, blood sugars or adrenal hormones
- Echocardiography, an imaging scan of the heart, to check for certain heart conditions
- Other tests, depending on individual factors.

Treatment of orthostatic hypotension

Treatment depends on the cause. Options may include:

- Fluids to treat dehydration
- Management of diabetes, such as regular insulin injections
- Changes in medication or altered doses if drugs are the cause (sometimes, however, stopping or altering the dose of a particular medication may cause more harm than good and must be carefully considered in consultation with your doctor)
- Medication, surgery or both to treat heart conditions
- Medication to increase blood volume or pressure, including corticosteroids
- Medications to treat orthostatic hypotension including pyridostigmine, a drug used in the treatment of myasthenia gravis
- A range of treatments, since orthostatic hypotension may have two or more causes
- In some cases, a lower body pressure suit is required.

Self-help suggestions

Be guided by your doctor, but general suggestions that may help you to manage orthostatic hypotension include:

- Prop your head up with pillows when you're in bed to reduce the likelihood of orthostatic hypotension when you get up.
- Get up slowly from a sitting or lying position to allow your blood vessels time to adjust.

- Wear support stockings to reduce the pooling of blood in the legs, which helps to boost blood pressure throughout the body.
- Eat small, frequent meals instead of three large meals per day.
- Drink plenty of fluids throughout the day to prevent dehydration.
- Limit alcohol consumption. Alcohol can cause dehydration and dilation of blood vessels.
- Consider drinking small but regular doses of caffeine, which boost blood pressure. A cup of coffee or tea with each meal tends to reduce the severity of orthostatic hypotension. Remember, however, that caffeinated drinks can cause dehydration, so moderation is the key.
- Try other drinks that contain caffeine, like hot chocolate or cola, if you don't like coffee or tea.
- Avoid vigorous exercise, hot baths, saunas and any hot environment because heat causes blood vessels to widen (dilate).
- Avoid standing without moving for long periods of time.
- Avoid ascending quickly to high altitudes.
- See your doctor for regular blood pressure check-ups.

Where to get help

- Your doctor
- NURSE-ON-CALL Tel. 1300 60 60 24 – for expert health information and advice 24 hours, 7 days a week.

Things to remember

- Orthostatic hypotension is a form of low blood pressure caused by blood vessels failing to constrict when the body takes an upright position.
- It is usually a symptom of an underlying disorder rather than a disease in itself.
- The incidence of orthostatic hypotension increases with age.

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Heart Research Centre

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