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Orthostatic Hypotension

What is it?

Orthostatic hypotension is also known as postural hypotension and commonly known as a “head rush”. It is a situation that is quite common in both pediatrics and adults. It occurs when a person stands up from a sitting-down or lying-down position and the effect of gravity on the body causes about a half of a liter of blood to shift from the upper to the lower part of the body. If the blood pressure drops enough, the person will feel lightheaded and have other symptoms. The word “orthostatic” refers to a change in body position and the word “hypotension” means low blood pressure or a drop in blood pressure.

Orthostatic hypotension in adults can sometimes be the result of serious heart disease, neurological disease, heart disease, or diabetes; but in pediatrics it is a very common situation and usually there is no disease or problem causing it. The orthostatic hypotension that occurs in adults will not be discussed further here.

When a person has been sitting down for a long time or has been lying down, the blood pressure and heart rate are somewhat low because they are in a resting state. There may be some blood pooling in the legs because the muscles of the legs have been still (when the leg muscles contract, it gets some of the blood that has pooled in the legs back into circulation).

Symptoms

When the person stands up they may feel lightheaded, dizzy, or what is called a “head rush”. They may feel unsteady and some people can fall. Their vision may change and become blurred or there may be spots, color loss, tunnel vision, or the vision can go completely black. Some people experience muffled hearing or ringing in their ears. Many people feel confused and some call this a “brain fog”. Some people will feel their heart beating harder and faster, and in some cases the orthostatic hypotension can lead to complete loss of consciousness, which is called fainting or in medical terms it is called “syncope”.

Who gets orthostatic hypotension?

Nearly everybody! Most teenagers will experience orthostatic hypotension but it can occur with varying frequency: Some people may have it a few times a year while other people may have it up to several times a day.

What are the causes?

People who are especially vulnerable to orthostatic hypotension tend to be very thin but we also will see it in people who are overweight who have experienced significant weight loss. It is aggravated by skipping meals and not drinking enough fluids. We also see it more in people who are very sedentary (also known as couch potatoes!). People who have had a surgery or an injury such as a broken leg and who are in bed for long time or not getting up very much also can have a big increase in the symptoms.

Treatment of Orthostatic Hypotension

The treatment is divided into three (3) categories which include lifestyle changes, preventative and immediate actions when experiencing orthostatic hypotension symptoms.

Lifestyle changes

Being more active and doing regular physical exercise helps. Weight gain in underweight individuals is important. A dramatic increase in fluid intake and eating three healthy meals a day is important. Some people also benefit from increasing salt intake.

Prevention

Since there is a lot of blood pooling in the legs with prolonged sitting or lying down it is very helpful to perform isometric contractions of the lower extremities before standing up. What this means is flexing your muscles first starting with your calves and shins then quads and hamstrings and then doing a core abdominal contraction. This increases blood flow and raises both the heart rate and blood pressure making it much less likely that orthostatic hypotension will occur.

Immediate actions when feeling symptoms

Many people just ignore their orthostatic hypotension symptoms because they do tend to go away within a few seconds. The problem with ignoring the symptoms is that there is a small risk of falling or even fainting and getting hurt, especially going up stairs or falling where there are a lot of hard surfaces that could cause injury (for example, many teens will get up from the couch and go to the kitchen or bathroom). The best action to take when feeling lightheaded is to bend over or sit down, making sure to get your head very low - lower than the heart so that there is blood being sent to the brain. You must do this for a few seconds while the body is fixing the problem by increasing the heart rate and tightening down the blood vessels which is called vasoconstriction (this raises the blood pressure). If you feel very dizzy and cannot see it would be even better to lie down and put your legs up until you feel better.

What are possible serious causes of orthostatic hypotension in pediatrics?

Most people with orthostatic hypotension have no disease but some people who do not respond to the above-mentioned treatments or have more symptoms may have underlying conditions that need to be treated in order for the orthostatic hypotension to get better. One of these conditions is an eating disorder; people who are underweight or have eating disorders can have severe orthostatic hypotension symptoms and sometimes have difficulty regulating their body temperature. These people need to be seen by a specialist in eating disorders. Some individuals may have POTS which stands for Postural Orthostatic Tachycardia Syndrome. POTS is much more than just orthostatic hypotension. It is a disease of a part of the brain, the autonomic control system which controls multiple organ functions. These people can have severe fatigue, gastrointestinal issues with nausea, and the feeling of dizziness or lightheadedness can be so prolonged that they are unable to go to school or perform regular activities. These people need further assessment by person who specializes in POTS. A few people can have rare neurological conditions that will cause orthostatic hypotension, some of them are hereditary. Very few people with ONLY orthostatic hypotension symptoms have any disease.

Bottom line

1. Eat your meals and drink lots of fluids
2. Flex your leg muscles before getting up
3. If you get dizzy, bend over or lie down