

Vasovagal syncope

Vasovagal syncope is the most common cause of fainting. It is also known by other names, such as:

Neurocardiogenic syncope
The “common faint”
Vasodepressor response
Reflex syncope

What causes it?

Vasovagal syncope is caused by overstimulation of the vagal nerve, which leads to a lowering of blood pressure or heart rate, or both. Symptoms are caused mainly by the resulting lack of blood flow to the brain. Many different situations can trigger an event (see below). After a person faints, gravity causes blood flow to return to the brain, and the person then regains consciousness. Although vasovagal syncope affects heart rate and blood pressure, it is not primarily a heart problem, but rather a problem of abnormal regulation of the nervous system.

Some triggers for vasovagal syncope:

- Illness
- Dehydration
- Hunger or low blood sugar
- Prolonged standing/sitting, especially in
- crowded or confined spaces (“church syncope”)
- Change in position to standing
- Taking a hot shower
- Pain
- Emotional stress
- Unpleasant stimuli such as smells
- Medical environment or medical procedures
- Heat
- Hair grooming, such as cutting, braiding, curling, or brushing hair
- Swallowing, especially cold liquids
- Exercise (usually after, but can also be during)
- Urinating or defecating
- Stretching

Symptoms

Most, but not all, people with vasovagal syncope experience a short period (seconds to minutes) of symptoms before they faint. These “prodromal” symptoms are important to recognize, because the person can then use physical maneuvers to help keep them from fainting (see “treatment” below).

Some of the typical prodromal symptoms include:

- Lightheadedness or dizziness
- Nausea
- Visual changes (blurry or tunnel vision, black/colored spots)
- Sweatiness or clamminess
- Feeling hot or cold
- Buzzing in ears or sounds seem distant
- Tingling
- Weakness
- Yawning

After the fainting episode, it is common to feel tired and sleepy.

Is it dangerous?

No. Although vasovagal syncope can be scary, it is not life-threatening. However, it is important for the person to recognize prodromal symptoms so that they do not injure themselves from a fall.

Treatment

- 1) Recognize prodromal symptoms in order to prevent fainting. As soon as the symptoms are recognized, try one or more of these maneuvers:
 - a. Lie down
 - b. Sit down with head between the knees.
 - c. In a standing position: toe raise, and/or cross legs and tense leg and abdominal muscles.
 - d. Squat
- 2) Increase fluid intake. Beverages containing electrolytes are the most helpful. Fluid intake should be enough to cause the urine to be colorless and urination to be frequent, usually at least 2 or more liters (68 or more ounces) per day. People who have fainting triggered by standing up can try drinking fluid (16 ounces or so) when getting up in the morning.
- 3) Increase salt intake to about 3-5 grams/day, or more if needed. This can be accomplished by drinking electrolyte-containing fluids, eating salty foods (e.g. pretzels, crackers, dairy products, pickles, popcorn, lowfat chips, salted nuts or seeds), adding more salt to food, or taking salt tablets which are available over the counter at pharmacies. 1 teaspoon of salt equals about 5 grams.
- 4) Medications. The most commonly used and most effective ones:
 - a. Fludrocortisone (Florinef) – helps the body retain salt, increases blood volume, and increases blood pressure. Side effects include loss of potassium, so electrolytes need to be checked periodically while on Florinef. Low potassium can be avoided by eating high potassium foods like bananas, spinach, tomatoes, oranges, and cantaloupe. Fluid retention and high blood pressure can also occur, but very rarely. Florinef is taken as a tablet, once daily.
 - b. Midodrine – causes constriction of blood vessels, resulting in increased blood pressure and venous tone. Side effects can include goosebumps, headache, insomnia, and hypertension. Midodrine is taken as a tablet, usually every 4 hours.
- 5) Very rarely, if a person with vasovagal syncope has prolonged periods of asystole (heart rate gets so low that the heart temporarily stops), a pacemaker is needed.

Prognosis

The prognosis for people with vasovagal syncope is excellent, as this is not a life-threatening condition. Some people are more prone than others to having fainting spells. People who have one fainting episode have a 20-30% chance of having another one.

Related conditions

- 1) POTS – Postural orthostatic tachycardia syndrome, in pediatrics, is defined as a heart rate increase of over 40 points, or an increase to over 120, within 10 minutes of standing. Blood pressure typically remains unchanged, or can increase. This is also caused by an abnormal regulation of the nervous system. It is not uncommon for a young person to have both vasovagal syncope and POTS.
- 2) Orthostatic hypotension - Orthostatic hypotension is a drop in blood pressure after standing up. It can cause dizziness, dim vision, or fainting because less blood briefly reaches the brain. Dehydration, illness, and some medications can make it more likely.
- 3) Breath holding spells – these spells happen in toddlers, commonly 6 months to 2 years of age, and resolve by age 3-4 years, often after crying or a tantrum. Although the spells can be scary to watch because they cause children to faint and/or turn blue or pale, they are not dangerous.
- 4) Psychogenic syncope, or “functional fainting” – These are involuntary episodes where the brain can respond to physical or emotional stress by briefly disrupting awareness and control of the body. These episodes look like fainting, even though heart rate and blood pressure are normal. There may be no obvious trigger. It is possible to have both functional episodes and vasovagal syncope.