



Vasovagal Syncope

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

Neurocardiogenic syncope
The “common faint”
Vasodepressor response

Swoon
Autonomic dysfunction
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 common triggers:

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 (in person or on TV)
Heat
Hair grooming, such as cutting, braiding, curling, or brushing hair
Swallowing, especially cold liquids
Exercise (usually after, but can also be during)
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
- Pallor, dilated pupils
- 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 (e.g. Gatorade, Propel) 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 (34 or more ounces) per day. People who have fainting triggered by standing up can try drinking fluid (16 ounces or so) at the time of getting up in the morning.
- 3) Increase salt intake. 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 (ideas include pretzels, crackers, dairy products, pickles, popcorn, lowfat chips, salted nuts or seeds), adding more salt to food, or taking salt tablets (such as ThermoTabs) which are available over the counter at pharmacies. 1 teaspoon of salt equals 5 grams.
- 4) Medications. Although a long list of medications can be tried, these are 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) Almost never needed: Very rarely, if a person with vasovagal syncope has very prolonged periods of asystole (heart rate gets so low that the heart temporarily stops), a pacemaker is needed. Similarly, if breath holding spells are associated with prolonged asystole, medications (glycopyrrolate, theophylline) can be used, but this is very rare.

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. The sooner they have another one, the more likely they are to have even more episodes. Following the guidelines above is very helpful in preventing fainting episodes.

Related conditions

- 1) POTS – Postural orthostatic tachycardia syndrome is defined as a heart rate increase of over 30-35 points, or an increase to over 120, within 10 minutes of standing. This is also caused by an abnormal regulation of the nervous system. However, blood pressure usually remains normal, which makes it different from vasovagal syncope. POTS is associated with an abnormality in blood flow to the head, which can lead to fainting. It is not uncommon for a young person to have both vasovagal syncope and POTS.
- 2) Breath holding spells – these spells happen in toddlers, commonly 6 months to 2 years of age, and resolve by age 3-4 years. Although these spells can be scary to watch because they cause children to faint and/or turn blue or pale, they are not dangerous. In breath holding, the trigger for fainting is thought to be hyperventilation followed by holding breath during crying or tantrums.
- 3) Psychogenic syncope – this rare condition is not a real “faint,” but rather a conversion reaction. In a conversion reaction, people show psychological stress in physical ways. This can happen either consciously or unconsciously. Things that are more likely to suggest psychogenic syncope include: “fainting” that is very frequent (can be several times a day), eyes being tightly closed, parts of the body that are not limp, unusual posture during the faint, and blood pressure (if checked) being normal. Psychological evaluation is recommended for individuals with psychogenic syncope.