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# Health

## Syncope (Fainting)

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### What is syncope?

**Syncope** (SINK-a-pee) is another word for fainting or passing out. Someone is considered to have syncope if they become unconscious and go limp, then soon recover. For most people, syncope occurs once in a great while, if ever, and is not a sign of serious illness. However in others, syncope can be the first and only warning sign prior to an episode of sudden cardiac death. Syncope can also lead to serious injury. Talk to your physician if syncope happens more often.

**Pre-syncope** is the feeling that you are about to faint. Someone with pre-syncope may be lightheaded (dizzy) or nauseated, have a visual "gray out" or trouble hearing, have [palpitations](#) (<https://www.hopkinsmedicine.org>[http://www.hopkinsmedicine.org/healthlibrary/conditions/adult/cardiovascular\\_diseases/cardiovascular\\_diseases/conditions/adult/cardiovascular\\_diseases/palpitations.html](http://www.hopkinsmedicine.org/healthlibrary/conditions/adult/cardiovascular_diseases/cardiovascular_diseases/conditions/adult/cardiovascular_diseases/palpitations.html)) or feel weak or suddenly sweaty. When discussing syncope with your doctor, you should note episodes of pre-syncope as well.

Becoming unconscious due to a seizure, heart attack, head injury, stroke, intoxication, blow to the head, diabetic hypoglycemia or other emergency condition is not considered syncope.

Someone who faints should be moved so they are lying down to allow blood to flow to the brain. If they do not regain consciousness promptly, start CPR.

### What causes syncope?

Syncope occurs when there is not enough blood flow to the brain. There are many potential causes, but the most common ones include:

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If fainting occurs frequently and is not because of dehydration or sudden postural change, you may need to be tested for a serious heart or vascular condition. Cardiac syncope often occurs suddenly, without dizziness or other pre-syncope symptoms.

Common causes of cardiac syncope:

- **Arrhythmia**

<https://www.hopkinsmedicine.org/health/conditions-and-diseases/arrhythmias>  
and abnormal heart rhythm: During episodes of heart arrhythmia, the heart works inefficiently and not enough oxygenated blood can circulate to the brain. There are many types of cardiac arrhythmias that may cause syncope. These include bradyarrhythmias (the heart beats too slowly) and tachyarrhythmias (the heart beats too fast).

- **Aortic dissection,**

[https://www.hopkinsmedicine.org/health/conditions-and-diseases/thoracic\\_aor](https://www.hopkinsmedicine.org/health/conditions-and-diseases/thoracic-aortic-dissection)  
a tear in the large artery that carries blood from the heart to the rest of the body. This is a very rare but life-threatening condition.

- **Aortic valve stenosis,** a narrowing of the valve between the heart and the aorta. Aortic valve stenosis can be congenital

[https://www.hopkinsmedicine.org/health/conditions-and-diseases/congenital\\_f](https://www.hopkinsmedicine.org/health/conditions-and-diseases/congenital-heart-disease)  
(present from birth) or can develop in old age

[https://www.hopkinsmedicine.org/health/conditions-and-diseases/heart\\_valve\\_](https://www.hopkinsmedicine.org/health/conditions-and-diseases/heart-valve-disease)

## Reflex Syncope (Neurally Mediated Syncope, Vasovagal Syncope, Vasodepressor Syncope, the Common Faint)

Reflex syncope is the result of a reflex response to some trigger, in which the heart slows or blood vessels dilate (widen). This causes blood pressure to drop, so less blood flows to the brain and fainting (syncope) or near-fainting (pre-syncope) occurs. Reflex syncope is the most frequent cause of fainting.

**Vasovagal syncope** — the common faint — occurs in one third of the population. It is by far the most common form of reflex syncope. Vasovagal syncope is often triggered by a combination of dehydration and upright posture. But it can also have an emotional trigger such as seeing blood ("fainting at the sight of blood").

### Some Vasovagal Syncope Triggers

- Seeing blood (not considered a serious symptom)
- Getting an injection or having blood drawn (not considered serious)
- Standing up quickly (a "head rush" is considered pre-syncope)
- Standing upright for a long time
- Sudden and unexpected trauma, stress or pain, such as being hit
- Blood donation

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**Situational syncope**, a sudden reflex response to a trigger other than those listed above. Triggers include:

- Coughing, sneezing, laughing, swallowing
- Pressure on the chest after exertion or exercise
- Defecating
- Urinating (**post-micturition syncope**: occurs in men while standing to urinate)
- Eating a meal
- Sudden abdominal pain
- Blowing a brass instrument or lifting weights

**Carotid Sinus Syncope**, a response in older adults that occurs when pressure is applied to the carotid artery in the neck. A hard twist of the neck, wearing a tight collar and pressing on the artery are triggers for carotid sinus syncope.

## Orthostatic Hypotension

Orthostatic (upright) hypotension (low blood pressure when standing) can also cause fainting because blood has trouble going against gravity to reach the brain. Orthostatic hypotension is defined as a fall in systolic blood pressure of 20 mmg Hg or more on standing, resulting in syncope or pre-syncope. Orthostatic hypotension is common in elderly individuals and is often exacerbated by dehydration or medications that lower blood pressure, such as diuretics. Less commonly, orthostatic hypotension can be caused by a neurologic condition such as Parkinson's disease

(<https://www.hopkinsmedicine.org/health/conditions-and-diseases/syncope-fainting>[https://www.hopkinsmedicine.org/healthlibrary/conditions/adult/nervous\\_system\\_disorders/parkinsons\\_d](https://www.hopkinsmedicine.org/healthlibrary/conditions/adult/nervous_system_disorders/parkinsons_d) or multisystem atrophy, formerly known as Shy-Drager syndrome.

## Postural Orthostatic Tachycardia Syndrome (POTS)

Postural orthostatic tachycardia syndrome (increased heart rate when standing), or POTS, is a rare clinical syndrome characterized by an increase in heart rate of at least 30 beats per minute on standing and orthostatic intolerance — when standing brings on symptoms such as palpitations, lightheadedness and fatigue. POTS generally appears in young women. After excluding other causes, the diagnosis is made on physical examination, medical history and tilt-table test. Treatment usually consists of increased salt and fluid intake, recumbent exercise (not standing upright) and education in avoiding triggers. POTS does not usually get worse with age.

## How is syncope diagnosed?

It's important to identify the cause of syncope, if possible, to rule out a dangerous heart condition. Depending on your symptoms and circumstances, the following tests may be used to find the cause:

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- **Electrocardiogram**  
[https://www.hopkinsmedicine.org/healthlibrary/conditions/adult/cardiovascular\\_diseases/electrocardiogram](https://www.hopkinsmedicine.org/healthlibrary/conditions/adult/cardiovascular_diseases/electrocardiogram)  
(ECG or EKG): wires taped to various parts of your body to create a graph of your heart's electrical rhythm
- **Exercise stress test**  
[https://www.hopkinsmedicine.org/healthlibrary/test\\_procedures/cardiovascular/exercise\\_electrocardiogram](https://www.hopkinsmedicine.org/healthlibrary/test_procedures/cardiovascular/exercise_electrocardiogram)  
ECG recorded while strenuously exercising
- **Echocardiogram**  
[https://www.hopkinsmedicine.org/healthlibrary/test\\_procedures/cardiovascular/echocardiogram\\_92,P079](https://www.hopkinsmedicine.org/healthlibrary/test_procedures/cardiovascular/echocardiogram_92,P079)  
or **transesophageal echocardiogram**  
[https://www.hopkinsmedicine.org/healthlibrary/test\\_procedures/cardiovascular/transesophageal\\_echocardiogram](https://www.hopkinsmedicine.org/healthlibrary/test_procedures/cardiovascular/transesophageal_echocardiogram)  
ultrasound of the heart
- **Physical examination**, including orthostatic vital signs and carotid sinus massage
- **Tilt table test**  
[https://www.hopkinsmedicine.org/healthlibrary/test\\_procedures/cardiovascular/tilt\\_table\\_procedure\\_92,P079](https://www.hopkinsmedicine.org/healthlibrary/test_procedures/cardiovascular/tilt_table_procedure_92,P079)  
measurement of heart rate and blood pressure in response to upright tilt, which simulates prolonged standing
- **Electrophysiology study**  
[https://www.hopkinsmedicine.org/healthlibrary/test\\_procedures/cardiovascular/electrophysiological\\_study](https://www.hopkinsmedicine.org/healthlibrary/test_procedures/cardiovascular/electrophysiological_study)  
(EP): test that examines the heart's electrical activity from the inside; used to diagnose many heart rhythm disorders

## In-home Diagnostic Monitors

- **Holter monitor**  
[https://www.hopkinsmedicine.org/healthlibrary/test\\_procedures/cardiovascular/holter\\_monitor\\_92,P079](https://www.hopkinsmedicine.org/healthlibrary/test_procedures/cardiovascular/holter_monitor_92,P079)  
a portable ECG you wear continuously for one to seven days to record your heart rhythms over time
- **Event monitor**  
[https://www.hopkinsmedicine.org/healthlibrary/test\\_procedures/cardiovascular/holter\\_monitor\\_92,P079](https://www.hopkinsmedicine.org/healthlibrary/test_procedures/cardiovascular/holter_monitor_92,P079)  
a portable ECG you wear for one or two months, which records only when triggered by an abnormal heart rhythm or when you manually activate it

## How is syncope treated?

The treatment for syncope will depend upon the underlying condition but may include:

- **Catheter ablation**  
[https://www.hopkinsmedicine.org/healthlibrary/test\\_procedures/cardiovascular/catheter\\_ablation\\_135](https://www.hopkinsmedicine.org/healthlibrary/test_procedures/cardiovascular/catheter_ablation_135)  
procedure to cauterize the specific heart cells that cause abnormal heart rhythms

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[https://www.hopkinsmedicine.org/healthlibrary/conditions/adult/cardiovascular\\_diseases/pacemakers](https://www.hopkinsmedicine.org/healthlibrary/conditions/adult/cardiovascular_diseases/pacemakers)  
device inserted under the skin below the collarbone to deliver regular electrical pulses through thin, highly durable wires attached to the heart; used to treat bradycardia, heart block and some types of heart failure

- **Implantable cardioverter-defibrillators (ICDs)**

[https://www.hopkinsmedicine.org/healthlibrary/conditions/adult/cardiovascular\\_diseases/pacemakers](https://www.hopkinsmedicine.org/healthlibrary/conditions/adult/cardiovascular_diseases/pacemakers)  
a small implanted device that delivers an electrical pulse to the heart to reset a dangerously irregular heartbeat; often used to treat ventricular tachycardia or heart failure

- **Avoiding known triggers**

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