A Teenage Fainter (Dizziness, Syncope, Postural Orthostatic Tachycardia Syndrome)

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KEYWORDS

• Syncope • Presyncope • Fainting • POTS • Vasovagal syncope
• Neurocardiogenic syncope • Dizziness

KEY POINTS

- Syncope (fainting) is a common complaint in the teenage population.
- Most fainting is benign; however, it is important for health care providers to differentiate benign fainting from life-threatening syncope.

SYNCOPE

Syncope is a sudden and brief loss of consciousness and postural tone secondary to hypoperfusion of the brain. Vasovagal syncope or neurocardiogenic syncope (fainting) results from a disturbance in the normal compensatory mechanisms of maintaining upright posture or from specific situations (**Box 1**) that cause hypotension and sometimes bradycardia. Syncope is common in teenagers, with some studies estimating that 15% experience at least 1 episode of syncope before adulthood. Other studies estimate a higher rate, with syncope in up to 47% of adolescent girls and 24% of adolescent boys.[1–3] For most patients who do faint, there is more than 1 episode (64% girls and 53% boys), but few seek medical attention.[1,4] Family history often reveals relatives with near fainting or fainting.[2] Most fainting is benign, but it is always important to distinguish simple fainting from more serious medical problems. A large prospective study of pediatric patients reported the causes and frequencies of pediatric syncope (**Box 2**).[5]

Details about primary neurologic causes are beyond the scope of this article but should be considered when evaluating a patient with syncope. This article focuses on distinguishing benign fainting from life-threatening syncope.

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Box 1
Common situations for syncope

Pain

Fear

Emotional distress

Hair brushing

Micturition

Defecation

Cyclical postural changes

Prolonged stationary standing

Immediately after rigorous exercise

VASOVAGAL SYNCOPE

In order to maneuver from a supine or sitting position and maintain upright posture, the body goes through a normal sequence of compensatory changes that overcome gravity-induced hydraulic changes on the blood volume. The following normal sequence takes place.

Box 2
Relative frequency of syncope in 474 patients

Cause	N (%)
Autonomic-mediated reflex syncope	346 (73.0)
Vasovagal syncope	203 (42.8)
Postural orthostatic tachycardia syndrome	129 (27.2)
Situational syncope	8 (1.7)
Orthostatic hypotension	6 (1.3)
Cardiac syncope	14 (2.9)
Congenital long QT syndrome	4 (0.8)
Sinus node dysfunction	3 (0.7)
Third-degree atrioventricular block	2 (0.4)
Supraventricular tachycardia	1 (0.2)
Hypertrophic cardiomyopathy	1 (0.2)
Dilated cardiomyopathy	1 (0.2)
Primary pulmonary hypertension	2 (0.4)
Neurologic syncope	10 (2.1)
Seizures attack	9 (1.9)
Migraine	1 (0.2)
Psychiatric syncope	11 (2.3)
Conversion reaction	7 (1.4)
Depressive disorder	3 (0.7)
School phobia	1 (0.2)
Metabolic syncope	4 (0.8)
Hypoglycemia	2 (0.4)
Severe anemia	1 (0.2)
Hyperventilation syndrome	1 (0.2)
Syncope of unknown origin	89 (18.9)

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