Syncope

Katherine Neal, MD, Alicia Clark, MD*

KEYWORDS

• Syncope • Transient loss of consciousness • Presyncope • Reflex syncope
• Cardiovascular syncope • Orthostatic hypotension

KEY POINTS

- Syncope is a common problem and accounts for approximately 1% of all emergency room visits.
- Causes of syncope include reflex (neurally mediated), cardiovascular, and orthostatic hypotension.
- Collect a thorough history to determine if syncope has truly occurred; obtaining collateral history from a bystander may be necessary.
- Any abnormal vital sign can indicate a more serious underlying etiology for syncope and should be investigated.
- All patients presenting with syncope should have postural vital signs checked as this has been proven to be cost-effective and leads to a diagnosis in about 10% of cases.
- All patients aged 60 years and older presenting to the emergency room with syncope should be evaluated with an electrocardiogram.
- Carotid ultrasound and brain imaging with computed tomography scan or magnetic resonance imaging are not indicated unless there is a focal neurologic deficit.
- Consider cardiology consultation for patients with a suspected cardiac cause for syncope.

DEFINITIONS

How are syncope and presyncope defined?

The European Society of Cardiology defines syncope as a transient loss of consciousness caused by cerebral hypoperfusion and characterized by quick onset, short duration, and complete recovery. The term presyncope is used to describe the prodromal symptoms of syncope, which are not followed by loss of consciousness; it is not known whether the mechanisms behind syncope and presyncope are the same.[1]

Disclosures: None.
Hospital Medicine Program, Duke University Medical Center, Box 100800, Durham, NC 27710, USA
* Corresponding author.
E-mail address: alicia.clark@duke.edu

Hosp Med Clin 4 (2015) 65–73
http://dx.doi.org/10.1016/j.ehmc.2014.09.011
2211-5943/15/$ – see front matter

What are the most common presentations confused with syncope?

Syncope is distinguished from other causes of loss of consciousness by the mechanism by which an individual loses consciousness: global cerebral hypoperfusion. Conditions that cause partial or complete loss of consciousness not caused by cerebral hypoperfusion include:

- Epilepsy/seizures
- Metabolic disorders (eg, hypoglycemia, hypoxia, hyperventilation)
- Intoxication syndromes
- Vertebrobasilar transient ischemic attacks

In contrast, multiple disorders exist that do not cause loss of consciousness but can be confused with syncope because of the description of the event and difficulty obtaining an accurate history. These disorders include:

- Falls
- Cataplexy
- Drop attacks
- Pyschogenic pseudosyncope
- Carotid transient ischemic attack[1]

What are the different causes of syncope?

There are 3 main causes of syncope: reflex (neurally mediated), cardiovascular (eg, encompassing arrhythmias, structural heart disease), and orthostatic hypotension.

Reflex (neurally mediated) syncope includes a varied group of conditions in which the usual cardiovascular reflexes that are typically useful in controlling hemodynamics are transiently inappropriate, caused by a specific trigger. This condition results in vasodilatation and/or bradycardia, which lead to a decrease in blood pressure.[1] Causes of reflex syncope include:

- Vasovagal causes
  - Mediated by emotional distress (fear, pain, blood or other phobia, instrumentation)
  - Mediated by orthostatic stress
- Situational causes
  - Cough/sneeze
  - Gastrointestinal stimulation (eg, swallow, visceral pain, defecation)
  - Micturition and postmicturition
  - Postexercise
  - Postprandial
  - Other (laugh, playing brass instrument, weightlifting)
- Carotid sinus irritation
- Atypical forms (no apparent trigger or atypical presentation)

Causes of cardiovascular syncope include:

- Arrhythmia
  - Bradycardia
    - Sinus node dysfunction (including tachy-brady syndrome)
    - Atrioventricular conduction system disease
    - Implanted device malfunction
  - Tachycardia
    - Supraventricular
    - Ventricular