

COLLAPSE ?CAUSE

Syncope is a transient loss of consciousness with an inability to maintain postural tone followed by a spontaneous recovery.

Causes

- **Reflex-mediated**
 - vasovagal
 - situational eg. Cough, micturition, defaecation, swallow
 - carotid sinus eg. On turning head
- **Orthostatic hypotension**
- **Neurological**
 - TIAs
 - Seizure
 - Migraines
 - Subcavian steal
- **Cardiac**
 - aortic stenosis
 - hypertrophic cardiomyopathy
 - pulmonary embolus
 - aortic dissection
 - MI
- **Arrhythmias**
 - sinus node disease
 - 2nd/3rd degree heart block
 - pacemaker malfunction
 - VT
 - SVT
- **Psychiatric**

History

- **Seizure:** Post-ictal phase. Confusion may be present immediately after syncope, this should not last for more than a minute. Tonic-clonic activity, incontinence, and tongue biting may help, but do not in isolation rule out syncope if a period of cerebral anoxia has occurred.
- **Vaso-vagal syncope:** Presyncopal symptoms such as nausea, diaphoresis, dizziness, palpitations, blurred vision and a feeling of warmth (last an average of 2.5 minutes) and postsyncopal feelings of nausea, warmth, dizziness and fatigue.
- **Situational syncope:** Precipitant factors eg. micturition.
- **Orthostatic syncope:** Positional aspect (syncope precipitated by rising from a sitting position)
- Symptoms prior to the syncopal event including chest pain, sudden onset of headache or dyspnoea, palpitations, back pain, or focal neurological deficits may suggest an alternative serious cause.
- A brief or absent presyncopal period (<5 seconds) may be associated with syncope of a cardiac nature, especially a dysrhythmia. Patients experiencing syncope secondary to dysrhythmias were more likely to be male, aged >54 years, to have less than 5 seconds of presyncope warning.
- A witness history should be sought.
- A drug history taken to identify the use of antihypertensive or other cardiac medication, and drugs that cause bradycardia, hypotension, or prolong the QT interval.

- LMP in women of childbearing age (ectopic pregnancy). Vasovagal syncope is relatively common in early pregnancy.
- Family history of cardiac disease or sudden unexplained family death or history of syncope precipitated by exercise (hypertrophic cardiomyopathy, Brugada's syndrome and long QT syndrome can be precipitated by a sympathetic surge).

Examination

- Postural drop (a fall of ≥ 20 mmHg, or a fall to < 90 mmHg after standing for at least 3 minutes).
- Carotid sinus massage should be performed if syncope may have been precipitated by neck movements or pressure on the neck. It is important to first exclude the presence of a carotid bruit and to be aware of the risk of precipitating a prolonged sinus pause or an episode of hypotension. Patients should have IV access and be in an area where resuscitation equipment is available if required. Carotid sinus hypersensitivity is a ventricular pause of > 3 seconds precipitated by carotid sinus massage.

Investigations

Routine use of basic laboratory tests is not recommended; these tests should be done only if they are specifically suggested by the results of the history or physical examination. Pregnancy testing should be considered in women of child-bearing age.

Electrocardiogram

- A standard 12 lead ECG is warranted in all cases of syncope unless the history and physical examination reveal an obvious non-cardiac cause. A normal ECG is associated with a low risk for syncope secondary to a cardiovascular cause.
- The current European Society of Cardiology syncope guidelines document the ECG abnormalities that increase the risk of a syncope secondary to arrhythmia: bifascicular block, QRS > 0.12 seconds, Mobitz second degree AV block, sinus bradycardia (< 50 bpm), sinoatrial block, sinus pause > 3 seconds, pre-excited QRS complexes, prolonged QT interval, signs of Brugada syndrome (right bundle branch block, ST segment elevation in leads V1–V3) or arrhythmogenic right ventricular dysplasia (epsilon wave or localised QRS > 110 ms in V1–V3, or inverted T waves in V2 and V3 without right bundle branch block), and Q waves suggesting MI. It is suggested that patients with these abnormalities should be admitted for monitoring and be investigated for arrhythmic syncope.

Risk Stratification

The OESIL score was used to predict total mortality within the first 12 months of presenting to ED with syncope. It is calculated by the simple arithmetic sum of the number of predictors present in data from the baseline clinical history, physical examination and electrocardiogram.

(1) age > 65 years; (2) cardiovascular disease in clinical history; (3) syncope without prodromes; and (4) abnormal electrocardiogram. Mortality increased significantly as the score increased in the derivation cohort (0% for a score of 0, 0.8% for 1 point; 19.6% for 2 points; 34.7% for 3 points; 57.1% for 4 points).

Indications for admission (ACEP guidelines)

- Admit patients with syncope and any of the following:
 1. A history of congestive heart failure or ventricular arrhythmias
 2. Associated chest pain or other symptoms compatible with acute coronary syndrome
 3. Evidence of significant congestive heart failure or valvular heart disease on physical examination
 4. Electrocardiogram findings of ischemia, arrhythmia, prolonged QT interval, or bundle branch block
- Consider admission for patients with syncope and any of the following:
 5. Age older than 60 years
 6. History of coronary artery disease or congenital heart disease
 7. Family history of unexpected sudden death
 8. Exertional syncope in younger patients without an obvious benign etiology for the syncope