Syncope

FAST FACTS

93%
of all patients referred to Cincinnati Children's Syncope Clinic have NCS

60%
of patients with syncope experience stiffening or jerking movements of extremities

15%
of children experience at least one episode of syncope before age 20

1%
of all pediatric Emergency Department visits are for syncopal episodes

Syncope is a common problem in children and teens. Most pediatric loss of consciousness events are caused by neurally mediated hypotension leading to neurocardiogenic syncope (NCS). Mild confusion lasting for several minutes and tiredness after a syncopal event are common.

ASSESSMENT

Perform a standard health history and physical exam (HPE) with probing questions around the syncopal event to determine whether the syncope is more serious or life-threatening than neurocardiogenic syncope (NCS).

HPE (HISTORY AND PHYSICAL EXAM) RED FLAGS

- Syncope without warning or during exercise
- Syncope preceded by chest pain or palpitations
- Prolonged (entirety of event) low frequency (1 Hz), high amplitude, clearly rhythmic extremity jerking
- Fecal (or urinary) incontinence or lateral tongue biting
- Post-ictal state of confusion/incoherence lasting >15 minutes to hours
- Focal neurologic sign following syncope
- Stiffening or definitive head or eye deviation **PRIOR TO** syncope

MANAGEMENT/TREATMENT

Syncope is typically managed through reassurance, education, increased fluid and salt intake, and behavior modification, such as positional adjustments when symptoms begin. Most patients respond well to increased hydration, adequate dietary salt, and regular exercise.

If typical measures are insufficient, medications may be used as an adjunct therapy. For those with continued symptoms, a one-month trial of Midodrine or Fludrocortisone is reasonable. Follow up within 2–3 months.

WHEN TO REFER

If history red flags (see above) are present upon HPE, or if appropriate NCS treatment does not alleviate symptoms, patients experiencing recurrent syncopal episodes should be referred to the Syncope Clinic at Cincinnati Children's, where your patient will be seen by both a cardiologist and a neurologist. See algorithm for referral specifics.

Before referral:

- Complete an ECG
- Have the patient (under care for NCS) complete a diary of symptoms and measured fluid intake in the days/weeks prior to their clinic visit—and instruct them to bring the diary with them to the clinic visit
- Video of any syncopal episode, if available, may also be helpful

If you have clinical questions about patients with syncope, email syncope@cchmc.org.

If you would like additional copies of this tool, or would like more information, please contact the Physician Outreach and Engagement team at Cincinnati Children's.

Tool developed by Cincinnati Children's physician-hospital organization (known as Tri-State Child Health Services, Inc.) and staff in the James M. Anderson Center for Health Systems Excellence. Developed using expert consensus and informed by Best Evidence Statements, Care Practice Guidelines, and other evidence-based documents as available. For Evidence-Based Care Guidelines and references, see www.cincinnatichildrens.org/evidence.

Syncope

Inclusion Criteria

- No previous cardiac diagnosis
- Presenting complaint of dizziness or syncope (new visit)

Tests shown here are **NOT** recommended for initial workup

- Holter monitor
- Tilt table test
- Event monitor
- Brain CT scan
- Brain MRI

Patient Presents

Standard Workup

- Situational History
- Family History
- Physical Exam

HPE (HISTORY AND PHYSICAL EXAM) RED FLAGS

(Syncope in age <8 years OR in patients with known congenital heart disease)

Situational History

Syncope (dizziness does not occur) that occurs:

- Syncope without warning or during exercise
- Syncope preceded by chest pain or palpitations
- Prolonged (entirety of event) low frequency (1 Hz), high amplitude, clearly rhythmic extremity jerking
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Family History

First degree family history of:

- Cardiomyopathy
- Sudden death <50 years
- Channelopathy
- Pacemaker or defibrillator

Physical Exam

- Pathologic murmur
- Hepatosplenomegaly
- Loud S2
- Abnormal neuro exam finding

Any Red Flags?

Yes

GOAL

To identify those patients at risk of having pathology

Refer to Syncope Clinic or Cardiology:

- Age <8 years of age with syncope
- Syncope DURING exercise, preceded by chest pain, or accompanied with physical injury from sudden fall, or near drowning
- Family history of sudden death, cardiomyopathy, channelopathy, or pacemaker/defibrillator
- Exam abnormal

Refer to Syncope Clinic or Neurology:

- Seizure activity with postictal state
- Focal neurologic sign following syncope

No

GOAL

To minimize testing

Vasovagal Neurocardiogenic

Initial Treatment

- Start Hyperhydration with 100 oz/day H_2O; daily exercise routine; increase salt intake (3–5 gm/day)
- No follow-up; return if symptoms worsen

If failed hydration and syncope >1/week then consider medication

- Fludrocortisone 0.2mg/daily OR Midodrine 10 mg TID during daytime hours
- BP check 1–2 x/week for 2 weeks
- Follow up in 2 months

If Work Up is Negative

For urgent issues, or to speak with the specialist on call 24/7, call the Physician Priority Link® at 1-888-987-7997.