CT Children's CLASP Guideline

Syncope

INTRODUCTION

Syncope is the temporary loss of consciousness secondary to decreased cerebral blood flow and decreased blood pressure. In a variety of studies, the incidence of vagally mediated (neurocardiogenic) syncope in the teenage years varies from 20% to 50%. Vagally mediated syncope is the result of the normal reflex involving the voluntary and autonomic nervous system controlling heart rate, blood pressure and ultimately cerebral blood flow. Potentially serious causes include primary heart rhythm abnormalities and/or structural abnormalities. An electrocardiogram (ECG) should be normal in vagally mediated syncope. Immediately after a syncopal event, there can be minor T wave changes due to autonomic changes, and these should return to normal within a few hours to days. For more information on the physiology of vagally mediated syncope, see the attached reference.

INITIAL EVALUATION AND MANAGEMENT

INITIAL EVALUATION:

The initial evaluation should be focused on excluding rare but serious abnormalities associated with sudden cardiac death and reviewing relevant clinical history

- Obtain detailed history of the event from patient and family and determine if consistent with vagally mediated syncope: ***(See Appendix: The Six "P"s: Clinical Diagnosis of Vagally Mediated Syncope)***
- Physical exam:
  - Obtain blood pressure (sitting position, right arm)
  - Evaluate for non-innocent murmurs
- Obtain standard 12 lead ECG for every patient
  - ECGs can be obtained at CT Children's main campus and satellite locations daily (Hartford, Danbury, Glastonbury, Shelton). To schedule call (860) 545-9400.

INITIAL MANAGEMENT:

- For sporadic syncope, if history is consistent with the 6 "P"s and a normal physical exam is obtained and there are no concerns in family history, a presumptive diagnosis of vagally mediated syncope can be made.
  - An initial management strategy is hyperhydration:
    - (8-10) 8 oz. glasses of water per day for post pubescent
    - (5-6) glasses per day for prepubescent
    - Added salt is encouraged
- Sitting down or lying down at the onset of dizziness

WHEN TO REFER

REFER TO CT CHILDREN'S CARDIOLOGY (within 1 week):

- History of the syncopal event does not meet the clinical criteria consistent with a vagally mediated syncopal event
- Syncope with exercise
- Any abnormality of the physical exam other than an innocent murmur (a murmur may be the initial finding on physical exam for hypertrophic cardiomyopathy, one of the leading causes of sudden death in children during exercise)
- Any family history of unexplained sudden death before age 40-50
- An abnormal screening ECG
- Presence of frequent syncope (disruptive to life/routine) or convulsive syncope
- Syncope that is nonresponsive to conservative management with fluids and salt

HOW TO REFER	**Referral to Cardiology via CT Children's One Call Access Center** **Phone:** 833.733.7669 **Fax:** 833.226.2329 For more information on how to place referrals to Connecticut Children's, click here. ***Information to be included with the referral:*** ▪ ECG, blood pressure and relevant readings on history and physical exam
WHAT TO EXPECT	**What to expect from CT Children's Visit:** ▪ Meet with cardiologist to review the history of the events and the family history ▪ Physical exam ▪ Possible echocardiogram at the visit and possible initiation of medication ▪ If indicated, a variety of home ECG monitoring may be arranged during the visit.

APPENDIX: The Six "P"s: Clinical Diagnosis of Vagally Mediated Syncope

POSTURE	Patients with vagally mediated syncope should be standing at the time of the event. Rarely is seated posture enough of a stimulus to induce syncope.
PRODROME	There is a period of decreased cardiac output prior to syncope. Patients often feel warm and sweaty as well as dizzy. They commonly see spots in front of their eyes and/or tunnel vision-type loss of vision as cerebral blood flow diminishes. They often say they know something is going to happen to them.
PRECIPITATING FACTORS	Painful and/or anxiety provoking stimuli increase circulating catecholamines and sensitize the heart to this reflex. Common clinical scenarios seen in vagally mediated syncope include: peri-phlebotomy, post painful injury, post morning shower, and prolonged standing for a performance in a warm gym.
PALE	With the decrease in cerebral blood flow and cardiac output, the patients are almost uniformly noted to be pale if witnessed.
(lack of) PALPITATIONS	Most commonly vagally mediated syncope patients do **not** report any feeling of palpitations. The concern would be that an abnormal rhythm disturbance would be the cause of the syncopal event.
(lack of) POST ICTAL FINDINGS	After falling to the ground, the vagally mediated reflex abates and there is autotransfusion of venous pooling with the result of rapid recovery of blood pressure and cerebral perfusion. Patients are often unconscious for less than a minute and certainly less than 5 minutes. Since it is not an ictal event, the patients are not confused or disoriented afterwards. They are often tired and may complain of a headache and/or crampy abdominal pain. It often takes over 2 hours for them to completely return to normal.