Title: Diagnostic Tilt Table Testing to Elicit Pseudosyncope in the Pediatric Population

Jeffrey A Robinson MD,[1] Jill K Shivapour MD,[1] and Christopher S Snyder, MD[1]

[1]Pediatric Cardiology, University Hospitals, Case Western Reserve University, Cleveland, OH, United States.

Purpose: Pseudosyncope (PS) can be difficult to distinguish from true syncope. The purpose is to describe the diagnostic utility of HUTT to elicit the diagnosis of PS in the pediatric population.

Methods: A retrospective chart review from 11/12 to 5/15 of patients ≤ 23 yrs of age referred for 30-minute, 80-degree tilt with continuous monitoring of ECG and pulse ox. Blood pressure and heart rate were obtained supine, at 80-degree tilt, and q 1 minute. Symptoms were recorded and vital signs taken concurrently.

Results: There were 74 patients referred for HUTT [median age 16 yrs (5-23); 21 (28%) male]. The majority (46, 62%) had a negative HUTT, while 28 (38%) had a positive HUTT [vasovagal 16 (22%), postural orthostatic tachycardia syndrome 5 (7%)]. The remaining 7 (25%) with positive HUTT were diagnosed with PS [median age 16 yrs (15-21); 2 (28%) male]. Pretest probability for PS was high if the patient had 1) failed appropriate management, 2) atypical episodes, 3) occurrence during exercise, or 4) prolonged episode duration. Due to suspicion, prior to HUTT the likelihood of an episode during the procedure was discussed with patient. Episodes of PS occurred within 2 minutes in 3 and > 10 minutes into HUTT in 4. PS was verified by normal vital signs and disruptive maneuvers: patient's response to verbal response to questions, hand clap, or sternal rub. After diagnosis of PS (mean follow-up of 11.7 mo, StDev +/- 4.3 mo), 3 (75%) patients had no further episodes reported following HUTT.

Conclusion: PS should be considered in patients that have failed appropriate management or who exhibit atypical episodes of syncope. PS can be identified with a HUTT if specific prompting of patients is utilized. Disruptive maneuvers, hand clap, and sternal rub are excellent adjuncts to confirm diagnosis.