

# Admission Warranted for Older Patients with Syncopal Episodes

Sun BC, Hoffman JR, Mangione CM, Mower WR. Older age predicts short-term, serious events after syncope. *J Amer Geriatr Soc* 2007;55:907–12.

## Study Overview

**Objective.** To assess the association between age and 14-day serious clinical events after an emergency department (ED) visit for syncope or near-syncope.

**Design.** Prospective, observational cohort study.

**Setting and participants.** Patients were eligible for enrollment if they presented to the ED of an urban, academic trauma center with a chief complaint of syncope (ie, sudden, transient loss of consciousness) or near-syncope (sensation of imminent loss of consciousness without actual syncope) during the hours of 8 AM to 10 PM (7 days/week) between 18 April 2005 and 18 April 2006. Patients were excluded if they were aged < 18 years, were non-English or non-Spanish speakers, had do-not-resuscitate or do-not-intubate status, or had loss of consciousness secondary to seizure, head trauma, ongoing confusion, or intoxication. Chart review and ED intake log review revealed that 76% of eligible patients who presented during study hours were identified and screened for enrollment.

**Main outcome measures.** The primary outcome was any serious clinical event that occurred during the 14-day period after ED presentation of syncope or near-syncope. The secondary outcome was any serious event diagnosed after the index ED visit. Serious clinical events were predefined and included death, myocardial infarction, arrhythmias, pulmonary embolism, stroke or transient ischemic attack, subarachnoid or nontraumatic cerebral hemorrhage or ane-

mia requiring blood transfusions, a specific traumatic injury (bone fracture, internal hemorrhage, pneumo- or hemothorax, or intracerebral bleed) that occurred as a result of syncope, and infection (including urinary tract infection, pneumonia, cellulitis, and bacteremia). Serious clinical events were identified by telephone follow-up performed within 14 to 30 days after the index ED visit. Inpatient records and discharge summaries were reviewed for patients transferred from the study site ED to other hospitals for admission.

**Main results.** 477 patients were enrolled (representing 67% of those screened), and 463 (97%) of these patients had adequate follow-up. 17% of patients experienced 14-day serious clinical events; 4% of these events were diagnosed after the index ED visit. The risk of having a short-term serious event increased with advancing age. When compared with younger patients (age, 18–39 years) in multivariate analyses after adjusting for gender, race/ethnicity, comorbidities, abnormal electrocardiograms, and the complaint of syncope, patients aged 40 to 59 years and patients aged ≥ 60 years were 170% and 280% more likely to experience a short-term serious event, respectively.

**Conclusion.** Age > 60 years was associated with short-term serious events after an ED visit for syncope.

## Commentary

Syncope and near-syncope are common complaints for older adults presenting to the ED, and their incidence is likely to increase with the aging of the population. The evaluation of

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syncope is diagnostically and clinically challenging, particularly in older adults, many of whom have comorbid illnesses, polypharmacy considerations, cognitive impairment, and age-related physiologic changes. Diagnostic hospitalizations, spiraling health care costs for syncope [1], and increasingly strained inpatient resources may drive clinicians to raise their threshold for admitting syncopal patients. However, this administrative preference for outpatient evaluation may not be the best option for these patients.

This study by Sun et al found that older adult patients ( $\geq 60$  years) were at significant risk for developing short-term ( $< 14$  days) serious events after syncopal or near-syncopal episodes. Age alone was a powerful predictor of serious events. Previous consensus guidelines have recommended that clinicians lower their threshold for admitting older adults for diagnostic workups [2,3]. The findings of this study by Sun et al emphasize the need to hospitalize older patients without an obvious cause of syncope or near-syncope. ED physicians, admitting hospital services, hospital administrators, and health policy makers should continue to be aware of the potentially dangerous risks associated with older age. Although hospitalization for syncope is costly, has not been shown to improve outcomes [4], and may unnecessarily place patients at risk for iatrogenic complications [5,6], a diagnostic hospital admission may be warranted for older patients despite increased iatrogenic risks and costs.

The findings of this study are limited to a single academic ED and results may not be generalized to other institutions. Additionally, the authors report a lack of an association between comorbidities (ie, congestive heart failure, coronary artery disease, history of arrhythmia) and serious events, potentially due to the small sample size. Future studies may need to involve a larger cohort of patients with syncope-related ED visits.

### Applications for Clinical Practice

In the past, consensus guidelines recommended lowering the threshold for admitting older adults with syncope because of associated negative long-term outcomes. However, the short-term adverse events associated with syncope should be considered when deciding whether or not to admit patients for a diagnostic workup. Age alone appears to be a significant risk factor for adverse outcomes; thus, older patients ( $> 60$  years) should be admitted for diagnostic evaluation.

—Review by Ula Hwang, MD, MPH

### References

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