

# Syncope in the Older Person



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## KEYWORDS

- Syncope • Older people • Neurally mediated disorders • Orthostatic hypotension • Falls
- Arrhythmia

## KEY POINTS

- Syncope can be a more challenging diagnostic and therapeutic exercise in older patients compared with younger patients.
- Syncope in older patients carries a significantly higher morbidity, mortality, and health economic burden.
- The examining clinician needs to be alert to the protean manifestations of underlying syncope in the older patient, and although the importance of ensuring that cardiac causes are exposed and acted on, neurally mediated disorders and orthostatic hypotension still cause most syncopal episodes in this age group.
- While diagnosing and managing the syncopal event and its adverse health and social consequences, clinicians need to be aware of the management of potential comorbid issues such as osteoporosis and cognitive impairment and if not in a position to act on them, ensure that appropriate specialist help is sought.

## INTRODUCTION

Syncope imposes a disproportionately greater health and symptom burden on the older patient. Comorbidity and polypharmacy in tandem with age-related cardiovascular, autonomic, and cerebrovascular physiologic impairment account for this burden. In addition, cognitive decline complicates many aspects of investigation and management. Subsequently, the care of the older patient with syncope requires enhanced and additional skills to those needed to manage the younger patient. This article outlines the nature of those skills, using clinical vignettes to describe investigation and management of the older patient with syncope.

## EPIDEMIOLOGY

The most frequently reported incidence of syncope in the literature is derived from the Framingham

cohort between 1971 and 1998 of 7814 patients, 822 of whom reported syncope, and stands at 6.2 per 1000 person-years.<sup>1</sup> The most contemporary series documenting the incidence of syncope comes from Denmark between 1997 and 2009, comprising 127,508 patients seen in the emergency department or outpatient clinic or admitted to hospital, and describes a higher incidence of 17.2 per 1000 person-years.<sup>2</sup> Similar contemporary series describe different incidences (**Table 1**).

Thus, there is significant discrepancy between the reported incidences of syncope that is almost certainly related to the different populations studied (primary care vs combined emergency department, outpatient, primary care attendance vs inpatients) and the different parameters used as a measure of syncope (first syncope vs diagnosis of syncope). However, common to all series is the bimodal distribution of syncope and the greater burden of

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**Table 1**  
Incidence of syncope in largest and most recent series reporting incidence as per 1000 person-years

Series	Population	Number	Incidence per 1000 Person-Years	Mean/Median Age (y)
Soteriades et al, <sup>1</sup> 2002	Framingham cohort First syncope 1971–1988	7814	6.2	Mean 65.9
Alshekhlee et al, <sup>3</sup> 2009	US National Inpatient Sample Diagnosis of syncope 2000–2005	305,932	0.80–0.93	Mean 69 ± 17
Vanbrabant et al, <sup>4</sup> 2011	Belgian primary care cohort First syncope 1994–2008	2785	0.80–2.91	Mean 54.5
Ruwald et al, <sup>2</sup> 2012	Danish National Patient Register Diagnosis of syncope 1997–2009	127,508	17.2	Median 65 (interquartile range 49–81)

syncope shouldered by those of advancing years. With the exception of the Belgian primary care cohort,<sup>4</sup> the mean or median age of presentation with first syncope or diagnosis is 65 years or older (see [Table 1](#)).

In the Framingham cohort, the incidences in men and women aged 20 to 29 years were 2.6 and 4.7 per 1000 person-years, respectively, compared with 16.9 per 1000 person-years in men and 19.5 per 1000 person-years in women in those older than 80 years.<sup>1</sup> The incidence is relatively static between the ages of 30 and 70 years, before it increases and reaches its peak in those older than 80 years. In a similar vein, in a recent study from Denmark,<sup>2</sup> the incidence in those aged 20 to 29 years is 9.0 per 1000 person-years and there is an increase to 40.2 per 1000 person-years at age 70 years and a peak of 81.2 per 1000 person-years in those older than 80 years. In a study describing a primary-care cohort from Belgium,<sup>4</sup> the incidences in men and women aged 15 to 24 years were 1.3 and 2.4 per 1000 person-years, respectively, compared with 6.1 and 8.7 per 1000 person-years in those older than 75 years.

## PATHOPHYSIOLOGY

### Cardiac Causes of Syncope

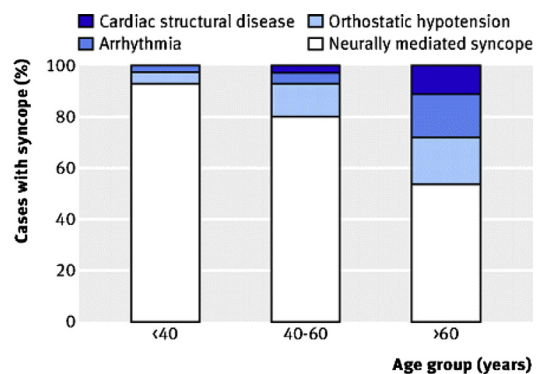
Cardiac causes of syncope are more common in the older patient ([Fig. 1](#)), reflecting the exponential increase in cardiac conducting tissue disease and structural heart disease with advancing age. Cardiac causes account for around a third of syncopal events in the older patient, with a concomitant increase in morbidity and mortality compared with younger patients.<sup>5</sup> Most are arrhythmic, with bradyarrhythmias

predominating,<sup>5</sup> although valvular disease, particularly aortic stenosis, is not uncommon.<sup>6</sup>

### Neurally Mediated Syncope

There is limited evidence regarding the mechanism of syncope in older people, because most studies have looked at younger adults.<sup>7</sup> Typical vasovagal syncope (VVS), mediated by emotional stress such as severe pain or instrumentation, as seen in younger adults, is rarely seen in older adults. Also, VVS in younger adults is not generally associated with other cardiovascular or neurologic disease. In contrast, in older adults, VVS is associated with other comorbidities and medication use.

Often, multiple causes are found of syncope in the elderly, particularly in the neurally mediated disorders (carotid sinus syndrome (CSS), VVS, and situational syncope) and orthostatic hypotension



**Fig. 1.** Causes of syncope in different age groups. (From Parry SW, Tan MP. An approach to the evaluation and management of syncope in adults. *BMJ* 2010;340:c880; with permission.)

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