

Frailty: A key concept to improve older person care

Debra Eagles, MD, MSc*; Brittany Ellis, MBChB, MSc†; Don Melady, MD, MSc(Ed)‡

The Canadian population is aging. Today, nearly 6.6 million Canadians are 65 years and older. By 2030, this is projected to increase to 9.5 million people and represent 23% of all Canadians. Although age is associated with health-related decline, it is not a linear relationship. Frailty has been defined as “a clinically recognizable state in which the ability of older people to cope with every day or acute stressors is compromised by an increased vulnerability brought by age-associated declines in physiological reserve and function across multiple organ systems.”¹ Frailty is multidimensional and includes physical, mental, and psychosocial domains accounting together for the heterogeneous health of older adults. Frailty is not synonymous with aging, as it can occur at any age; however, it is more prevalent with increased age. It manifests as a disproportionate adverse alteration to a person’s health state subsequent to a minimal physiological insult.

There is no clear consensus on the optimal way to operationalize or measure frailty. Two early foundational approaches include Fried’s frailty phenotype model and Rockwood’s accumulated deficits model.^{2,3} The former defined frailty as the presence of any three of the following five variables: unintentional weight loss, self-reported exhaustion, low energy expenditure, slow gait speed, and weak grip strength. The latter is determined by the proportion calculated from the presence or absence of deficits in relation to the total possible deficits. In the past two decades, research in this area has been rapidly expanding, leading to the development of more than fifty instruments created to evaluate frailty. The clinical feasibility, purpose, and context for application of the instruments vary widely. One of the most commonly used instruments is the Clinical Frailty Scale (CFS). Originally developed by Rockwood et al.

in 2005,⁴ it was refined in 2007 to its current form. The scale has nine levels ranging from “very fit” to “terminally ill”; each level contains a picture with a corresponding clinical description. It has been validated in the emergency department (ED) setting and is feasible to use, requiring no additional tools to administer and taking on average 41 seconds to complete.

One in four community dwelling Canadians who are 65 years and older are frail; this increases to > 50% in those 85 years and older. Given that frail older patients are more likely to experience a health crisis, it is not surprising that the prevalence of frailty in older ED patients is as high as 62%. Older people with frailty are susceptible to poor health outcomes. Frailty is associated with increased hospitalization, hospital length of stay, intensive care unit admission, ED re-presentations, discharge to long-term care, mortality, and healthcare costs.

In light of the known poor outcomes associated with advanced frailty in the critically ill, the use of frailty evaluation in decisions regarding the management of older patients with coronavirus disease (COVID-19) has been recommended. And indeed, the National Health Service system in UK has mandated the completion of a CFS score on every ED patient > 65 years of age. However, there is no clear ED data on the use of this tool and its ability to prognosticate in older ED patients with a suspected infection.

In this issue of *CJEM*, Dr. Fernando et al. evaluates the association of frailty and mortality in older ED patients with suspected infection and the use of frailty as a prognostic tool.⁵ In their study, frailty was evaluated by the treating ED physician using the CFS. They found a high rate of frailty in older ED patients with suspected infection. Frailty was associated with increased risk of septic shock and 30-day mortality. The CFS demonstrated

From the *Department of Emergency Medicine and School of Epidemiology and Public Health, University of Ottawa, Ottawa, ON; †Department of Emergency Medicine, University of Saskatchewan, Saskatoon, SK; and the ‡Schwartz-Reisman Emergency Medicine Institute, Mount Sinai Hospital, Department of Family and Community Medicine, University of Toronto, Toronto, ON.

Correspondence to: Dr. Debra Eagles, The Ottawa Hospital, Civic Campus, Epidemiology Program, F658a, 1053 Carling Avenue, Ottawa, ON K1Y 4E9, Canada; Email: deagles@toh.ca

© Canadian Association of Emergency Physicians 2020

CJEM 2020;22(5):624–625

DOI 10.1017/cem.2020.448

higher sensitivity for predicting mortality and, when used in combination with systemic inflammatory response criteria and the Quick Sequential Organ Failure Assessment, improved prognostication than any individual score alone. This study adds to the growing body of evidence that demonstrates the importance of frailty as a clinical concept and how evaluation can facilitate prognostication of older ED patients.

Frailty-related research is growing exponentially, but there is still much that needs to be done if we are to address this growing public health challenge. Much of the work to date has focused on frailty identification and prognostication, and the impact of frailty on physician and patient decision-making remains largely unknown. While there is low-quality evidence that targeted interventions may alter the frailty trajectory, more robust studies are needed if directed interventions and treatment are to be gainfully employed. Furthermore, the impact of frailty evaluation on discharge planning and continuing care, as well as the economic impact of these targeted interventions, is an important consideration and must be evaluated.

Frailty is common in older ED patients. It is associated with increased morbidity and mortality. The CFS is a simple, quick tool that can be used to identify frailty in

the ED. A better understanding of a patient's place on the frailty spectrum can inform discussions around patient-centred care and treatment decisions. EDs have been variably responsive, mostly slow, to implement systems that integrate frailty into models of care. It is time to ensure that this important concept is integrated into every emergency physician's understanding and practice and into ED systems of care.

Competing interests: None declared.

REFERENCES

1. World Health Organization. *WHO clinical consortium on healthy ageing*. Geneva, Switzerland: WHO; 2017.
2. Fried LP, Tangen CM, Walston J, et al. Frailty in older adults: evidence for a phenotype. *J Gerontol A Biol Sci Med Sci* 2001;56(3):M146–56.
3. Mitnitski AB, Mogilner AJ, Rockwood K. Accumulation of deficits as a proxy measure of aging. *Sci World J* 2001;1:323–36.
4. Rockwood K, Song X, MacKnight C, et al. A global clinical measure of fitness and frailty in elderly people. *CMAJ* 2005;173(5):489–95.
5. Fernando SM, Guo KH, Lukasik M, et al. Frailty and associated prognosis among older emergency department patients with suspected infection: a prospective, observational cohort study. *CJEM* 2020;22(5):684–688.