In this issue of the journal, Afilalo et al. (1) suggest a novel screening technique to aid in risk assessment of elderly patients who are to undergo cardiac surgery. Their new screening tool, consisting of an observer, a stopwatch, and a well-lit hallway, is reproducible, and I believe will be extraordinarily cost-effective. Indeed, this study’s findings add several new important insights into selection of elderly patients for cardiac surgery. Most importantly, it replaces such subjective tests such as the “eyeball test,” which only substantiated that the judgment of clinicians varied greatly in selecting elderly patients for cardiac operations.

Several observations regarding risk stratification and cardiac surgery highlight the importance of the present study. The explosive growth of the population 65 years of age and older in the U.S. and the high prevalence of cardiovascular disease in this age group will place unprecedented demands on our health care delivery system and its providers. Stated differently, we must prepare ourselves to face decisions regarding treatment options for this exponentially growing segment of our population with scant data to appropriately guide our decisions. Whereas increasing age is a robust statistical predictor of adverse outcomes after cardiac surgical procedures (Society of Thoracic Surgeons risk model), the recognition that physiological age and chronological age differ in many patients. Therefore, age, per se, often does not provide an accurate reflection of risk/benefit is selecting patients for cardiac surgery.

Afilalo et al. (1) explore the boundaries of frailty and cardiac surgery. They offer 3 very important observations in patients older than 70 years of age undergoing elective or urgent cardiac surgery. 1) They found that patients with slow gait speed, defined as >6 s to walk 5 m, experienced a nearly 3-fold increase in risk after cardiac surgery. 2) Importantly, their observations also showed that the addition of gait speed to existing cardiac surgery risk models vastly improved the predictive value of mortality and morbidity from these models. In this regard, the authors are to be commended for expanding the outcomes beyond mortality in this report because many elderly individuals fear loss of independence as a fate worse than death. As such, the present study showed that a slow gait speed doubled the chances that one would be discharged to a health care facility or would have a prolonged hospital stay. These data are sorely needed when facing elderly patients and counseling them regarding treatment options and expected outcomes. 3) Of particular importance, the interaction of female sex and slow gait speed emerged as a particularly high-risk subgroup. Elderly women with slow gait speed had an 8-fold increase in morbidity or mortality; clearly this group deserves further study to explore the well-described adverse interaction of female sex and cardiac surgery.

Placing this study in perspective is unique because the current literature regarding frailty and cardiac surgery outcomes is sparse. The domains of frailty and disability are separate, and although frailty does not have a universally accepted definition, most would accept slow gait speed as a clinically useful and reproducible measure of frailty. To date, most reports of elderly patients undergoing cardiac surgery are limited to single-center case series, which merely substantiate “proof of concept” that such operations can be performed in selected elderly patients. The one large multicenter, retrospective database series of octogenarians and nonagenarians undergoing cardiac operations reported mortality. This study did not provide any discrimination of who was at profoundly increased risk, other than noting that the traditional risk factors of emergent operations and low ejection fraction pre-operatively predict poor outcomes. These risk factors apply to both young and elderly patients (2). One important caveat regarding the present study is that the mean age of patients was 75 years. It remains unknown whether gait speed would predict outcomes in patients older than 85 or 90 years of age who are to undergo cardiac surgery, and further study of the “oldest old” is necessary. Last, it would be inappropriate to conclude that a person is not a candidate for operation based solely on the 5-m gait speed.

What is certain in the uncertain landscape of health care delivery is that cardiovascular professionals will be faced with an increasing number of older patients who could benefit from cardiac surgery and will ask for a chance to regain functional independence and quality of life. Careful and appropriate patient selection and a technically sound operation will add both quantity and quality to the life of patients older than 75 years of age who have cardiovascular
Afilalo et al. have given clinicians an important tool to help us care for this exponentially expanding pool of elderly patients with cardiovascular disease.

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Key Words: aging – cardiac surgery – cardiovascular diseases – frailty.