

# Walking ability predictor of adverse outcomes following cardiac surgery

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Among more than 15,000 patients who underwent cardiac surgery, slow gait speed before surgery was associated an increased risk of death following surgery, according to a study published online by *JAMA Cardiology*.

Gait speed, measured as the time required to walk a short distance (usually 5 meters [16.4 feet]) at a comfortable pace, is one of the most commonly used tests to screen for frailty. The gait speed test reflects impairments in lower-extremity muscle function and, to a lesser extent, neurosensory and cardiopulmonary function. The utility of gait speed is especially promising in [cardiac surgery](#), where an increasingly aged and complex geriatric population is subject to the inherent stress of surgery. Prediction of operative risk is a critical step in decision making for cardiac surgery.

Jonathan Afilalo, M.D., M.Sc., of McGill University, Montreal, and colleagues examined the association of 5-m gait speed with 30-day mortality and illness after cardiac surgery. The study was conducted at 109 centers participating in the Society of Thoracic Surgeons Adult Cardiac Surgery Database. The 5-m gait speed test was performed in 15,171 patients (median age was 71 years) undergoing coronary artery bypass graft, aortic valve surgery, [mitral valve surgery](#), or combined procedures.

The researchers found that slow gait speed was independently predictive of operative mortality and, to a lesser extent, a composite outcome of

mortality or major morbidity. This result was observed across a spectrum of the most commonly performed cardiac surgical procedures used to treat ischemic and valvular heart disease. Overall, for each 0.1 meter/second decrease in gait speed (e.g., taking 6 seconds as opposed to 7 seconds to walk the 5-m course at a comfortable pace), there was an 11 percent relative increase in [operative mortality](#).

"Gait speed can be used to refine estimates of operative risk, to support decision-making and, since incremental value is modest when used as a sole criterion for frailty, to screen older adults who could benefit from further assessment," the authors write.

"Additional research is needed to examine the effect of gait speed on long-term hazards and patient-centered outcomes, and to develop targeted interventions that can offset the negative impact of frailty."

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