

## Walk test for predicting cognitive dysfunction after heart surgery



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Cognitive deterioration is a common occurrence after major surgery, especially among older patients. New research shows the distance a patient can walk in 6-minutes before a heart operation may be a clue to whether that patient will develop problems with memory, concentration, and attention after the procedure. The findings, published online in *The Annals of Thoracic Surgery*, highlight the need for a more comprehensive evaluation of patient readiness for surgery.

A decline in cognitive performance after surgery is known as postoperative cognitive dysfunction (POCD). With POCD, a patient's mental aptitude is weaker after surgery, resulting not only in a greater risk of complications, but also a lesser quality of life.

"This study indicates that the easy and inexpensive 6-minute walk distance (6MWD) is a valuable assessment for identifying patients at a high risk for POCD," explains lead author Kazuhiro Hayashi, PT, MSc, of Nagoya University Hospital in Japan. "If we are able to identify patients who are at risk for POCD, we can provide early treatment and encourage them to better understand the dysfunction."

The study included 181 patients (mean age of 71.4 years) who were undergoing non-emergency heart surgery between March 2014 and August 2015. Subjects performed the 6MWD test upon admission for their operations. Functional exercise capacity was measured by having patients walk the length of a predetermined course at their own pace while attempting to cover as much ground as possible in 6 minutes. The distance covered in that duration was measured to the nearest metre.

Researchers found that a low 6MWD was an associated risk factor for POCD after cardiac surgery. In fact, the lower the 6MWD was, the more significant the reduction in cognitive function postoperatively was. Of the study participants, 51 (28 percent) developed POCD.

As fitness level has an impact on how a patient does after a surgical procedure, this study highlights the need for the healthcare team to undertake a more detailed assessment of patients' physical fitness before the operation, according to Rakesh C. Arora, MD, PhD, of St. Boniface Hospital in Winnipeg, Canada, who was not involved with this research. "The 6MWD is an important component of this evaluation," the doctor adds.

By identifying patients at risk for POCD and other cognitive disorders, the care team would be able to modify anaesthetic and medication choices during-and-after the operations, as well as assist with discharge planning as patients transition to home, Dr. Arora explains. Other strategies, such as prehabilitation, should also be considered to optimise the patients' fitness before their operations.

"Prehabilitation may be of benefit to patients with poor physical fitness by improving postoperative recovery and post-discharge functional survival," says Dr. Arora. "Patient self-management and follow-through are essential, however, as is the patient's understanding of their health issues and their proposed plan of care."

Dr. Hayashi agrees that a multidisciplinary approach, which includes elements such as prehabilitation, is key to a better assessment and treatment outcome. "Precise preoperative risk assessment for postoperative complications is critical, and when indicated, supervised exercise before an operation should be recommended to improve functional exercise capacity before heart surgery," he points out.

Source: [The Annals of Thoracic Surgery](#)

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Published on : Tue, 15 May 2018