Age is not a risk factor for complications after surgery among older patients

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Among older patients, frailty and cognitive impairment before surgery are associated with developing complications after surgery, but age is not, a new study suggests.

In addition to frailty, depressive symptoms and smoking were also associated with developing postoperative complications following elective surgery, according to the systematic review, published online today in the journal *BMC Medicine*.

Researchers at St. Michael's Hospital also found that a patient's American Society of Anesthesiologists status, which evaluates the physical health of a patient before surgery and is traditionally assessed as a risk factor for postoperative complications, was not associated with postoperative complications in older patients.

"The fact that age and ASA status were not risk factors for postoperative complications is somewhat surprising, because these are the factors a clinician would typically look at when assessing a patient's risk of developing complications after surgery," said Dr. Jennifer Watt, lead author of the study.

The review examined 44 existing studies including more than 12,000 patients 60 years and older and reporting on postoperative outcomes including complications, postoperative mortality, length of hospitalization, functional decline and whether patients were discharged home or to another hospital or long-term care facility.
Due to significant differences in the design and reporting methods of the included studies, the authors were unable to report on the level of risk for specific postoperative complications, or their severity.

The researchers found that across all studies, 25 per cent of older patients experienced some complications following elective surgery.

"Older adults are a diverse group of patients whose risk of postoperative complications is not solely defined by their age, comorbidities or the type of surgical procedure they receive," said Dr. Watt. "This study highlights how common postoperative complications are among older adults undergoing elective surgery, and the importance of geriatric syndromes, including frailty, in identifying older adults who may be at risk."

The review did not examine why frailty was associated with negative outcomes following surgery, but the authors hypothesize that frailty and not older age was associated with postoperative complications because frailty represents a patient's biological age as opposed to their chronological age.

The authors also noted that there are proven interventions for a number of the risk factors identified in the review. Interventions aimed at improving a patient's nutrition, physical fitness and cognition have been found to improve frailty in older patients, and smoking cessation interventions before surgery have been associated with a lower risk of postoperative complications, according to the review.

"With this population, there is potential to intervene to improve outcomes following surgery by identifying and addressing risk factors before surgery, in particular with risk factors like smoking and depressive symptoms," said Dr. Watt. "These factors could be targeted in the preoperative clinic, potentially leading to better outcomes for older
adults undergoing elective surgery."

Provided by St. Michael's Hospital


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