

# Preoperative frailty associated with increased risk of death following surgery

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The presence of frailty-defining diagnoses before surgery were strongly associated with an increased risk of death at one year after surgery, particularly in the early postoperative period, in younger patients, and after joint replacement, according to a study published online by *JAMA Surgery*.

Daniel I. McIsaac, M.D., M.P.H., F.R.C.P.C., of the University of Ottawa, Ontario, Canada, and colleagues measured the effect of patient frailty on, and its association with, 1-year postoperative [mortality](#) in a population-based study in Ontario. All [patients](#) were community-dwelling individuals age 65 years or older on the day of elective, major noncardiac surgery. Frailty was defined using the Johns Hopkins Adjusted Clinical Groups (ACG) frailty-defining diagnoses indicator.

Of 202,811 patients, 6,289 (3 percent) were frail (average age, 77 years). In the year after surgery, 855 frail patients (14 percent) compared with 9,433 nonfrail patients (5 percent) died. Adjusting for age, sex, neighborhood income quintile, and procedure, 1-year mortality risk remained significantly higher in the frail group. The association between frailty and mortality varied significantly by time, patient age, and surgery type. An interaction between frailty and postoperative time suggests that the early postoperative period is a window of markedly increased risk of mortality for frail elderly patients.

The authors write that patients, families, and clinicians must be aware of the absolute increase in frailty-related mortality risk. "The 1-year

mortality rate for patients having elective nephrectomy, cystectomy, large-bowel surgery, liver resection, peripheral arterial bypass, esophagectomy or gastrectomy, or pancreaticoduodenectomy was at least 1 death per 5 frail patients. While the choice to proceed with an elective surgery must be weighed on a case-by-case basis, our findings support the need for thorough considerations of risk vs benefit and the overall goals of care in frail patients considering major [surgery](#)."

"Our findings suggest specific areas of focus for clinical and research efforts aimed at improving the care and outcomes of frail elderly surgical patients."

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