Name
Jacob Wilson

Email
jacobmwilson12@gmail.com

Title
Frailty, as measured by the 5-item modified frailty index, predicts readmission, reoperation, and hospital length of stay in elderly patients undergoing surgical management of distal radius fractures.

Purpose
Surgery in the geriatric patients with distal radius fractures (DRF) may offer less benefit than previously thought and therefore place patients at undue risk. Frailty has been used in other areas of medicine to identify patients at highest risk for complications. We hypothesized that a 5-item modified frailty index (mFI) could be used to identify patients at high risk for readmission, reoperation, and increased length of stay following open reduction and internal fixation (ORIF) of DRFs.

Methods
We retrospectively reviewed 6494 patients using the ACS-NSQIP database. This cohort included patients >50 years-old who underwent open reduction and internal fixation of a distal radius fracture. 5-item modified frailty index scores were then calculated and reoperation, readmission, and length of stay data was collected. Statistical analysis was then performed.

Results
We identified 6494 patients and the mean patient age was 65. As mFI increased from 0 to ≥2, 30-day reoperation rate increased from 0.8% to 2.4%, 30-day readmission from 0.8% to 4.6%, and LOS from 0.5 days to 1.44 days ($p<0.001$). Multivariate analysis revealed that when controlling for comorbid data, LOS, and operative time, patients with mFI ≥2 were 2.67 and 2.71 times as likely to be readmitted or undergo reoperation, respectively. Age alone was not significantly associated with postoperative complications.

Conclusion
Frailty predicts readmission, reoperation, and increased length of stay following open reduction internal fixation of DRFs. Use of a simple frailty evaluation may help surgeons decide which elderly patients with distal radius fractures to operate on versus cast.