

Does preoperative frailty index screening predict postoperative outcomes in geriatric total knee and hip arthroplasty patients?

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Introduction

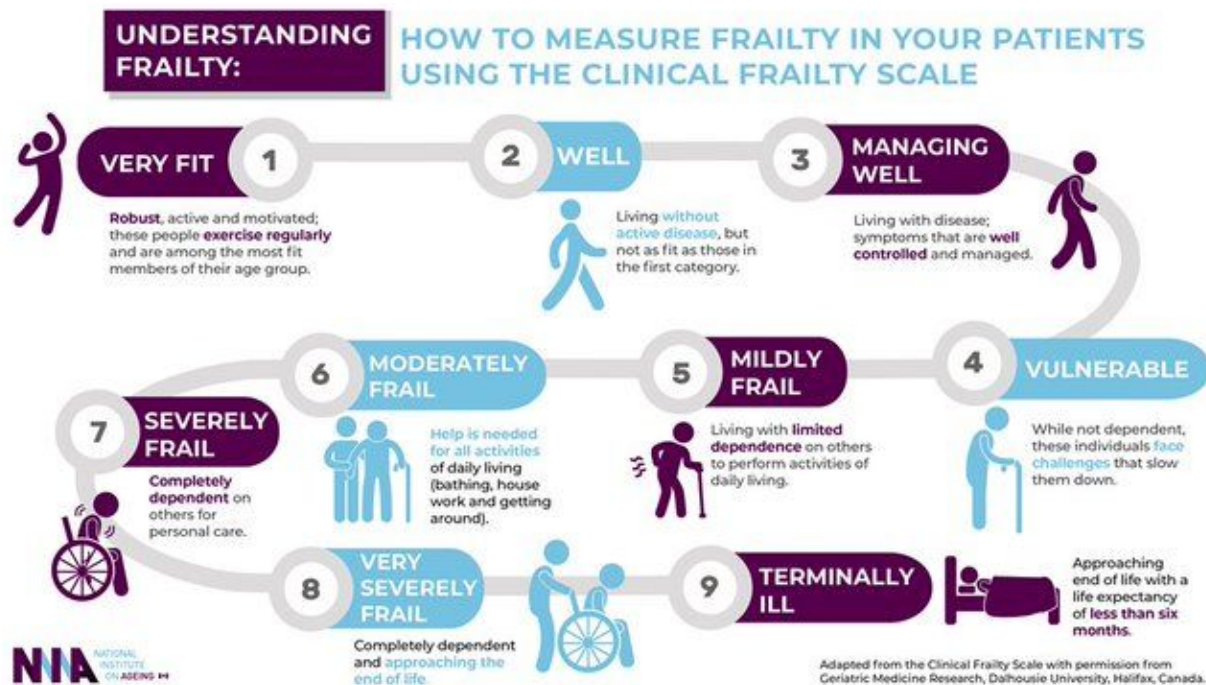
The Comprehensive Geriatric Assessment (CGA) frailty index (FI) takes predictors of post-operative health into account, including comorbidity count, narcotic use, fatigue, health attitude, motivation, balance, number of falls, resistance and aerobic ability, and cognitive status (Figure 1). The purpose of this study was to identify how FI correlates to adverse postoperative outcomes in geriatric total joint arthroplasty (TJA) patients.

Methods

Geriatric TJA patients (70-90 years old) were assessed using the CGA FI and Short Physical Performance Battery Protocol (SPPB). Preoperative, day of surgery, and one-year postoperative data were collected. Linear regression and Student's T-test were used to assess the association between preoperative FI score versus hospital length of stay, postoperative SPPB score, discharge location, and rate of readmission and emergency department visits within 90 days of surgery.

Table 1: Patient Demographics

Age	
Mean (SD)	77.83 (5.51)
Range	71 - 91
Gender, n (%)	
Male	9 (29.03)
Female	22 (70.97)
Body Mass Index, n (%)	
Mean (SD)	30.89 (7.58)
Range	17.71 – 49.89
Race, n (%)	
White	27 (87.10)
African American	4 (12.90)



Results

Discharge location ($p=0.0043$) and postoperative SPPB score ($p<0.0001$) were significantly associated with preoperative FI score. Patients discharged to home had a significantly different preoperative FI score (0.19) compared to those discharged to rehab (0.3)-lower scores indicate lesser frailty. For every 1 unit increase in preoperative FI score, there was a 16.08 unit decrease in postoperative SPPB score (Table 1).

Conclusion

TJA patients who were less frail (higher FI) were more likely to go home and have higher postoperative function. Improving patients' CGA FI scores prior to surgery may improve patient outcomes.



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Figure 1: Frailty Index Scale