

Preoperative Screening

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KEYWORDS

• Preoperative evaluation • Function • Morbidity and mortality

KEY POINTS

- Geriatric factors, such as function, mobility, and cognition, predict postoperative morbidity and mortality.
- A geriatric preoperative risk assessment includes detailed evaluations of function, mobility, cognition, medical conditions, and medications.
- Preparation for surgery in older adults requires a detailed discussion to share expected outcomes and risks and gain an understanding of the patient's goals of care.

INTRODUCTION

Approximately one-third of inpatient surgeries performed in the United States occur in adults older than 65.^{1,2} Studies have demonstrated that this population has a higher risk of postoperative morbidity and mortality compared with younger patients.³ Preoperative evaluation provides not only an opportunity to estimate risk, but also an opportunity for health optimization.^{4,5} Furthermore, accounting for the broader context of aging and health in the perioperative period can improve identification of goals of care and shared decision making before surgery.⁶ The American College of Surgeons National Surgical Quality Improvement Program (ACS NSQIP) and the American Geriatrics Society (AGS) published best practice guidelines to help guide geriatric perioperative care teams in improving both patient outcomes and experience.⁷ This article details important aspects of the preoperative assessment related to older adults.

GERIATRIC-FOCUSED PREOPERATIVE ASSESSMENT

Functional Status and Frailty

Measuring function provides critical information about the impact of illness, risk for complications, and needs for adaptive interventions. Functional assessment should

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be part of the preoperative evaluation for all older adults undergoing complex surgeries, because dependence in even 1 activity of daily living (ADL) is independently associated with increased mortality 30 days after surgery.⁸ Moreover, for those undergoing major cardiac surgery, impairment in instrumental ADLs (IADLs) may predict the risk of death at 6 months following the surgery.⁹ The ACS NSQIP/AGS Best Practice Guidelines recommends evaluating function using the 4-question Short Simple Screening Test for Functional Assessment:

1. *Can you get out of bed or chair yourself?*
2. Can you dress and bathe yourself?
3. Can you make your own meals?
4. Can you do your own shopping?

A negative response to any of these questions triggers a full inquiry about ADLs and IADLs to identify areas that need to be addressed both before and after surgery.⁵

Frailty, the loss of resilience with increased vulnerability to stressors, is independently associated with greater risk for postoperative complications, increased length of hospital stay, and greater likelihood of being discharged being dependent for care.^{10,11} Assessing selected components of frailty, such as gait speed, is more practical than trying to assess frailty as a whole. Slower gait speed alone predicts those at higher risk of postoperative complications. Gait speed less than 0.8 m/s independently predicts poor in-hospital outcomes in those undergoing cardiac surgery.^{12,13} The Timed Up and Go (TUG) test measures global functional mobility by having patients rise from a standard chair, walk 10 feet, turn and return to the chair, and sit down. Difficulty standing, or overall time more than 15 seconds predicts falls and should prompt a preoperative physical therapy referral. Although the TUG is the preferred test for falls risk, gait speed may be more informative for those with intermediate walking speeds because each 0.1-m/s decrease in gait speed confers an 11% relative increase in mortality in the setting of cardiac surgery.^{13,14}

Robust social support can compensate for losses of both physical and cognitive abilities and improve transitions after surgery. Patients after hip surgery with greater social support had improved functional recovery after 6 months, highlighting the importance of support networks in postoperative outcomes.^{15,16}

Cognition

Cognitive impairment is underrecognized in older adults and has important implications for function and health in the perioperative period.¹⁷ First, recognizing underlying cognitive impairment may lead the health care provider to reach out to the patient's family members or caregivers for additional history. Second, meaningful consent requires an understanding of the cognitive abilities. Third, underlying cognitive impairment substantially increases risk for postoperative delirium, which can prolong hospital length of stay and increase morbidity, mortality,^{18,19} and postoperative functional impairment.²⁰ Among older adults with cognitive impairment, proactive measures to mitigate delirium risk can reduce its incidence significantly.²¹ Finally, measures of a patient's baseline cognitive function can inform planning for postoperative and postacute care and the need for more social support.

In those without memory concerns, the Mini-Cog²² effectively assesses for short-term recall and executive function. A more detailed cognitive assessment can be done by using the Montreal Cognitive Assessment (MoCA)²³ or the St Louis University Mental Status Examination (SLUMS).²⁴

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