

## Preoperative Evaluation of the Older Patient

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### Abstract

As the number of surgical procedures performed on geriatric patients continues to grow, it is essential to realize the unique needs of the older surgical population. With this in mind best practice guidelines were developed by leaders in the field of geriatric surgery. These best practice guidelines, "Optimal Preoperative Assessment of the Geriatric Surgical Patient," are a comprehensive assessment addressing domains likely to impact older surgical candidates. Examples of these domains include: cognition, pre-operative physical baseline, social support, functionality, nutrition, frailty, and polypharmacy. While such a comprehensive "geriatric screening" may not always be practical, a more limited geriatric tailored preoperative assessment is still highly recommended. It allows the surgical team to proactively involve a nutritionist, physical or occupational therapist, social worker and other vital members of the postoperative care team.

**Keywords:** Cognition; Elderly; Frailty; Preoperative; Screening; Geriatric

### Introduction

The spectrum of health care continues to change, especially with regard to the growth in "oldest old," those over 85 years. This is paralleled by an increase in conditions commonly encountered in older patients such as peripheral vascular disease, degenerative joint disease, cataracts, and coronary artery disease.

Some health care centers have shown remarkable surgical outcomes in the geriatric population even in complex surgical procedures such as esophagectomy [1], gastrectomy [2] and pancreaticoduodenectomy [3]. More importantly, overwhelming evidence suggests that quality of life can be maintained or improved following surgery [4-7]. However, despite these positive results, age remains a risk factor for postoperative morbidity [8,9] and mortality [10,11]. This reminds us that there is room for quality improvement, a large part of which involves careful preoperative assessment and interventions uniquely fitted to the needs of geriatric surgical patients.

While considerable literature discusses "best" preoperative workup for the older patient, no single, validated assessment has been found. Geriatric assessments such as the Holy Grail of Geriatric Surgery [12] are a simple, reliable test to assess perioperative risk in a geriatric patient. As greater numbers of surgeries are performed on older adults, our understanding of the unique needs of the geriatric surgical population will improve. Further research and evidence-based practice will improve best practice guidelines to optimize preoperative geriatric care.

### ACS/AGS Best Practice Guidelines

Recognizing the unique needs of the aging surgical populace, the American Geriatrics Society (AGS) and the American College of Surgeons National Surgical Quality Improvement Program (ACS NSQIP) partnered to create best practices guidelines focused on geriatric surgical preoperative care. The final guidelines summarize evidence-based recommendations for improving preoperative assessment of geriatric patients [13].

### Best Practice Versus Reality

Acknowledging that this comprehensive evaluation entails time and resources, the panel still believed that those would be offset by

benefits such as identification of high-risk individuals, improved communication between the patient and care team, and prevention of adverse events. It provides critical information regarding a patient's preoperative baseline and emphasizes functional over chronological age. The geriatric preoperative assessment may initiate "prophylactic" preoperative interventions to optimize post-operative outcomes.

### Implementing Best Practices

The Sinai Center for Geriatric Surgery incorporated all of the ACS NSQIP/AGS Best Practices and routinely includes several others (Table 1). This evaluation is used for patients aged  $\geq 75$  years prior to any elective surgery. The assessment, requiring 20-30 minutes, is performed by an experienced nurse practitioner. The total assessment could readily be performed by a nurse, resident, physician assistant, or the patient's surgeon. Information is entered into the Cerner<sup>®</sup> electronic health record, allowing easy access to all who care for the patient.

When problems are identified, additional individualized

**Table 1: Additional assessments completed at our center**

-Adult Fall Risk Assessment
-Charlson Comorbidity Index Score
-Eastern Cooperative Oncology Group (ECOG) Performance Status
-Living situation
-Number stairs a person can climb
-Hearing/oral/dental screen
-Tobacco use
-Pinch grip assessment
-Core Healthy Days measures
-Zarit Caregiver Burden Interview
-Pre-assessment and post-assessment eyeball score

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perioperative care may be instituted based on the patient's unique needs. Examples include decreased hearing, increased risk for postoperative delirium, or fall risk. Care Management is notified if a patient's caregiver is found to feel severely burdened preoperatively or if other factors are identified that may pose difficulty with post-operative discharge disposition. If patients identified as frail surgeons are notified; procedures are rarely cancelled but often the surgical approach may be modified.

The financial commitment for this comprehensive program includes the salary and benefits of the nurse practitioner, a hand grip strength dynamometer (Jamar<sup>®</sup>, Sammons Preston Rolyan, Bolingbrook, IL), a pinch gauge dynamometer (Jamar<sup>®</sup>, Sammons Preston Rolyan, Bolingbrook, IL), a screening audiometer (Audioscope<sup>®</sup>, Welch Allyn, Skaneateles Falls, NY), information technology support to build the electronic database, and printed material to educate referring physicians. Since the inception of this program preliminary, unpublished data shows increased patient satisfaction, decreased length of stay, and fewer complications.

## Conclusion

The older preoperative patient benefits from a preoperative assessment beyond a routine physical examination and electrocardiogram. A more in depth assessment should address domains such as: functionality, social support, cognition, polypharmacy, nutrition, and frailty. This encourages decisions based on functional age rather than chronologic age and views each patient as a unique individual.

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