Preoperative Assessment of Older Adults
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The percentage of people over age 65 years is increasing worldwide, with the subset over age 85 growing at the most rapid pace. Predictably, as the population ages, people are living a longer time with medical illnesses, and they also develop surgical diseases. More than a third of all inpatient surgical procedures are performed on those over the age of 65. Advances in surgical and anesthetic techniques have further increased operative rates for older adults, as surgery has become a safer option than in the past. Despite this progress, older adults, particularly those over age 80 years, face a greater frequency of adverse perioperative events. Optimizing surgical outcomes in older adults is an essential part of geriatric care, and begins with a comprehensive and multidisciplinary preoperative assessment. This issue of Elder Care will focus on the role of primary care clinicians and teams in “risk assessing” older adults for elective, non-cardiac surgery, and optimizing their preoperative status for better outcomes.

For younger patients, preoperative assessment typically consists of evaluating cardiac risk for non-cardiac surgery. Single end organ functional assessment, however, does not capture all the information required to measure risk in the older patient. Rather, geriatric surgical risk needs to be assessed across three independent domains: (1) surgical considerations, (2) age and co-morbid conditions (including cardiac status), and (3) functional status and physiologic reserve (Figure 1).

Surgical Considerations
The surgical team chooses the optimal procedure and anesthesia for the patient. The role of primary care clinicians is to determine, and advise the surgical team, about the patient’s medical risks for surgery and approaches to minimize those risks. The American College of Cardiology and the American Heart Association (ACC/AHA) have produced a useful guideline that stratifies most surgical procedures into high, moderate, or low cardiac risk (Table 1). While this categorization is also useful for establishing risk in general, not just cardiac risk, a patient’s age and other medical problems should also be considered.

Age
Advanced age is an independent risk factor for adverse perioperative outcomes. This phenomenon reflects the physiology of aging, such as decreased heart muscle compliance, stiffer blood vessels, reduced lung mechanics, and an age-associated decrease in kidney function - all leading to an increased risk of complications. As per ACC/AHA guidelines, however, age over 75 years is only considered to be a minor risk factor for adverse cardiac events. In general, “physiologic age” and function are better determinants of perioperative risk than chronological age.

Medical Conditions
Evaluation of cardiac disease is the most important consideration. As mentioned, the ACC/AHA provide guidelines to help with cardiac risk assessment. Both vascular and renal considerations are also included in these guidelines (Table 2). Lee’s Revised Cardiac Risk Index (RCRI) is a quick and useful tool for assessing intermediate cardiac risk surgical candidates (Table 3). In the past, perioperative beta blockade was routinely used to decrease adverse events in most moderate- and high-cardiac risk patients. In 2009, ACC/AHA published new guidelines for more selective beta blocker use (Table 2). Recently, preoperative pulmonary assessment guidelines have also been established (Table 3). Along with assessing cardiopulmonary risk, it is also important to review and optimize all of the patient’s medical conditions. For example, controlling diabetes or assessing thyroid status will help to reduce adverse perioperative events. Reviewing medications that require discontinuation or special consideration during surgery is also essential.

In addition to managing diseases and medications, it is important to perform a comprehensive geriatric assessment. This systematic review will help to uncover geriatric syndromes that might not have been previously recognized. Preoperative assessment of cognitive function, for example, is extremely important to ensure proper informed consent and to risk assess for postoperative delirium. Screening for depression is also essential, as depression is associated with higher perioperative morbidity and mortality. Nutritional status needs review, as good nutrition is vital for adequate wound healing.

TIPS FOR PREOPERATIVE ASSESSMENT OF OLDER ADULTS
- Do not “clear” patients for surgery, but rather provide a “risk assessment”.
- Use appropriate guidelines based on co-morbidities and type of surgery.
- Functional assessment is an essential component in the preoperative assessment of all older adults.
- Assess the need for postoperative care and social support.
Frailty is a geriatric syndrome that is characterized by physiologic vulnerability or loss of functional reserve. Determining frailty may be a helpful way to identify those older adults who will have poor perioperative outcomes. Several methods to diagnose frailty currently exist. One evidence-based protocol uses the following 5 characteristics (3 of 5 is considered diagnostic of frailty, and 2 of 5 pre-frailty): subjective report of fatigue, low physical activity, objective measures of grip strength and gait speed, and unintentional weight loss. New studies are looking at “prehabilitation” to improve functional status prior to elective surgery.

Putting it all Together
Following a thorough preoperative assessment, older adults can face surgery with a managed risk. The patient will have been optimized medically with appropriate medications, and will have been screened to identify geriatric syndromes that could complicate perioperative care. Functional status will have been assessed and optimized prior to surgery, and social supports will be in place for the perioperative period. You will provide the surgeon with your assessment of the patient’s risk (“this patient is at low/moderate/high risk for a low/intermediate/high-risk procedure”). The surgeon and patient can then decide if the need for surgery overrides the risk, and proceed with a care plan.

References and Resources

