# Rapid Geriatric Assessment of Hip Fracture

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**KEYWORDS**

• Hip fracture • Osteoporosis • Elderly • Orthogeriatrics • Assessment
• Preoperative assessment • Morbidity • Mortality

**KEY POINTS**

- A comprehensive multidimensional preoperative assessment should be performed in all hip fracture patients.
- Use of risk predictors is highly recommended in order to identify potential postoperative complications.
- Long-term complications could be also predicted and prevented by a comprehensive preoperative assessment.

## PREOPERATIVE ASSESSMENT

Hip fracture should be suspected in any older person experiencing hip, groin, or femur pain and inability to mobilize following a fall or trauma.[1] The preoperative assessment should focus on rapidly gathering information to promptly optimize the patient for surgery. The role of the geriatrician is to thoroughly evaluate the patient for acute and chronic illness[2] and address medical issues that will impact upon intraoperative and postoperative morbidity and mortality. The geriatrician may form an integral part of the multidisciplinary care pathway, which is a complex intervention that can optimize clinical outcomes and resource use.[3–5] In patients with hip fracture, care pathways reduce in-hospital mortality, medical complications, wound infections, and pressure sores.[6]

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### *Timing of Surgery*

Studies examining time to surgery and outcomes following hip fracture have been observational in nature and results have been conflicting.[7–15] However, 3 systematic reviews have found that operative delay (beyond 48 hours in 2 reviews) significantly increased in-hospital and 1-year mortality.[16–18] Early surgery improved length of stay, reduced pressure sores, and increased the likelihood of a return to independent living.[7,17,18] The exception to early surgery is in patients with active high-risk cardiac conditions (**Box 1**), who should undergo additional preoperative assessment and possible delay to surgery to achieve optimization in order to improve outcomes.[19] However, the benefits of any intervention that delays surgery should be balanced with the knowledge that surgical delay generally results in poorer outcomes.[20]

### *Components of the Preoperative Assessment*

#### *History*

Establishing a comprehensive understanding of the medical, social, and functional history in addition to the circumstances of the mechanism of injury is integral to the preoperative assessment. Preoperative delirium and preexisting dementia are obstacles to accurate history taking and may be present in more than 50% and 30% of patients with hip fracture, respectively.[21] Collateral history from important others or witnesses will often be required. Retrieving relevant information from the family physician and involved specialists should also form part of the history-taking process.

The medical history should also focus on active conditions or those that may reemerge intraoperatively or postoperatively, along with review of body systems and medications. A focused falls history should include inquiring about prodromal symptoms, active illness, environmental factors, contributory chronic conditions, and medications known to increase risk of falls.[22] Additional risks, such as urinary incontinence, visual impairment, footwear, and alcohol intake, should be explored.[22]

Establishing the patient's prehospital basic and instrumental activities of daily living (ADLs) guides the development of goals designed to achieve premorbid function in postoperative rehabilitation and may provide a surrogate predictor of mortality risk.[23] Following hip fracture, there is a reduction in the ability to undertake ADLs of approximately 15% to 20% in surviving patients at 1 year following fracture.[23] Mortality is highest among those with lower functional performance.[23]

#### *Cognition*

Patients with preexisting dementia are more likely to experience delirium in the perioperative phase.[24] Delirium increases the risk of death, institutionalization, and

**Box 1**
**High-risk cardiac conditions requiring further evaluation and treatment before noncardiac surgery (class I, level B)**

- Unstable coronary syndromes
- Decompensated heart failure
- Significant arrhythmia
- Severe valvular disease

*Adapted from* Fleisher LA, Fleischmann KE, Auerbach AD, et al. 2014 ACC/AHA guideline on perioperative cardiovascular evaluation and management of patients undergoing noncardiac surgery: executive summary: a report of the American College of Cardiology/American Heart Association Task Force on practice guidelines. Circulation 2014;130(24):2215–45.