Fall Prevention in Hospitalized Patients

What We Know

› Patient injury or death occurring as a result of an accidental fall in a hospital is classified as a “never event” (i.e., a preventable event that should never happen) by the National Quality Forum (NQF), the Centers for Medicaid & Medicare Services (CMS), and the UK National Health Service (NHS).\(^2\,7\,18\)
  • CMS refuses to reimburse hospitals for necessary care provided if a patient experiences an accidental fall\(^2\).

› Accidental falls are associated with significant healthcare costs\(^5\,23\).
  • In 2015, accidental falls in patients > age 65 years in all settings (e.g., emergency department, community, hospitals) resulted in a total cost of $637.2 million; the total cost for non-fatal falls was $31.3 billion. The average cost of medical care related to an individual fall was $9,780\(^5\).
  • Researchers who conducted a retrospective observational study in a 728-bed teaching hospital reported that average patient length of stay was significantly longer in patients who fell compared with those who did not (37.2 days vs. 25.7 days); patients who did not fall were 2.4 times more likely to be discharged early from acute care\(^9\).

› Risk assessment—preferably with a valid and reliable risk assessment tool—is necessary to prevent accidental falls\(^4\,26\) (for more information, see Evidence-Based Care Sheet: Falls, Accidental: Risk Assessment).
  • Fall risk should be assessed at patient admission\(^11\).
  • Researchers in Wales evaluated the effect on the incidence of inpatient falls of a structured nurse training program in falls risk assessment. They noted a significant decrease in falls following implementation of the structured nurse training program\(^22\).
  • Researchers evaluated the STRATIFY and Downton instruments to determine their efficacy in determining risk for falls in adult hospitalized patients, and determined that these instruments are of little utility in determining fall risk\(^4\).
  • Researchers evaluated the sensitivity and specificity of the Morse Fall Scale (MFS) in conjunction with the a medication fall risk scale (RxRS) in assessing fall risk, and concluded that the combined tools resulted in a modest increase in specificity without decreasing sensitivity\(^26\).
  • Indicators of the Nursing Outcome for Fall Prevention Behavior of the Nursing Outcomes Classification taxonomy system can be used to assess fall risk\(^8\).

› A variety of factors increase risk for accidental falls\(^22\).
  • Risk factors for falls in hospitalized adults include
    - altered mental status\(^1\)
    - impaired gait/mobility/strength\(^1,20\)
    - lack of appropriate footwear\(^20\)
    - visual impairment\(^1\)
    - sensory deficits\(^20\)
    - frequent toileting\(^1\)
- high-risk medications (e.g., antihypertensives, psychotropic agents)\(^{(1,20)}\)
  - In a prospective cohort study, researchers determined that use of hypnotic medications was associated with an increased risk for falls in women, and use of psychotropic medications was associated with an increased risk for falls in men\(^{(11)}\)
- history of falls\(^{(1,11)}\)
- cognitive disorders\(^{(11,20)}\)
  - In a prospective cohort study, researchers determined that cognitive dysfunction was associated with an increased risk for falls in women\(^{(11)}\)
- increased age/age-related factors\(^{(11,20)}\)
  - Among inpatients aged 60-100 years, risk factors for falls included advanced age, delirium, and history of falls.
    - Increased body mass index (BMI) appeared to be protective against falls\(^{(14)}\)
- need for assistance with ADLs\(^{(11)}\)
- use of assistive devices\(^{(20)}\)
- risk taking behaviors\(^{(20,24)}\)
  - Patients might not consider themselves at risk for a fall, even though assessed to be at risk for a fall, and might engage in high risk behaviors (e.g., getting out of bed without assistance) and place themselves at risk\(^{(24)}\)
- acute/chronic illness\(^{(20)}\)
- Among children with cerebral palsy, factors that increase risk for falls include inability to sit for long periods, behavioral disorders (according to mother statement), inability to balance independently on knees, a negative Thomas test (i.e., measurement of the length of the muscles used in hip flexion), and a history of frequent falls\(^{(3)}\)
- Among patients undergoing total knee arthroplasty, risk factors for inpatient falls include older age, greater number of comorbidities, and increased major complications. Type of anesthesia (general versus peripheral nerve block) was not associated with fall risk\(^{(15)}\)

Individualized interventions based on comprehensive assessment are the most appropriate strategies for preventing falls\(^{(19)}\)

- According to the Agency for Healthcare Research and Quality (AHRQ), strategies to prevent falls must be interdisciplinary, customized, incorporated in the patient’s overall care plan, and balanced against other patient care considerations, such as the need for the patient to ambulate\(^{(1)}\)
- Universal fall precautions should be implemented for all patients. Universal fall precautions include\(^{(1)}\)
  - orienting the patient to his/her environment
  - placing the call light in reach and teaching the patient to use it
  - keeping patient belongings in easy reach
  - keeping the bed in a low position with the brakes locked
  - locking wheelchair brakes when stationary
  - having the patient wear non-skid, well-fitting footwear
  - Researchers of a systematic review found insufficient evidence to recommend the use of non-skid socks to prevent falls in hospitalized older adults. In addition, the socks were determined to be a source of infection and it is recommended that patients wear their usual footwear from home\(^{(10)}\)
  - keeping the patient environment free of spills or clutter
  - having sufficient light, including at night
- Hourly rounding of patients during the day and evening, and bi-hourly rounding during the night, performed by the nurse alternating with a nursing assistant, is an excellent proactive strategy for preventing falls. During rounding, the patient should be assessed for pain, assisted with personal needs, repositioned (as necessary/appropriate), place essential items (e.g., call light) in easy reach, and reminded to use the call light to prevent falls (i.e., the 5 “P’s”)\(^{(1)}\)
  - Intentional rounding, in which nursing staff performed nursing rounds with the intent to prevent patient falls, resulted in a 50% in patient falls in one UK Trust\(^{(16)}\)
- Researchers determined that the fall prevention strategies most cited by academic medical centers included the use of bed alarms and other environmental alerts, patient rounds every 1-2 hours to permit toileting, a standardized risk assessment tool, and committee oversight. Other strategies used include a fall risk alert in the electronic medical record, having a staff
member within arm’s reach during toileting, fall/safety champions (i.e., persons designated to promote fall prevention strategies), fall simulation nurse and resident training, and post-fall analysis and standardized physician orders. Researchers in Korea evaluated the effect of a structured fall prevention program on gait, balance, and fear of falling in hospitalized stroke patients. The program was partially based on the “Step Up to Stop Falls” program developed by the Health Foundation for Western and Central New York (available at https://hfwcny.org/program/step-stop-falls/). The researchers determined that participants in the structured fall prevention program demonstrated better gait and balance, and a decreased fear of falling, than did patients who received only treadmill training.

Fostering a culture of safety can help prevent falls. Researchers evaluating a quality improvement project aimed at fostering a culture of safety in an inpatient rehabilitation unit determined that a culture of safety, if implemented in conjunction with hourly rounding, results in decreased in falls.

Researchers of a pilot study evaluating the effect of an animated patient education video on inpatient falls found that after implementing animated educational videos, inpatient falls for patients ≥ age 65 significantly decreased, from 19.0% pre-intervention to 7.6% post-intervention. There was no significant decrease for patients < age 65.

Guidelines issued by the American Geriatrics Society and British Geriatrics Society in 2011 for the prevention of falls in individuals aged ≥ 65 years included new recommendations regarding patient assessment, exercise, and medical and medication management:

- Assessment: The guidelines recommend assessing feet, footwear, the patient’s ability to perform ADLs, and the patient’s ability to use assistive devices
- Exercise: The guidelines recommend exercise programs (e.g., tai chi or physical therapy) for community-dwelling older adults that include exercises related to balance, gait, and strength training
  - Cochrane reviewers found that a supervised exercise program reduced risk of falling by 64% in older hospitalized patients.
- Exercise programs to reduce fall risk should be used with caution in frail institutionalized patients
- Medical and medication management: The guidelines recommend managing hypotension and abnormal heart rate and rhythm and reducing medications if appropriate. Vitamin D supplementation of 800 IU daily is recommended for all older adults who are at risk for falls

The Centers for Disease Control and Prevention (CDC) developed the STEADI (Stopping Elderly Accidents, Deaths & Injuries) to decrease falls in older persons. STEADI includes an algorithm that assesses for specific risk factors and provides evidence-based treatment strategies; an electronic health record (EHR) decision support system; and training modules which include realistic clinical scenarios.

Strategies to prevent falls in hospitalized patients can decrease healthcare costs.

Researchers concluded that the decrease in falls occurring following implementation of a structured nurse training program to educate nurses about assessing fall risk resulted in an overall decrease in patient length of stay and healthcare costs.

In a systematic review, researchers determined falls-prevention programs can decrease healthcare costs resulting from accidental falls, but in some cases the cost of the falls-prevention was greater than the costs associated with caring for patients who have experienced an accidental fall. The researchers concluded that falls-prevention programs should be tailored to those patients at greatest risk for falls to be cost effective.

If an accidental fall occurs, a clinical analysis and root cause analysis can be performed to understand what policy or procedure failed to prevent the fall.

What We Can Do

Learn about the importance of fall prevention in hospitalized patients so you can accurately assess your patients’ personal characteristics and health education needs; share this knowledge with your colleagues
Assess your patients’ fall risk using standardized assessment tools; reassess risk regularly and follow facility protocols to institute universal fall prevention interventions
Document risk assessment and assessed risk factors for falls and fall prevention strategies implemented, including implementation of universal fall precautions and hourly/bi-hourly rounding
Communicate fall risk and fall prevention strategies at each shift report
Be aware of the components of a successful fall prevention program, which include
  - multidisciplinary team involvement with strong administrative support
  - continued evaluation of the physical environment
• development and implementation of protocols for assessing fall risk and guidelines for preventing falls and creating a culture of safety
• ongoing staff education that includes evidence-based interventions that are appropriate to the patient care setting
• serial monitoring of fall rates and providing staff with regular feedback

Collaborate to promote facility initiation of passive interventions that can prevent some falls and do not require patient involvement, including
• providing good lighting, including motion-activated lighting in the stairways and stairs
• lowering beds and using chairs that are stable
• providing nonskid footwear and eliminating bedside floor mats to prevent patient loss of balance, stumbling, tripping, or falling
• installing and maintaining appropriate handrails along corridor walls and in patient rooms and bathrooms
• eliminating obstructions from doorways and walkways
• scheduling regular maintenance of floor, furniture, and equipment
• collaborating with housekeeping in the facility, including prompt reporting of spillage and clearing obstacles/clutter

Collaborate to promote facility initiation of active interventions that allow the nurse to compensate for patient deficits, which decreases risk of falls; these include
• scheduled toileting for patients
• scheduling regular patient rounds to provide for patient needs
• holding balance improvement programs for patients
• providing “rest stops” along the hallway for patients who become tired, weak, and/or dizzy during ambulation
• reminding and encouraging patients to use the call bell for assistance before attempting any activity
• encouraging patients to notify staff members if they feel dizzy, unsteady, or unsure when trying to stand or walk
• encouraging patients to remind staff members to provide a walker, cane, or crutches if required

Use strategies that are low in cost and potentially beneficial such as visual cueing (e.g., posting signs in the patient room) to enhance recognition of patients who are at high risk for falls, moving high-risk patients to rooms and areas in the unit or facility that are more visible, and providing fall prevention education for patients and their families

## Coding Matrix

**References**


