

Patient-centered fall prevention

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Patient falls are a common but preventable problem in hospitals. Approximately 30% of inpatient falls result in injury, and injurious falls increase patient morbidity, mortality, and healthcare costs. Patient falls are considered a nursing-sensitive outcome because their incidence has been linked to the quality of nursing care. The reasons why patients fall and fall prevention strategies in hospitals have been a focus of research for over 6 decades and the evidence has been evaluated in systematic reviews and meta-analyses. Despite decades of research and a growing body of evidence for prevention, many hospital-based fall prevention programs are locally developed, use unreliable assessment tools, and don't leverage existing evidence.

This article examines the science of fall prevention in hospitals and makes recommendations for implementing and adopting a patient-centered and evidence-based fall prevention program.

Literature review

Over 90% of falls in hospitals are preventable. Preventable falls include accidental falls and anticipated physiologic falls. Accidental falls are caused by environmental hazards, such as spills, cluttered rooms, improper footwear, and patients unable to get help when needed. These falls can be prevented by applying universal safety precautions for all patients, including wiping up spills, maintaining a clear path to the bathroom, providing safe slippers, and ensuring patient access to the call system. Anticipated physiologic falls are caused by a patient's physical condition, and these falls are prevented by conducting a fall risk assessment, developing a personalized fall prevention plan, and communicating the plan to all key stakeholders to address patient-specific risk factors.

Unanticipated physiologic falls are caused by an unknown or emergent medical condition, such as a new-onset seizure, heart attack, or stroke and may not be preventable. However, unanticipated physiologic falls account for fewer than 10% of falls in hospitals; once the cause is known, a plan can be developed so future falls can be prevented.

Hospital-based fall prevention research before 2000 focused mainly on determining risk factors for falling and developing screening tools to identify patients prone to falls. As a result, the factors that place patients at risk for falls in the hospital are well established and there are many screening tools to identify fall-prone patients. The most common risk factors for falls in hospitals are a previous history of falling; gait instability; lower limb weakness; urinary incontinence or frequency



and/or the need for toileting; agitation, confusion, or impaired judgment; and medications, especially sedative hypnotics.

Most fall risk screening tools are comprised of a subset of these factors and were developed using varying levels of rigor. Previous studies have tested and compared the accuracy of the different screening tools, but often the methods used were flawed, contributing to uncertainty as to which fall risk screening tool should be used in hospital settings. It's important to note that risk assessment helps identify fall risk factors but doesn't prevent falls.

Evidence from studies published from 2009 to the present suggests that fall prevention is a three-step process comprised of completing a fall risk assessment, developing a tailored or personalized fall prevention plan, and consistently implementing the plan. It's important to choose a fall risk screening scale that's accurate and comprehensive, which can be completed quickly at the bedside involving the patient. This will provide the information that nurses need to develop an initial fall prevention plan on admission that's tailored to patient-specific risk factors. Regular reassessment will aid in refining the fall prevention plan over the course of a patient's hospitalization as potential risks for falling may emerge. Recent evidence also suggests that patient engagement in all three steps of the fall prevention process prevents falls and related injuries. Patients who are engaged in the three-step fall prevention process are knowledgeable about their personal risks of falling and their personal fall prevention plan. Patients are then able to partner with the care team to ensure that their fall prevention plan is consistently carried out correctly.

The Fall TIPS tool kit

From 2007 to 2009, our team developed the Fall TIPS (Tailoring Interventions for Patient Safety) tool kit to integrate the three-step fall prevention process into practice. For step 1, assessment, we used the Morse Fall Scale (MFS) because this

Figure 1: EHR Fall TIPS poster

scale addresses all six common predictors of falls when used properly. In addition, the MFS was rigorously developed, is accurate, and can be completed quickly at the bedside with the patient. We conducted focus groups with nurses, other professional and paraprofessional providers, and patients to identify interventions to address each risk factor.

We developed the Fall TIPS clinical decision support (CDS) in the electronic health record (EHR) to automatically link each MFS risk factor to evidence-based interventions that are both effective and feasible in hospital settings. As the nurse completes the MFS in the EHR, an evidence-based plan is automatically developed to address each risk factor. The plan uses icons to display

Figure 2: Fall TIPS laminated paper poster

Patient Name: John		Date: 05/12/2016	
Increased Risk of Harm If You Fall <input type="checkbox"/>		Fall Interventions (Circle selection based on color)	
Fall Risks (Check all that apply)		Communicate Recent Fall and/or Risk of Harm	
History of Falls <input type="checkbox"/>	Walking Aids	Crutches	Cane
Medication Side Effects <input checked="" type="checkbox"/>	IV Assistance When Walking	Walker	Toileting Schedule: Every <u>1</u> hours
Walking Aid <input checked="" type="checkbox"/>	Bed Pan	Assist to Commode	Assist to Bathroom
IV Pole or Equipment <input checked="" type="checkbox"/>	Bed Alarm On	Assistance Out of Bed	Bed Rest <input checked="" type="checkbox"/>
Unsteady Walk <input checked="" type="checkbox"/>	1 person	2 people	
May Forget or Choose Not to Call <input checked="" type="checkbox"/>			

patient-specific risk factors and the prevention plan at the bedside as a poster that can be easily understood by patients regardless of language or literacy level (see *EHR Fall TIPS poster*). We also developed a low-tech version of the poster that uses color to link the MFS risk factors to evidence-based interventions (see *Fall TIPS laminated paper poster*). In a series of clinical trials involving over 40,000 patients, the Fall TIPS tool kit was associated with a significant decrease in falls and fall-related injuries.

The Fall TIPS tool kit includes a suite of tools to promote adoption and spread of evidence-based fall prevention best practices (see *The Fall TIPS tool kit*). It's used in over 200 hospitals in the US and around the world, supported by over a decade of research, and described in more than 20 peer-reviewed manuscripts (www.

FallTIPS.org/resources/publications). The Fall TIPS tool kit is freely available online at www.FallTIPS.org.

Common barriers to fall prevention and recommendations

An overarching barrier to fall prevention in hospitals is the tendency to develop local fall prevention programs rather than adopt an existing evidence-based program. The following three areas are particularly problematic.

Barrier: Use of fall risk assessment tools that aren't scientifically valid and don't inform interventions. The fall risk assessment is the foundation of an evidence-based fall prevention plan. Using risk assessment tools that don't address the six common reasons patients fall in hospitals will lead to gaps in the

fall prevention plan. In addition, many existing tools aren't parsimonious; they include risk factors that aren't actionable. These take more time to complete but don't support the prevention plan.

Recommendation: Select a fall risk assessment tool that's scientifically valid and comprehensive (includes all the common predictors of falls), doesn't include nonmodifiable risk factors, and can be completed quickly and accurately at the bedside. Some EHR vendors can prepopulate the fall risk assessment scale with EHR data, but the patient's fall risks and fall prevention plan should always be reviewed and refined based on nursing judgment to develop the tailored prevention plan with the patient.

Barrier: Labeling patients as low-, medium-, or high-risk leads to generic prevention plans that don't protect the patient. For example, "high risk of falls" signs and other generic indicators of fall risk, such as yellow socks or wristbands, don't tell staff why the patient is at risk and what should be done to prevent a fall. Further, on medical units, most patients are high-risk, so these signs become "noise" in the environment. Patients at risk due to a gait disturbance require different interventions than patients with a cognitive disturbance. Applying a fall prevention bundle to all patients at high risk for falls requires a long list of interventions, many of which aren't applicable to a specific patient and may needlessly tax hospital staffing resources. Also problematic is the practice of using bed alarms for all patients at high risk for falls. Bed alarms are only appropriate for patients who can't reliably call for help. For all other patients, they create needless noise in the environment and can result in alarm fatigue.

Recommendation: Don't label patients as low-, medium-, or high-risk because even low-risk patients fall. Instead, adopt practices that identify patient-specific risk factors. If a patient has just one risk factor, we're still obligated to implement a personalized intervention to prevent a fall related to that

risk factor. The nurse, care team, and patient, as well as family members if available, should know the patient's risk factors and how to prevent those risk factors from causing a fall.

Barrier: Lack of patient and family engagement in the three-step fall prevention process.

Recommendation: Engage patients in all three steps of the fall prevention process. Patient engagement in fall risk assessment ensures that patients know their risk factors for falling and believe those risks may cause them to fall unless they follow their fall prevention plan. This is especially important for younger patients and those who aren't at risk for falling at home and don't believe they're at risk for falling while in the hospital. Patient engagement in developing the prevention plan ensures that patients understand what they should or shouldn't do and partner with the nurse and care team to accurately and consistently carry out their plan.

Final thoughts

Patient falls in hospitals are a persistent problem; however, falls are preventable by engaging patients and their families in the three-step fall prevention process. Evidence-based tools are available to help nurses implement an effective and sustainable fall prevention program. ■

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The Fall TIPS tool kit

General resources

- Fall TIPS website (www.FallTIPS.org)
- Fall TIPS implementation protocol
- Fall TIPS rollout guide
- Laminated paper Fall TIPS template (English)
- Laminated paper Fall TIPS template (Spanish)

Leadership resources

- Fall TIPS leadership talking points
- Fall TIPS gap analysis form
- Fall TIPS SWOT analysis form
- Fall TIPS implementation checklist
- Fall TIPS patient engagement monthly report template

Training resources

- Fall prevention knowledge test
- Fall TIPS training slides
- Fall TIPS super user training slides
- Fall TIPS instruction sheet for nurses
- Fall TIPS instruction sheet for nursing assistants
- Fall TIPS information sheet for patients
- Fall TIPS quality audit and audit instructions

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