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Implementation Guide for Fall Injury Reduction

VA National Center for Patient Safety
Reducing Preventable Falls and Fall-Related Injuries



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Keith Essen, R.N., Ph.D., M.S.S., VA National Center for Patient Safety, VA National Center for Patient Safety (NCPS) expresses its appreciation and acknowledges the VHA and DoD patient safety colleagues who collaborated and shared their framework that informed the development of this document.

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Introduction

This guide is a focused version of eight goals to help prevent falls and fall-related injuries, continuing national guidance to prevent moderate to serious fall-related injuries across settings of care. This implementation guide is designed for administrative, clinical, quality and patient safety personnel in hospitals, long term care, and home care, to further enhance your program's infrastructure and capacity to fully implement a fall injury prevention program, while engaging Veterans and their caregivers as full partners in their care. It is intended to serve as a summary document and provide resources for further review, complementing existing programs offered within the VHA.

The Problem of Falls and Injurious Falls

Falls represent a major public health problem around the world. In the hospital setting, falls continue to be the top adverse event.¹ Injurious falls are 'never events' that are not only associated with significant morbidity/mortality. Some 3-20 percent of inpatients fall at least once during their hospitalization.² In acute and rehabilitation hospitals, injurious falls ranged from 30-51 percent.³ Of these injuries, 1-3 percent result in fracture. Falls and severity of injury significantly increase total health care costs. Wu et al (2010) compared health care costs for fallers' and non-fallers' total health care costs from 1996⁴ and adjusted those cost to 2010 dollars. The costs were not the costs immediately subsequent to a fall, but rather total health care costs (regardless of what the health care was for) for fallers and non-fallers over a 12-month period. Adjusted to 2010 dollars, one fall without serious injury costs an additional \$3,500 annually, while patients with equal to or greater than two falls without serious injury have increased annual costs of \$16,500. Falls with serious injury are the costliest with additional annual costs of \$27,000.⁵ People who fall incur additional costs compared to those who do not fall. Many interventions to prevent falls and fall-related injuries have been tested, but require multidisciplinary support for program adoption and reliable implementation for specific at-risk and vulnerable subpopulations, such as the frail elderly and those at risk for injury.

The Joint Commission

The Joint Commission (TJC)⁶ (2013) requires accredited hospitals to conduct fall risk assessments for hospitalized patients to identify each patient's risk for falls so that prevention measures can be implemented into the plan of care (TJC, 2013). Since it began to monitor sentinel events in 1995 through the end of 2012, the TJC has had 659 fall-related events, which resulted in death or permanent loss of function, voluntarily reported as a sentinel event. This number reflects voluntary reporting and represents only a small portion of actual events. The actual number is unknown but most likely much greater, attesting to the importance of fall

prevention interventions. What is clear is that patients are still falling in hospitals and experiencing injury (The Joint Commission Sentinel Event Statistics).

VHA's Leadership in Fall and Injury Reduction

Since 1999, the VHA National Patient Safety Center (NCPS) has steadfastly championed reduction of fall and fall-related injuries. The VA NCPS has funded the VISN 8 Patient Safety Center of Inquiry (PSCI) since 2000, with a priority agenda to implement innovative practices in fall and injury reduction as a research translation center.

In 2000, NCPS also launched a National Falls Collaborative Breakthrough Series to reduce falls and injuries throughout the VA. Since 2004, NCPS has provided the national and international health community with a national Falls Toolkit, leading clinical practices to protect Veterans with hip protectors. This toolkit is referenced throughout patient safety entities, including the National Quality Forum, Institute for Health Improvement, TJC, and ECRI. Thus, for over a decade, VHA has devoted national priorities to the reduction of fall and fall-related injuries, especially moderate to serious injuries that result in loss of function and loss of life.

To further advance these patient safety goals, VHA has standardized a fall risk assessment, fall and injury definitions and measures, implemented comprehensive assessment and treatment of fall risk factors, and implemented interventions to reduce injury. In 2012, NCPS launched a large-scale national fall injury reduction program that will further disseminate interdisciplinary approaches to fall injury reduction that is population-based⁷ (Appendix A) and crosses the continuum of care. A description follows of VHA's definitions and goals for fall injury reduction.

Fall and Fall-Related Major Injury Definition

VHA defines a **fall** as a loss of upright position that results in landing on the floor, ground, or an object or furniture, or a sudden, uncontrolled, unintentional, non-purposeful, downward displacement of the body to the floor/ground or hitting another object like a chair or stair; excluding falls resulting from violent blows or other purposeful actions.

VHA defines a major injury related to a **fall** as:

Any fall that sustains a fracture and/or trauma requiring emergency treatment; head trauma which includes patient's head striking a surface or object and may include or result in any of the following: subdural hematoma, concussion, TBI or behavioral changes. The major injury definition includes death—the patient died as a result of injuries sustained from the fall (not from physiologic events causing the fall).

NCPS has adopted analysis of falls by type of falls⁸ (Appendix B), increasing precision in analysis of falls by type of falls and committed to reduce *preventable* falls: accidental and anticipated physiological falls. NPCS and VISN 8 PSCI assert that organizations must first know the types of falls that are occurring in order to accurately align programs resources and interventions to increase patient safety.

Eight Goals for Fall-Related Injury Risk Reduction:

The following goal statements are essential and inter-related to reduce preventable falls and resulting injuries. Organizations are encouraged to take each goal statement and add a measureable outcome and timeframe for accomplishment. Next, each action statement should designate responsible persons and establish timelines for implementation and outcome evaluation. This approach will create a strategic plan that is goal- and outcome-oriented.

- 1. Improve Organizational Infrastructure and Capacity for Fall Prevention Programs**
 - a. Develop an interdisciplinary team focused on fall and fall-related injury prevention
 - b. Assess current situation: fall program processes and outcomes
 - c. Engage senior leadership support for fall program
 - d. Use the Model for Improvement⁹
 - i. Set measureable goals
 - ii. Identify how to measure success
 - iii. Determine which changes will be implemented to lead to improvement

2. Ensure a Safe Environment

- a. Evaluate availability and use of equipment for *surveillance systems, such as camera monitoring systems*
- b. Evaluate and *eliminate sharp edges*
- c. Increase availability and use of *raised toilet seats*
- d. Increase availability and use of *toilet safety frames/grab bars*
- e. Develop plan to fully integrate *hip protectors* use for reduction of hip fractures
- f. Develop plan to fully integrate use of *floor mats* for patients in bed at risk for injury
- g. Develop plan to *utilize toolkits* (hip protector, floor mats, IHI TCAB) at the unit level
 - i. NCPS national Falls Toolkit:
<http://vaww.ncps.med.va.gov/Tools/fallstoolkit/index.html>
 - ii. AHRQ falls toolkit, Preventing Falls in Hospitals:
<http://www.ahrq.gov/professionals/systems/long-term-care/resources/injuries/fallpxtoolkit/index.html>
 - iii. VISN 8 PSCI falls website:
<http://www.visn8.va.gov/patientsafetycenter/fallsTeam/default.asp>
- h. Determine accessibility to *self-locking wheelchairs and rolling seated walkers* for patient use

3. Integrate Equipment Safety Strategies to Reduce Falls

- a. *Raise bed height* for patient to stand or transfer safely
- b. Have patients use *stabilized seating/furniture* to support posture changes
- c. Ensure *bed and wheelchairs are in locked* position with position changes (for patients with dementia/cognitive impairment, use of self-locking wheelchairs)
- d. Whenever possible, eliminate use of restraints
- e. Ensure wheelchairs and other equipment are in good working order

4. Mitigate or Eliminate Patients' Modifiable Fall Risk Factors

Increase knowledge and use of the American Geriatric Society guidelines for multifactorial fall risk assessment of older adults:

http://www.americangeriatrics.org/health_care_professionals/clinical_practice/clinical_guidelines_recommendations/2010/

- a. Determine multifactorial fall risk factors and history of falls with or without injury and add to patient plan of care.
 - History of falls
 - Medications (dose and timing; be aware of psychotropics, digoxin, diuretics, antihistamines/benzodiazepines, antidepressants, cardiac drugs/antihypertensives, anticoagulants)
 - Gait, balance, and mobility (impaired gait, balance and / or mobility)

- Visual acuity (impaired visual acuity)
- Other neurological impairments
- Muscle strength
- Heart rate and rhythm
- Postural hypotension
- Feet and footwear (inappropriate use of assistive device/footwear)
- Environmental hazards
- History of fall-related injury (fracture, head injury, fall-related emergency room admission)

Additionally, assess for:

- Agitation/delirium
 - Altered elimination, frequent toileting
- b. Establish clinical alert if the patient has a history of falls especially if being anticoagulated or given diuretics, hypotensives or antidepressants
 - c. Conduct intentional rounding to offer pain management, toileting, call light and other possessions within reach, comfortable positioning
- 5. Reduce Moderate to Serious Fall-Related Injuries for Vulnerable Populations-Specific Fall Injury Reduction Programs (Such as ABCS, Geriatric Psychiatry, Homecare, Etc.)**
 - a. Implement population-specific fall injury reduction programs (such as ABCS, geriatric psychiatry, homecare, etc.) (see Appendix A)
 - 6. Assure Reliable Communication at Handoff About Fall Risk Factors and Injury Risks**
 - a. Re-design handoff communication tool that includes fall and injury risk factors
 - 7. Reliably Integrate Patient (Family) as Partner in Their Fall Prevention Program**
 - a. Implement teach-back strategies
 - b. Reliably educate patients: who are anti-coagulated about what to do after a fall; educate those who have osteoporosis about bone health and hip protectors.
 - 8. Redesign Fall Program Evaluation**
 - a. Conduct post-fall huddles and trend root / immediate causes of patient falls; utilize results to implement changes, such as clinical practice, care delivery, and / or environment
 - b. Identify and analyze types of falls (anticipated physiological falls, unanticipated physiological falls, and accidental) (Appendix B)
 - c. Assess fall-related major injury rate: falls with major injury/bed days of care X1000
 - d. Assess fall-related overall injury rate falls with injury/bed days of care X1000

Appendix A

ABCS Tool: The following groups of patients are most at risk for injury if they sustain a fall, providing a framework for population-based approach to fall and injury reduction:

A = Age (equal to or greater than 85) or frailty

B = Bones (fracture risk or history)

C = AntiCoagulation (bleeding disorder)

S = Recent Surgery (during current episode of care)

For all patients: Education is essential using teach-back strategies

Bundled interventions for each vulnerable population follow:

- **A**ge: Individuals who are greater than or equal to 85 years old or frail due to a clinical condition

Assistive devices within reach	<input type="checkbox"/>
Hip protectors (if fracture risk)	<input type="checkbox"/>
Floor mats (when patient is resting in bed)	<input type="checkbox"/>
Height adjustable beds (low when resting only, raise up bed for transfer)	<input type="checkbox"/>
Safe exit side	<input type="checkbox"/>
Medication review to reduce fall risks	<input type="checkbox"/>

- **B**ones: Patients with bone conditions, including osteoporosis, a previous fracture, prolonged steroid use, or metastatic bone cancer

Hip protectors	<input type="checkbox"/>
Height adjustable beds (low when resting only, raise up bed for transfer)	<input type="checkbox"/>
Floor mats (when patient is resting in bed)	<input type="checkbox"/>
Evaluation of osteoporosis	<input type="checkbox"/>

- **AntiCoagulation:** Patients with bleeding disorders, either through use of anticoagulants or underlying clinical conditions

Evaluate indications for anticoagulation: risk versus benefit	<input type="checkbox"/>
Patient education: what to do if you fall now that you are on blood thinners	<input type="checkbox"/>
TBI and anticoagulation: helmets	<input type="checkbox"/>
Wheelchair users: anti-tippers	<input type="checkbox"/>

- **Surgery:** Post-surgical patients, especially patients who have had a recent lower limb amputation or recent, major abdominal or thoracic surgery

Pre-op education: (teach-back strategies) Call, don't fall Call lights	<input type="checkbox"/>
Post-op education	<input type="checkbox"/>
Pain medication: offer elimination prior to pain medication	<input type="checkbox"/>
Increase frequency of rounds	<input type="checkbox"/>

Reference:

Boushon B, Nielsen G, Quigley P, Rita S, Rutherford P, Taylor J, Shannon D, Rita S. Transforming Care at the Bedside How-to Guide: Reducing Patient Injuries from Falls Cambridge, MA: Institute for Healthcare Improvement; 2012. Available at: www.ihl.org

Appendix B

Types of Falls

- ***Accidental Fall:** Fall that occurs due to extrinsic environmental risk factors or hazards: spills on the floor, clutter, tubing/ cords on the floor, etc., or errors in judgment in an otherwise cognitively intact patient, such as not paying attention.
- ***Anticipated Physiological Fall:** Falls associated with known fall risks as indicated on the Morse Fall Scale that are predictive of a fall occurring: loss of balance, impaired gait or mobility, impaired cognition/confusion, impaired vision. Falls that we anticipate will occur to the patient's existing physiological status, history of falls, and decreased mobility upon assessment.
- ***Unanticipated Physiological Fall:** Falls associated with unknown fall risks that were not predicted (cannot be predicted) on a fall risk scale: syncope; extreme hypoglycemia; stroke; heart attack; seizure.

*From Morse, J. (1997). *Preventing patient falls*. Thousand Oaks, CA: Sage.

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