

Failure to Ensure Patient Safety Leads to Patient Falls in Nursing Homes.

April 26, 2023

Failure to Ensure Patient Safety Leads to Patient Falls in Nursing Homes. PSNet [internet]. 2023.
<https://psnet.ahrq.gov/web-mm/failure-ensure-patient-safety-leads-patient-falls-nursing-homes>

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Patrick Romano, MD, MPH; Debra Bakerjian, PhD, APRN, RN; Marie Boltz, PhD, CRNP; Amy Nichols, EdD, RN, CNS, CHSE, ANEF; and Barbara Resnick, PhD, CRNP for this Spotlight Case and Commentary have disclosed no relevant financial relationships with ineligible companies related to this CME activity.

Learning Objectives

At the conclusion of this educational activity, participants should be able to:

- Recognize the risk factors for falls including any cultural considerations that may impact care planning.
- Compare five interventions relevant for fall prevention in long-term care settings.
- Describe optimal fall prevention care processes in long-term care settings.
- Summarize the ways in which the interdisciplinary team can and should work together to prevent falls in long-term care settings.

The Cases

Case 1: An 88-year-old woman with a history of dementia, hypertension (treated with a beta blocker), chronic obstructive pulmonary disease (COPD), and known high risk for falling was admitted to a nursing home. During the first two months of her stay, she remained confused, but the nurses were able to redirect her most of the time. She was not ambulatory and transferred from bed to wheelchair with assistance. She was not enrolled in a fall prevention program because she was not ambulatory. During this time, she fell when trying to get out of bed and was transferred to an acute care hospital and diagnosed with a hip fracture. The next day, she underwent open reduction and internal fixation of the left hip. Subsequently, the patient was diagnosed with sepsis, presumably from a urinary tract infection (UTI), and died less than one week later. The cause of death was documented as hip trauma from the fall at the nursing home.

Case 2: A 78-year-old woman with a history of obesity, diabetes mellitus, anemia, anxiety, end-stage dementia, and falls was admitted to a nursing home. Two days after admission, she was seen by the primary care provider (PCP) who completed a new patient assessment. Subsequently, the patient suffered multiple falls despite the nursing staff implementing “fall precautions” including moving the patient to a room close to the nurse’s station, which was the only specific precaution documented. Unfortunately, the patient could not follow instructions and did not understand that she was unable to walk unassisted. State law prohibited soft restraints to prevent falls.

The primary care provider was aware of the falls, came to examine the patient multiple times, and ordered physical therapy evaluation and treatment. Medications were given to assist with agitation secondary to dementia and a psychiatric evaluation was ordered to review the medications. The patient was noted to be consistently confused. Over the six months following admission, the patient had 16 falls noted in her chart. In response, the PCP completed a second evaluation and recommended a trial of discontinuing oral quetiapine, lorazepam, and tramadol, but continuing a compounded topical gel containing lorazepam, diphenhydramine, haloperidol, and metoclopramide.

Less than one week after the second evaluation, the patient was found face down on the floor and was unresponsive for two minutes, then began vomiting. She was taken to an acute care hospital where she was diagnosed with a traumatic subarachnoid hemorrhage. Her family requested comfort care and hospice; the patient died due to complications of her hemorrhage.

The Commentary

By Barbara Resnick, PhD, RN, and Marie Boltz, PhD, GNP-BC

Falls in Nursing Home Communities

It has been reported that over half of nursing home (NH) residents [fall](#) every year, which is about double the rate reported among community-dwelling older adults.¹ Although only 10-35% of these falls result in serious injuries,¹ such as fractures or head trauma, falls can have important psychological impacts on individuals such as increasing their fear of falling or causing depression.² Subsequent falls are the most common reason for filing malpractice claims against NHs, and the average costs of these claims, involving allegations of improper care, are increasing.³

For NH residents, there are many factors associated with the risk of experiencing a fall. These include internal individual patient factors and external factors, such as the physical environment and culture of care in the community.⁴⁻⁶ Internal functional factors include gait changes, and loss of strength, balance, muscle mass, and underlying functional capability. Additional internal factors include mental health issues such as fear of falling, cognitive impairment, behavioral symptoms associated with dementia, and delirium; acute illnesses such as infections; complications of chronic diseases such as stroke, neuropathy or osteoarthritis; cardiac diseases causing orthostasis or syncope, vertigo, deconditioning, or pain; and use of medications that impact the central nervous system such as opioids or psychotropic medications. External factors include the [culture of safety](#)—described as the positive and negative ways safety is addressed within the NH^{6,7} – including the controversial use of bedrails, cluttered hallways, unfounded beliefs and limited knowledge about falls and fall prevention among the staff, insufficient staffing, poor skill mix of nursing staff (e.g., registered nurses versus licensed practical nurses or certified nursing assistants), and limited availability of resources to optimize physical activity among residents such as the use of rehabilitation nursing assistants, supervised exercise rooms, appropriate seating devices, or access to commode chairs.⁷

Regarding the first patient case above, the patient’s dementia, possible medication side effects (e.g., hypotension from the beta blocker), and history of previous falls all provided evidence that she was at high risk for falls during her NH stay. Likewise, in the second case above, the patient’s dementia, history of falls, and use of psychotropic medications increased her risk of falling during her NH stay. There was no compelling need to complete a formal falls risk assessment as the history alone for these two residents provides sufficient information to highlight their risk for future falls. However, even in cases where there is no history of falls, resident fall risk assessments should be done for residents with cognitive impairment. For both individuals, an interdisciplinary person-centered care plan for fall prevention would be appropriate.

Approach to Fall Prevention and Improving Resident Safety

Repeatedly, through individual randomized controlled trials, systematic reviews, and clinical practice guidelines, it has been recommended that fall prevention interventions comprise a multicomponent approach^{5:8-10} and incorporate input from all members of the interdisciplinary team.^{11,12} These approaches generally include education of staff on the topic of risk reduction, interventions to optimize physical activity among residents with a focus on certain exercises known to effectively decrease fall risk or prevent falls (e.g., Tai Chi or other exercise programs that improve balance, resistance exercises, or dual-task activities), focused deprescribing especially of psychotropic medications and opioids, decreasing environmental risks (e.g., removing clutter, providing appropriate seating), and addressing pain, sleep, delirium, and sensory changes. Although inconsistent, some limited evidence supports the use of low bed heights in the prevention of falls, acknowledging that low bed heights may also limit function.¹³ Two recent systematic reviews on falls,^{14,15} one with a meta-analysis,¹⁵ did not find any evidence to support the use of chair or bed alarms, while a 2022 Clinical Practice Guideline included a weak recommendation only because an alarm might cause more rapid treatment after a fall.⁹ The evidence for use of, or avoidance of, bedrails is inconsistent as is the use of restraints for fall prevention.^{9:14} Some studies have indicated that bedrails have been associated with loss of dignity and autonomy and greater injury and mortality,⁹ and the Centers for Medicare and Medicaid Services have recommended significant restrictions on the use of bedrails as a restraint.¹⁶ Further, there is no significant evidence to support the use of Vitamin D

supplements to prevent falls in NH, although there are recommendations for community dwelling individuals.¹⁶ Lastly, there is no evidence that focusing on improving patient cognition or solely providing education about fall prevention for patients/residents, staff, or informal caregivers reduces falls or the risk for falls.¹⁰ Staff and patient education should always be combined with other personalized interventions.

In addition to using a multicomponent approach to falls, it is important that interventions are individualized for each resident and focused on his or her individual fall risk factors. That might mean deprescribing certain medications, facilitating an exercise program, or addressing sensory defects, or it might include alterations in their environment and interventions to reduce anxiety. Individualized deprescribing has been particularly effective for residents taking sleeping-related medications⁴ and when adding drugs such as [gabapentinoids](#) to a regimen that already includes opioids, as gabapentinoids may potentiate the effect of opioids on the central nervous system, increasing fall risk.¹⁷ Likewise, particularly for individuals who are deconditioned, exercise interventions that focus on resistance and balance exercises can decrease falls and the risk of falling.^{18,19}

There was no mention of fall prevention interventions provided for the resident in the first case above. The rationale for not addressing her risk of falling was that she was not functionally ambulating; however, non-ambulatory status does not always prevent a confused resident from attempting to get out of bed or falling. It was also not stated whether or not bed rails were present on the bed. While there is still some controversy on the use of full bed rails, if they were present, they may have contributed to her ability to get up herself and increased her risk of falling. Likewise, her blood pressure recordings, lying, sitting or standing, were not noted so we don't know whether she also may have suffered a drop in her blood pressure and experienced lightheadedness or dizziness upon standing, which could have contributed further to her risk of falls. No report of recent lab work related to her remote history of anemia was provided, which could indicate if this was currently a problem; anemia can contribute to weakness or dizziness and thus increase the risk of falls. Lastly, she was simply at risk for falling because of her impaired cognitive status, as she may have attempted to get out of bed while she was alone, despite her inability to ambulate independently. A person-centered approach to risk reduction for this resident might have been to evaluate and monitor lying and standing blood pressures, to determine her anemia status via lab work, and to evaluate her environment and determine the associated benefit or risk of using quarter bedrails, for example, depending on her functional status. Additionally, it is possible that ensuring the resident was supervised in her room, perhaps by having a family member or sitter in the room, may have been helpful but has not been well studied in NHs.

For the second case above, the only person-centered nursing approach documented was to move the patient closer to the nurse's station. Her PCP ordered physical therapy and a psychiatric evaluation for her dementia-associated agitation. Oral administration of quetiapine, lorazepam, and tramadol were discontinued due to her history of falls, but the compound gel of lorazepam, diphenhydramine, haloperidol, and metoclopramide, which was continued for her anxiety, may have contributed to her confusion. Whether team discussions were held to consider a more comprehensive personalized approach, involving input from the whole interdisciplinary team, was not noted, nor were results of evaluation of the underlying cause of the anxiety, evidence of pain, or other possible causes of agitation such as constipation given, and no additional environmental interventions were implemented. Consideration should have been given, for

example, to whether she should have had a low bed to prevent jumping or slipping to the floor when attempting to stand since she was not able to ambulate safely independently. Additionally, minimizing the time she spent unsupervised in her room, which enabled opportunities for poor decision-making could be helpful. Engaging activities staff in personalized falls prevention interventions to help to get her out of the room to activities she might enjoy, and deprescribing the topical medication might also have been used as ways to decrease the risk of falls for this individual.

Systems Change Needed/Quality Improvement Approach

A [culture of safety](#) is necessary to decrease falls and risk for falls among NH residents. As described above, culture of safety is dependent upon leadership; it is pervasive and permeates through the nursing home affecting the way that care is provided. A positive safety culture has a significant impact on the residents' care experiences as well as the experiences of the staff, enabling greater transparency, better communication, and greater awareness of patient safety risks. Communication among the interdisciplinary team members about each fall in the nursing home is critical to maintaining a culture of safety as is a positive leadership style among supervisors.

There are a number of components that are essential to establishing a culture of safety. They include teamwork, nonpunitive ways to address errors that do occur, effective leadership, and appropriate staffing rate and mix of staff.⁷ While recent federal reforms are targeting improved standards for nurse staffing to be published by 2026,²⁰ currently, there are no clear guidelines on staffing requirements or mix of staff. There is some evidence that suggests that when there are more licensed nursing hours per day at a facility (i.e., hours worked by registered nurses or licensed practical nurses) falls with injuries among residents tend to decrease.^{21,22}

NH staff also need to understand that education regarding implementation and use of interventions to decrease fall risk, while important, is not sufficient to change the behavior of either the staff or the residents.²³ Designing interventions based on social and cognitive theories may help staff and residents incorporate appropriate interventions into daily care.^{24,25} The Social Ecological Model and the Social Cognitive Theory focus on changing the behaviors of staff, residents, and families (or legally authorized representatives) to improve fall-prevention interventions. The Social Ecological Model recognizes the interactions of individual factors, such as age, gender, attitudes/beliefs; interpersonal factors, such as staff/resident interactions; environmental resources, such as access to tools for distraction; appropriate bed and chair heights; and policies, such as policies around team approaches to fall prevention and management. Social Cognitive Theory contends that the stronger an individual's self-efficacy and outcome expectations, the more likely that he or she will initiate and persist with a given activity. The four factors that influence self-efficacy and outcome expectations include: (1) successful performance of the activity; (2) verbal encouragement; (3) seeing like individuals perform the activity; and (4) elimination of unpleasant physiological and affective states associated with the activity.²⁶

Finally, it is important that residents, families and staff all understand that the risk for falls can be decreased by optimizing the strength, function, physical status and environmental safety of all residents. Falls will, however, continue to occur as when an acute event or illness happens and as residents' capabilities change over time. Assessing residents for their risk of falls based on their fall history, medications,

cognition, function, and environmental hazards, establishing an interdisciplinary person-centered fall risk plan, and assuring that staff implement the care plan is the best way to decrease the incidence of falls.

Take Home Points

- Multiple factors contribute to the risk of falls, and fall prevention requires a multicomponent, interdisciplinary approach.
- A person-centered assessment and care plan for fall risk and prevention should be developed using input from all members of the interdisciplinary team.
- Education of residents, staff, or informal caregivers alone is not sufficient to prevent falls and should be combined with other individualized interventions.
- There is limited evidence for the use of restraints (e.g., siderails) to prevent falls.
- Exercise interventions, particularly those that focus on balance and strength, are effective in helping to prevent falls.

Barbara Resnick, PhD, CRNP

Professor and Sonya Ziporkin Gershowitz Chair

Department of Gerontology

University of Maryland

barbresnick@gmail.com

Marie Boltz, PhD, CRNP

Professor, Elouise Ross Eberly and Robert Eberly Endowed Chair, College of Nursing

Associate Director, Center for Geriatric Nursing Excellence

Pennsylvania State University

mpb40@psu.edu

Acknowledgements:

The long-standing process for submitting PSNet WebM&M case submissions is anonymous. Users may contribute by submitting a case at the following link: <https://psnet.ahrq.gov/webmmm/submit-case>

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This project was funded under contract number 75Q80119C00004 from the Agency for Healthcare Research and Quality (AHRQ), U.S. Department of Health and Human Services. The authors are solely responsible for this report's contents, findings, and conclusions, which do not necessarily represent the views of AHRQ. Readers should not interpret any statement in this report as an official position of AHRQ or of the U.S. Department of Health and Human Services. None of the authors has any affiliation or financial involvement that conflicts with the material presented in this report. [View AHRQ Disclaimers](#)