# Healthcare Risk Control

Risk Analysis Safety and Security 2

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## **Falls**

► VOLUME 2

Injuries sustained from a fall can be life threatening to a patient or resident and life altering for loved ones providing care for him or her. Of the falls that are documented and reported in the United States each year, the most common serious injury sustained is hip fracture. Of those individuals who sustain a hip fracture as the result of a fall, more than 24% die within a year of the fall, and 50% never return to their normal level of functioning.<sup>1</sup>

In 2002, 1.6 million seniors were treated for fallsrelated injuries,<sup>2</sup> and 10% of those injuries occurred in healthcare institutions.<sup>3</sup> If 30% of falls occurring in hospitals result in serious injuries<sup>4</sup> and the cost of treating serious injuries related to falls is between \$15,000 and \$30,000 per fall,<sup>5</sup> an average of \$1.08 billion is spent per year by the healthcare industry *just to treat those 30% of falls resulting in serious injuries*.

There are clear mandates from the Centers for Medicare & Medicaid Services (CMS) and the Joint Commission on Accreditation of Healthcare Organizations (JCAHO) to reduce the frequency and severity of patient falls. For example, JCAHO requires as one of its National Patient Safety Goals (NPSGs) that facilities implement and periodically reassess falls prevention programs.

*Healthcare Risk Control (HRC)* recommends that risk managers implement comprehensive falls prevention programs in all types of healthcare settings. This Risk Analysis provides risk managers with guidance in the following:

- Understanding CMS and JCAHO falls assessment and prevention requirements
- Developing an interdisciplinary falls team
- Understanding causes of falls
- Identifying patients at risk for falls
- Preventing falls
- Responding to falls

### JCAHO AND CMS REQUIREMENTS

In response to an increase in sentinel event reports sent to JCAHO involving patient falls-from 3% in 2002 to 4% in 2003—JCAHO has chosen reducing the risk of harm from patient falls as an NPSG in 2005 and 2006. To meet the requirements for this goal, accredited facilities must implement falls reduction programs and conduct ongoing assessment of the efficacy of the program. Other JCAHO standards applicable to the issue of falls prevention are delineated in the "Environment of Care" and "Performance Improvement" chapters of JCAHO's Comprehensive Accreditation Manual for Hospitals (CAMH) and require that hospitals develop, maintain, and implement plans to manage a safe environment for patients, staff, and visitors. Within this process, JCAHO requires that environmental tours be conducted to "identify deficiencies, hazards, and unsafe practices," that a proactive program be defined and implemented to reduce adverse events, and that data is collected to monitor the performance of any patient safety programs that are implemented.6

Federal regulations also address falls prevention and require that long-term care facilities be "as free of accident hazards as is possible,"<sup>7</sup> that each long-term care resident "receive adequate supervision and assistance devices to prevent accidents,"<sup>8</sup> and that hospital patients have "the right to receive care in a safe setting."<sup>9</sup>

### LAWSUITS AND MONETARY PENALTIES

#### Claims

Recent claims data on falls from long-term care settings may be useful for hospitals. The cost of individual falls-related claims in nursing homes reported by CNA Financial Corporation, Chicago—a national insurance company for long-term care facilities—is generally lower than that of other claims, but the overall cost of



resident falls for CNA is considerable in light of the frequency of these events. Long-term care resident falls accounted for 34% of all open and closed claims for CNA from 1996 to 2003 for long-term care clients at an average cost of more than \$70,700 paid per case. Of the most severe closed claims processed by CNA during that period (those paying more than \$100,000), 38% were for falls, and the average payment for these falls claims was more than \$193,300. Falls were the alleged contributing factor in 26% of all CNA claims involving death.<sup>10</sup>

#### Lawsuits

Patients and patient family members often perceive falls as preventable occurrences that indicate less- thanoptimal quality of care. The willingness of the public to punish facilities that do not protect patients and residents from falling is highlighted by a 2002 Alabama jury verdict of \$7 million—ultimately reduced by the judge to \$3.5 million—against a rehabilitation facility for failure to ensure a resident's safety from falling out of bed. The decedent's survivors claimed that the rehabilitative facility should have used safety restraints to prohibit the resident from falling out of bed. In this case, the resident fell out of bed multiple times during her first night at the facility, sustaining head injuries from the falls and dying shortly thereafter.<sup>11</sup>

Not all patient falls are considered a result of negligent care. In *Lewandowski v. Mercy Memorial Hospital Corp.*, a nurse helping a patient resume daily activities such as sitting in a chair, getting out of bed, and learning how to move with a walker was not found liable for a fall the patient sustained as the nurse was helping to dress her. In 2003, the court found that the nurse was performing a "professional nursing intervention" when she helped the patient in these activities and that an expert witness testifying to a breach of standard of care was required. No expert was brought forth, and the case was dismissed.<sup>12</sup>

#### **CMS Monetary Penalties**

Facilities also risk incurring CMS monetary penalties for failing to provide safe environments for patients and residents. In the March 2005 appeals case *Autumn Breeze Health and Rehabilitation Center v. CMS*, the Department of Health and Human Services (DHHS) Departmental Appeals Board upheld a ruling that found the Georgia long-term care facility in violation of 42 CFR § 483.25. This regulation requires that facilities provide "supervision and assistive devices designed to meet [the resident's] assessed needs and to mitigate foreseeable risks of harm from accident." The appeals board found that the facility had used a "generic pre-printed care plan for falls," that no specific information about the resident's risk factors was included, and that "the staff did not [implement] the interventions described." The resident, identified as an individual at high risk for falling, died after falling and sustaining multiple injuries and internal bleeding. CMS ordered the facility to pay a monetary penalty of \$3,050 per day from the date of discovery of the deficiency until the date of resurvey and certification of substantial compliance.<sup>13</sup>

In a case decided in May 2005, Country Club Retirement Center, Inc. v. CMS, the appeals board noted that the facility could have implemented "minimally restrictive interventions" such as using a low bed and pressure-sensitive alarms to help prevent falls.<sup>14</sup> CMS also imposed a fine against a skilled nursing facility after a resident fell and was injured, citing the facility's inadequate supervision of the resident, inadequate use and maintenance of the resident's pressuresensitive bed alarm, and inadequate training of staff. Another 2005 case, Birmingham Nursing & Rehabilitation Center- East v. Centers for Medicare & Medicaid Services, highlights the expectation that facilities provide training for these devices and the requirement that the placement and functioning of these devices be documented by licensed nurses on each shift.<sup>15</sup>

## ESTABLISHING A FALLS PREVENTION PROGRAM

Although national falls rates have risen, individual facilities are implementing falls prevention programs and making progress in reducing the frequency and severity of patient falls. To reduce falls rates, these facilities are reviewing and implementing a process to assess an individual's risk for falling, determining and applying interventions that will most appropriately prevent a person from falling, and reviewing occurrences of falls with the goal of identifying and eliminating the cause of the fall. This work is performed by an interdisciplinary group of practitioners and administrators who work toward a unified goal of reducing falls within the institution.

### **Falls Teams**

The composition of a facility's falls team will depend on the facility's size, current falls rate, patient population, and resources. See "Composition of a Falls Team" for information on who should be invited to join a falls team.

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Generally, a falls team is responsible for the development, implementation, and ongoing review of falls prevention protocols and policies. The team is also generally responsible for reviewing all falls that occur, developing protocols to eliminate or reduce the impact of all risk factors identified in the investigation, and analyzing the efficacy of all interventions in use.

Activities for falls teams include the following:16

- Defining the goals of the group and responsibilities of each member
- Establishing a falls rate baseline
- Performing an environmental assessment of the care units
- Choosing the risk assessment tools to be used for establishing a patient's risk for falling
- Delineating the interventions that will be used

### Composition of a Falls Team

The Department of Veterans Affairs National Center for Patient Safety (NCPS) has published a falls prevention toolkit, which recommends the following clinical and nonclinical staff for falls teams:

#### **Clinical Staff**

- Falls clinical nurse specialist
- Nurse managers
- Nursing assistants
- Pharmacist
- Occupational or physical therapist
- Physicians
- Nurse practitioners

#### Nonclinical Staff

- Patient safety manager
- Quality management coordinator
- Facility management coordinator
- Materials management coordinator
- Biotechnology manager
- Transportation manager

For more recommendations on how to develop and operate a falls team, access the NCPS toolkit online at http://www.patientsafety.gov/SafetyTopics/ fallstoolkit.

**Source:** Falls teams. In: National Center for Patient Safety. Falls toolkit [online]. 2004 May [cited 2005 May 9]. Available from Internet: http://www.patientsafety.gov/SafetyTopics/ fallstoolkit/notebook/04\_FallsTeam.doc.

- Educating the staff on how to perform, document, and communicate the results of risk assessments
- Training the staff on how to correctly implement appropriate interventions
- Implementing risk assessment and reassessment processes for all patients
- Evaluating the program after the first month, then every quarter
- Reporting findings to all appropriate committees
- Reviewing falls rates and feedback from staff, the patient, and family members
- Adapting the design and implementation of risk assessment tools and interventions based on evaluation results

#### Benchmarking

Results of a poll conducted by ECRI of HRC facility members reveal that, although all responding facilities require their staff to report falls, 21% do not have a definition of what constitutes a fall and requires reporting. The process of developing a falls prevention program requires a facility to clearly define and communicate to staff what a fall is and how the rate of falls will be measured. Consistency in the application of this definition is key to accurately measuring the number of falls within an institution. The Department of Veterans Affairs (VA) National Center for Patient Safety (NCPS) defines a fall as "the 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." Some studies exclude any fall that is the result of "sudden onset of paralysis, epileptic seizure, or overwhelming external force."<sup>17</sup> A potential or actual fall may be defined as any occurrence in which any of the following takes place:

- ► A patient is found on the floor, and investigation reveals that the patient fell
- ▶ A patient slides to the floor unassisted
- A patient rolls off the bed or chair and onto the floor
- A patient falls off or out of any equipment/ apparatus used for therapy or transfer (e.g., wheelchair, stretcher)
- A patient trips or slips and complains of or sustains bodily injury
- A patient, visitor, or family member reports a fall

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A controlled fall or slump in which the patient is assisted to the floor by a hospital employee is not considered an actual fall. However, an event report should still be completed so that preventive measures can be taken.

Falls rates that measure the actual occurrence of falls in a facility or unit are commonly expressed in terms of the number of falls that occur per 1,000 patient-days and are measured by the following formula:

 $\frac{\textit{Number of patient falls}}{\textit{Number of patient days}} \times 1,000$ 

Falls benchmarks are used to compare a facility's falls rate against an accepted standard. Although no patient fall is acceptable, not all falls are preventable.

Although there is no federal mandatory reporting system in place for falls, individual organizations such as VHA, Inc., the Maryland Quality Indicator Project, and the California Nursing Outcomes Coalition have published falls rates. The current reported falls rates calculated per 1,000 patient-days are 3.0 (VHA, Inc.),18 3.7 (Maryland Quality Indicator Project),<sup>19</sup> and 3.2 (California Nursing Outcomes Coalition).<sup>20</sup> However, these falls rates are not meaningful if a facility's data is not risk adjusted in the same way as the mentioned falls rates. The organization's definition of a fall, reporting policies, and method of calculating falls rates (falls per bed, per patient, per patient-days, or per patient-years) must be considered. Population mix and type of care unit must be considered because certain units have higher falls rates than others, with neurology at 5.2 falls per 1,000 patient-days, psychiatry at 4.1, rehab at 7.6 to 12.6, and geriatric at 7.8.<sup>21</sup>

A poll of HRC member facilities indicates that 68% of respondents use benchmarks to evaluate their facility's fall rate. To avoid comparing facility falls rates to a falls rate benchmark that does not represent the facility's risk factors, facilities should benchmark against their own baseline by developing falls rate targets using the facility's data on past falls. A poll of HRC member facilities indicates that 32% of respondents do not use benchmarks to evaluate their facility's falls rate. It is possible that those facilities that responded that they do not use benchmarks are using their internal previous falls rate history as a benchmark. Factors to incorporate in the baseline assessment should include unit and patient population; facilities may also want to evaluate the time of the fall, environmental (extrinsic) and patient-specific (intrinsic) risk factors, implemented interventions, patient activity at the time of the fall, and the severity of sustained injuries.<sup>22</sup> For more resources on how to measure the effectiveness of a falls prevention program, see the Resource List.

#### **Establishing Policies and Protocols**

Risk managers must ensure that falls policies are developed and that nurses, other employees, and volunteers—as well as medical staff and students—are aware of and follow the policies. In the event of a fall, healthcare facilities that do not have written policies could be found liable for failure to establish policies for patient safety.

When developing or revising falls prevention policies and protocols, it is important to remember that the risk factors for falls are multifaceted and that no single type of intervention will succeed in eliminating the risk of falling. Complicating the equation for longterm care facilities is the requirement to maintain—or improve whenever possible—a resident's mobility and functionality.\*

Major areas that should be addressed in a falls prevention policy include the following:<sup>23, 24</sup>

- Composition, responsibilities, and goals of a falls team
- Definition of a fall and near miss (e.g., trip, slip, stumble)
- Falls risk assessment requirements for inpatients, outpatients, visitors, and employees
- Reassessment of risk
- Environmental rounds
- Responsibilities of staff
- Initial and ongoing education of staff
- Intervention strategies
- Appropriate responses to falls, including protocols for investigation
- Event documentation and reporting requirements
- Collection and review of data for trends
- Revision of intervention strategies based on data
- Falls rates reporting within a quality improvement plan

<sup>\*</sup> To accomplish this, federal law requires that facilities perform comprehensive assessments of a resident's medical needs and identify those services needed to improve or maintain his or her level of functioning and activities of daily living whenever possible. These services must be included and provided within a comprehensive care plan as required by 42 CFR § 483.25 and must maintain the "highest practicable physical, mental, and psycho-social well being" of the resident.

- Promotion of falls awareness
- Reeducation for caregivers who are noncompliant with falls policies, procedures, and protocols and counseling or remediation should noncompliance persist

Facilities can access a sample falls policy from the Falls Toolkit on the VA NCPS Web site. See the Resource List for further information.

#### Assessing an Individual's Risk Factors

To determine whether someone is at risk for falling, facilities must conduct a falls risk assessment on each individual, evaluating both intrinsic and extrinsic factors in the process. Intrinsic factors are designed to indicate the medical, psychological, and physical issues of the patient, such as medications, fear of falling, or weak muscle strength. Extrinsic factors address the environmental risks patients encounter, such as slippery floors or inadequate staffing. (See "Intrinsic and Extrinsic Risk Factors.")

Because risk factors can change suddenly, patients and residents should be assessed at the following times:

- On admission
- When an individual's physical condition changes (medications given, surgery, return from physical therapy)
- When a fall or near miss occurs
- When transferred to new unit or for testing
- > At least quarterly for long-term patients or residents

Constraints on staff time require the use of tools that address as many risk factors as is practical yet effective. Because different assessment tools may be appropriate for different patient populations (e.g., nursing home versus acute care populations), facilities that use standardized risk assessments, such as the Morse or Hendrich scales, should review and modify these assessments to appropriately assess their particular patient population's risk factors prior to implementation.\* Guidance in the form of staff suggestions, findings from root cause analyses for past patient falls, and unit demographics will help falls teams develop and revise effective assessment tools. See the Appendix for a sample risk assessment form.

Risk assessments are formatted in numerous ways, and many hospitals use a point system to identify falls risk. For example, a risk assessment form may include evaluating risks posed by an individual's visual acuity, with a score of 0 indicating that no risk is posed by this factor and a score of 4 indicating a high risk is posed by this factor. The scores are then totaled and compared to a risk scale differentiating between patients at risk, high risk, and very high risk for falling. When selecting or developing a risk assessment tool, facilities are advised to ensure that the scores accurately differentiate risk levels. For example, if the scoring tool indicates that all patients are very high risk, caregivers will not perceive the tool as a credible indicator.

#### Medication

Twenty-one percent of patient falls reports list medication as a contributing risk factor. Serotonin-reuptake inhibitors, tricyclic antidepressants, neuroleptic agents, benzodiazepines, anticonvulsants, and class 1A antiarrhythmic medications have been most strongly linked to an increased risk of falling.<sup>25</sup> (See "Medications That Increase the Risk of Falling.")

Forty-three percent of patients whose falls were attributed to medication received more than one type of drug.<sup>26</sup> Because of the high correlation between falls and medication, facilities are advised to have dispensing pharmacists review patient medication regimens when filling the patient's drug prescription order.<sup>27</sup> However, facilities should note that there are indications that a "review of medication without modification appears to be of little benefit."<sup>28</sup> Therefore, reviewing pharmacists should inform the attending physician or caregiver if prescribed medications increase the risk, and these medication orders should be modified or eliminated whenever possible.<sup>29</sup>

#### **INTERVENTIONS**

A falls reduction program should assess, incorporate, and reassess multiple interventions specifically targeted to the individual's case considering the benefits and risks of maintaining the highest degree of functionality possible. The perils of adopting interventions that are not tailored to the individual's needs are highlighted by the monetary penalties upheld by the

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<sup>\*</sup> Outpatient care facilities and physician offices may consider using the "Get Up and Go" method of screening, a quick screening tool that provides caregivers with preliminary identification of a patient's motility issues. This test requires the person being assessed to rise from a straight chair, walk about 10 feet, turn around, return to the chair, and sit down. Persons with uncertain performance on this test are assessed further.

## Intrinsic and Extrinsic Risk Factors

There are many causes and predictive factors for falls, generally classified as intrinsic and extrinsic in nature. Intrinsic factors indicate the physical condition of the patient and, in general, cannot be modified. Extrinsic factors are associated with the environment in which the patient is living and, in general, can be modified.

The following is a list of intrinsic and extrinsic factors.

#### Intrinsic

- Age greater than 65 years
- History of falls
- Incontinence or urinary frequency or urgency
- Lower-extremity weakness
- Gait and balance deficits
- Use of tranquilizers, sedative-hypnotic drugs, or antihypertensive drugs
- Use of four or more prescription drugs
- Postural or orthostatic hypotension
- Reduced visual acuity
- Slowing darkness adaptation
- Perceptual changes (e.g., inability to perceive depth, reduced contrast sensitivity)
- Loss of hearing
- Neuropathy
- Proprioceptive dysfunction
- Cervical degenerative disorders
- Functional impairment (e.g., inability to perform basic activities of daily living)
- Changes in mental status, including dementia and depression
- Foot disorders
- Poor impulse control
- Belief that asking for help is inappropriate

Increased physical and independent activity, while positive, may increase the opportunity for falls in the elderly and, hence, the likelihood of injury. On the other hand, sedentary behavior can lead to further decline (e.g., further loss of muscle mass and strength). Most geriatric specialists feel that any level of achievable independent activity is worth the potential risk of falls as long as quality of life is enhanced. Increased staff awareness and protective devices to prevent serious injury (e.g., hip protectors) is one response to this dilemma.

#### **Extrinsic**

- Poorly designed bathrooms that do not include handrails or raised toilets
- Pieces of furniture, such as tables, beds, and chairs, that are on wheels and have sharp edges
- Flooring that is highly polished, wet, or covered with loose carpeting or throw rugs
- Ill-fitting or inappropriate shoes (e.g., shoes with high heels, rubber crepe soles that stick to flooring)
- Poorly maintained assistive devices (e.g., wheelchairs, support poles, trapezes)
- Poor instruction on use of assistive devices
- Inadequate nurse staffing levels
- Time of day (increased risk during shift changes)
- Prolonged length of stay
- Bed in high position
- Toilet in low position
- Use of restraints
- Full-length bedrails
- Monochromatic color schemes or colors that agitate
- Distracting noises
- Poor communication between staff, patient, and family
- Poor staff training and education
- Attachment to equipment such as heart monitors or IVs **Sources**:

Premier, Inc. Fall prevention [online]. [cited 2005 Jul 14]. Available from Internet: http://www.premierinc.com/safety/resources/falls/index.html.

Background. In: National Center for Patient Safety. Falls toolkit [online]. 2004 May [cited 2005 Jul 14]. Available from Internet: http://www.patientsafety.gov/SafetyTopics/fallstoolkit/ notebook/03\_background.pdf.

National Council on the Aging (NCOA). Falls free: promoting a national falls prevention action plan. Washington (DC): NCOA; 2005.

JCAHO National Patient Safety Goal question and answers.

Nagourney E. Aging: a new culprit in nighttime falls [online]. N Y Times 2005 Apr 12 [cited 2005 Apr 14]. Available from Internet: http://www.nytimes.com/2005/04/12/health/12agin.html?.

Ward A, Candela L, Mahoney J. Developing a unit-specific falls reduction program. J Healthc Qual 2004 Mar-Apr; 26(2):36-40.

DHHS Departmental Appeals Board in the previously mentioned case against the facility in Marietta, Georgia. The appeals board found that the facility had used a "generic pre-printed care plan for falls" and that no specific information about the resident's risk factors was included. Facilities must develop and implement interventions that address the specific risk factors that each patient faces.

#### **Evaluating the Environment**

Patient rooms should be evaluated and modified to meet the needs of each patient. For example, staff should determine every patient's stronger side and ensure that the patient exits the bed from this side. High-risk patients should be located in rooms closest to nursing stations.<sup>30</sup> For a list of other interventions addressing extrinsic factors, see "Reducing Extrinsic Factor Risks."

#### **Using Restraints**

As pressure grows from federal and state regulators and accrediting bodies against the use of physical and chemical restraints, healthcare organizations must walk a tightrope balancing the requirement to foster independence and autonomy in their patients and residents against the need to keep them safe.

Federal regulations regarding restraint use state that patients have "the right to be free from restraints of any form that are not medically necessary or are used as a means of coercion, discipline, convenience, or retaliation by staff."<sup>31</sup> These regulations provide facilities with standard-of-care evidence for not applying restraints to patients, but they are little comfort to family members who believe their loved ones will fare better with restraints such as bedrails. It is important to communicate to patients, leading to the patient's physiologic and psychological deterioration (e.g., skin breakdown, infection, incontinence, depression, anger),<sup>32</sup> and increases the risk of severe injury if the patient tries to escape from or remove the restraint.<sup>33</sup>

Falls reduction programs should address the issue of restraint use in all pertinent policies and should provide caregivers—who often suffer from feelings of guilt and depression when required to use restraints<sup>34</sup> with guidance on the proper escalation of restraint interventions for those situations in which all other interventions have been tried and failed. Because facilities are sued more frequently for improper use of restraints than for absence of restraints, ongoing staff training addressing the proper use of restraints is recommended.<sup>35</sup>

Occupational therapists and physical therapists should work with the falls team to design or recommend adaptive cushions or other positioning devices or equipment to help patients sit without the use of restraints. When restraints are used, staff must exercise extreme care and adhere strictly to appropriate policies and care procedures for applying restraints

## Medications That Increase the Risk of Falling

Research has shown that serotonin-reuptake inhibitors, tricyclic antidepressants, neuroleptic agents, benzodiazepines, anticonvulsants, and class 1A antiarrhythmic medications have been strongly linked to an increased risk of falling.<sup>1</sup> Administration of these and some overthe-counter medications increases the risk of falling, and this risk is greatly magnified if a patient is receiving four or more types of medication. Listed here are some medications that increase a patient's risk of falling:

- Antiarrhythmics
- Tricyclic antidepressants
- Antihypertensives
- Diuretics
- Hypoglycemics
- Laxatives
- Neuroleptics
- Nonsteroidal antiinflammatory agents
- Psychotropics
- Sedative-hypnotics
- Vasodilators

**Source:** Joint Commission on Accreditation of Healthcare Organizations. Root causes: tips and strategies for addressing the top three root causes of falls. Jt Comm Perspect Patient Saf 2003 Jun:5.

#### Note

1. Tinetti M. Preventing falls in elderly persons. *N Engl J Med* 2003 Jan 2;348(1):42-9.

and monitoring restrained patients. (See *HRC*'s Risk Analysis "Physical Restraints" for further guidance.)

State and federal standards for restraint use and the case law articulating these standards should be carefully reviewed on a regular basis as they continue to evolve. State laws regarding restraints require particular attention, because if a state's code is more restrictive on the use of restraints, it will supersede the federal code.<sup>36</sup>

#### **Bedrail Hazards**

Generally, full bedrails will not prevent a determined patient from getting out of bed. As with other types of restraints, the use of full bedrails, which the U.S. Food and Drug Administration (FDA) considers a medical device,<sup>37</sup> increases the likelihood of injury and death by entrapment for patients or residents trying to climb over them.<sup>38</sup> Severe patient injuries have been sustained during attempts to climb over bedrails from greater heights.

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## **Reducing Extrinsic Factor Risks**

The following interventions can be taken to reduce extrinsic risk factors:

- Use floor-level night-lights (avoid night-lights that merely create shadows and glare).
- Keep beds in their lowest position.
- Avoid using full-length bedrails (patients may attempt to climb over them).
- Keep floors uncluttered, and remove low objects that could trip a patient.
- Have patients wear slip proof socks or shoes.
- Ensure that patient clothing will not cause tripping (e.g., avoid use of long gowns).
- Cordon off wet floors and construction areas.
- Make caution signs understandable to all visitors.
- Leave dry areas around wet floors when possible.
- Do not overwax floors.
- Minimize glare on floors.
- Consider carpeting higher-risk patient areas (e.g., geriatric units).
- Use color contrasts to clearly identify steps and grade changes.
- Provide skidproofing in showers, tubs, and bathroom floors.
- Avoid furnishings that might slip when leaned on for support (e.g., wheeled tables), or make sure wheels are locked.
- Perform regular preventive maintenance on mobility aids (e.g., canes, walkers, wheelchairs, lifts).
- Avoid furniture with sharp corners.
- Install grab bars and wall rails.
- Advise home care patients against using throw rugs.
- Eliminate distracting noises.
- Appropriately time the mopping and/or vacuuming of high-volume areas.
- Maintain a quick response time for cleaning up spills, etc.
- Take appropriate precautions with outdoor walkways to guard against icy conditions, construction hazards, and uneven surfaces.
- Maintain appropriate staffing levels.
- Communicate the status of a patient's risk of falling to all caregivers, the patient, and the family.
- Use restraints only when all other interventions have proved to be insufficient.

Refer to the Resource List for further information on the risks associated with bedrails. Risk managers may also review "Clinical Guidance for the Assessment and Implementation of Bed Rails in Hospitals, Long Term Care Facilities, and Home Care Settings," available through the HRC Members' Web site. These guidelines were published by the Hospital Bed Safety Workgroup, a partnership formed by FDA in 1999 that consists of repre- sentatives from manufacturers, healthcare facilities, patient advocacy groups, and ECRI.

Partial bedrails may be preferable to full-length bedrails because they provide security, prevent falls from bed, and can be used as grab bars for turning. At the same time, they eliminate the need to climb over rails or footboards to get out of bed. High-low beds are also available. These should be left in their lowest position, thereby allowing freedom of movement for ambulatory patients and reducing the risk of severe injury from falls from bed. Housekeeping concerns may arise with the use of lower hospital beds because they must be raised to clean the floor and then lowered again. Risk managers should insist that beds are kept in the low position and stress the importance of this from a patient safety perspective.

#### **Clinical Alarm Systems**

Some facilities—usually those providing long-term care—incorporate pressure-sensitive bed and chair alarms as part of a comprehensive fall prevention program and as an alternative to restraints. Examples of bed exit alarms include pressure-sensitive exit alarm systems (e.g., bed, floor mat) patient-worn alarms, and bedside infrared beam detectors.<sup>39</sup>

Critics of bed alarm systems state that insufficient evidence exists to recommend use of bed alarms as a strategy for reducing patient falls<sup>40</sup> and that the use of these items can create a false sense of security among staff because the alarm cannot prevent a patient from getting out of bed or from falling. Alarm systems that activate both a nursing station alarm and the patient's call system immediately enable nurses at the station to counsel the patient to remain in bed and to assure the patient that assistance is coming. But caution should be exercised when using two-way alarm systems because the nurse's amplified voice may confuse or startle the patient, increasing the risk of falling.

Facilities implementing alarm systems must recognize that the success of these interventions depends on adequate staffing levels and timely response to alarms.

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Training on the use and maintenance of these systems is also required. Bed or chair alarm systems are considered medical devices and should be inspected and maintained according to manufacturer recommendations and recent experience of the organization. JCAHO surveyors will review the organization's method of monitoring maintenance practices.<sup>41</sup>

ECRI has conducted evaluations of bed exit alarms and reached the following conclusions:

- Facilities should not use bed alarm systems as the sole means of preventing falls.
- Pressure-sensitive alarms may not be appropriate for lightweight patients or residents who may not trip the alarm properly.
- Pressure-sensitive alarms may not be appropriate for highly agitated patients or residents who may trigger false alarms.

For more information on this topic, refer to ECRI's guidance article and comparative evaluation on bed exit alarms in the May 2004 and September 2004 issues of ECRI's *Health Devices* journal.

#### **Appropriate Staffing Levels**

Falls prevention programs should address the issues of staffing mix (the percentage of registered nurses, nursing assistants, and nurse aides) and patient-to- nurse ratios. Falls teams should review staffing ratios in all root cause analyses of patient falls. JCAHO's finding that poor staffing is a leading cause of falls corroborates a study conducted at Barnes-Jewish Hospital in St. Louis, Missouri, which found that if a nurse has more than five patients to care for, those patients are 2.6 times more likely to fall than patients whose nurse has five or less patients. The study also concluded that three of four patients who fell did not use the nurse call light for assistance.<sup>42</sup>

Encouraging patients to use a call bell for assistance or installing exit alarm systems will be ineffective if overworked nurses who are assigned a large number of patients do not respond in a timely manner to calls and are rushed or distracted when they interact with the patient.

Some facilities have established one-to-one sitter programs (paid or volunteer) as an extension of their nurse staffing to provide constant supervision of very- highrisk patients or residents. Sitters stay with the patient for the duration of their shift to ensure that the patient has proper support during any attempts to move. This option requires the establishment of patient eligibility criteria, training and assignment of voluntary or employed sitters, formal distinctions between the role of a sitter and that of licensed or certified care staff, and a means of addressing the program's financial costs. For more information on sitter programs, see "Sitters: An Alternative to Restraints" in the February 2000 issue of *HRC's Risk Management Reporter*.

## Use of Assistive Devices, Transfer Aids, and Architectural Aids

Interventions such as assistive devices, transfer aids, and architectural aids are commonly used to reduce a patient's or resident's falls risk. Evaluation of these types of devices and aids should be performed by the falls team and include preliminary equipment review to identify appropriate falls prevention products. Tools for evaluation of these devices include product literature searches and manufacturer visits, limited trials of the products, and on-site demonstrations by the device supplier.<sup>43</sup>

Canes, walkers, gait belts, and wheelchairs are examples of assistive devices; transfer aids include grab bars, transfer poles, and overhead trapezes; and bathrooms with elevated seat heights, chairs or benches in showers, and handrails are examples of architectural aids.

For these devices to be an effective component of the falls intervention program, education must be provided to staff, patients, and their families on how to use this equipment safely. As with alarm systems, JCAHO surveyors will review the organization's method of monitoring the ongoing maintenance of these devices.<sup>44</sup>

#### **Use of Hip Protectors**

Because JCAHO's 2006 NPSGs include reducing the harm caused by patient falls, and because facilities need to balance patient protection and patient independence, falls teams should consider implementing hip protectors. Hip protectors are padded undergarments designed to prevent fractures of the trochanter.<sup>45, 46</sup> Studies of patients in long-term care facilities in Great Britain and Germany provide evidence that wearing hip protectors results in a lower risk of fracture in long-term care patients.<sup>47,48,49,50</sup> Additionally, an evidence statement published in the *British Medical Journal* promotes the use of hip protectors; however, the efficacy of these devices in acute care hospital settings is not as well studied.<sup>51</sup>

Although it appears that the use of hip protectors reduces the severity of injury, staff and patients have been slow to adopt this intervention. Critics of hip



protectors cite lack of patient compliance due to toileting issues, skin irritations, and general discomfort due to the extra padding, as well as facility concerns with the cost and sanitation issues associated with these devices.<sup>52</sup> However, studies indicate that education in combination with the provision of hip protectors at no cost to the patient increases the use of hip protectors.<sup>53</sup>

#### Toileting

Toileting programs that include nursing supervision during voiding and increased frequency of patient rounds may reduce falls rates.54 A three-month study on patient falls at Washington University School of Medicine in St. Louis, Missouri, concluded that half of patient falls were related to elimination needs. Fortynine percent of these falls involved patients that had been left alone to void after being assisted to the bedside commode or bathroom.55 In a study on patient falls conducted at the University of Virginia Health Systems in Charlottesville, data revealed that patients who fell on the surgical unit did so when trying to move from their bed to the bathroom. This led to implementation of unit-specific focused interventions emphasizing frequent toileting in the surgical unit.56 Studies conducted at another large acute care facility indicated that the most effective intervention used to reduce patient falls was toileting rounds conducted every two hours, with an additional round for certain patients between 5:30 and 7:00 a.m.<sup>57</sup> A poll of HRC member facilities indicates that 23% of respondents do not conduct toileting rounds during the night. Risk managers should ensure that their facility's falls prevention program incorporates nightly toileting rounds and that staff remain with the patient or resident during the voiding process.

### **Staff Education**

Staff education is essential to the success of a falls prevention program. Almost 90% of organizations reporting fatal or injurious falls to JCAHO from 1995 to 2004 cited incomplete staff orientation and training. For example, 40% of the root cause analyses conducted for falls reported to JCAHO identified incomplete assessment or reassessment as a root cause for patient falls.<sup>58</sup>

All staff members involved in direct patient care should attend a mandatory in-service program describing the purpose and goals of the falls prevention program. Staff education should cover the following:

- Intrinsic and extrinsic causes of falls
- Instructions for conducting a complete risk assessment

- Falls prevention interventions (e.g., frequent toileting rounds)
- Correct transfer techniques (One study found that 50% of bed-based falls in a long-term care setting occurred during the transfer process. These falls were attributed to problems with the transfer process itself and equipment failures.)<sup>59</sup>
- Use of patient lifts (This is also important to prevent employee back injuries.)
- Use of assistive devices and aids
- Use of commodes and shower chairs
- Hazard and incident reporting

This training should be reinforced with ongoing mandatory clinics, and fall prevention materials should be included in the facility's newsletter. Progress reports are also helpful to maintain staff enthusiasm for a falls prevention program.

#### **Patient and Family Education**

It is also critical for the facility to provide education for both the patient and the patient's family about the causes of falls and possible interventions. Some hospitals give patients information at admission that explains why patients fall and provides guidelines on how to avoid falling while in the hospital. The information includes reminders to ask nurses for assistance and to follow physician orders regarding staying in bed. As risk managers know, however, not all admission information is read. Giving a patient written information upon admission cannot substitute for direct nursepatient communication. These discussions should be documented in the patient's chart.

Patients should always be shown the location of the bathroom and taught how to use the nurse call system. High-risk males should be asked to urinate from a sitting position, and nurses should explain to all high-risk patients why they may be likely to fall (e.g., if they take medications that cause dizziness or have surgical incisions that impede normal movements). Patients should also be taught how to walk and transfer into and out of bed safely and, in case other methods fail, how to fall gently (e.g., patients can be told to walk close to a wall and lean into the wall if they feel themselves falling). Patients should be told what to do if they fall (i.e., wait for assistance rather than attempt to get up). Instructions on the safe use of wheelchairs, canes, and walkers should also be provided.

#### **Communicating Patient Risk**

A JCAHO Sentinel Event Alert issued in 2000 noted that communication issues were the most widespread root cause for falls-related sentinel events. Almost 50% of organizations reporting fatal or injurious falls to JCAHO cited inadequate caregiver communication as the root cause of the accident.<sup>60</sup> These issues, which stem from inadequate staff training, included "failure to communicate information during nursing report, shift changes, or a transfer from a hospital to a nursing home; caregivers not documenting changes in conditions in the medical records; and families' inadequate communication about conditions and history of falling." Falls are more likely to occur when staff members have not been apprised of a patient's risk for falling.<sup>61</sup> Therefore, high-risk patients must be clearly identifiable as such to nurses and other staff, including agency nurses or others working on the unit temporarily (e.g., float nurses). Some ways to increase the visibility of high-risk patients include the following:

- Using color-coded armbands
- Using color-coded indicators in the nursing Kardex and at the patient's station call light (to remind nurses to answer these patients' calls promptly and in person)
- Placing the patient, upon admission, near the nursing station (one caveat: moving patients later can increase their disorientation)
- Using color-coded indicators on the patient's bed

Visible indicators such as those used in Falling Leaf or Falling Star programs\* invite nonclinical staff members such as housekeeping personnel to participate in the care of patients when they see a patient engaging in risky behavior by inquiring if the patient needs assistance and encouraging the individual to wait for a nurse to help him or her.<sup>62</sup> When patients are moved or discharged, facilities must remember to handle the indicator appropriately (e.g., they should be moved with the patient or thrown away). Otherwise, staff quickly learn that the indicators are unreliable and disregard them.

Facilities should note that implementing visual indicators programs without adequate staffing and/or staff, patient, and family education and communication

may be ineffective. A randomized controlled study on the efficacy of using color-coded bracelets to reduce falls did not demonstrate efficacy and revealed that this practice might contribute to loss of function due to stigma and heightened fear of falling.<sup>63</sup>

#### **Home Care Interventions**

A healthcare system has more exposure to liability for falls that occur in the hospital and long-term care setting than in a patient's home because it bears the responsibility for providing a safe environment. However, falls in the home can also result in claims and/or liability for healthcare systems and home care providers. For example, a quadriplegic fell during a transfer from his bed to his wheelchair while being assisted by a home health aide. The patient required surgery to correct the injuries sustained during the fall. The lawsuit against the home care provider, claiming negligence in improper transfer technique, resulted in a \$30,897 verdict.<sup>64</sup> \*

A study published in 2000 found that falls rates were four times higher for a patient in the first two weeks after discharge from a hospital and that 15% of all hospital readmissions for the elderly were related to falls.<sup>65</sup> To help mitigate the risk of patient falls in the home, JCAHO requires facilities providing home care to implement falls reduction programs, including a review of medication regimens.<sup>66</sup> Home health agencies should approach falls reduction programs in a manner similar to that of other healthcare facilities, including conducting root cause analyses, as data collection and analysis provides valuable information when developing population-specific risk assessment tools. One study conducted by a home healthcare agency published in 2004 found that the agency's patients most at risk for falls had cardiovascular and neurologic comorbidities, were taking medications associated with falls, and had fallen more than once within the last three months.<sup>67</sup>

Ongoing safety education for the patient and patient's family in the home is also required by JCAHO.<sup>68</sup> This education should be performed and documented by a professional nurse. A home environment inspection and discussion of safety precautions with the patient and family should be included in the initial risk assessment, and modification of the home environment should be encouraged when necessary. (See "Home Falls Prevention Checklist.")

<sup>\*</sup> The Falling Star program—developed by a registered nurse involves assessing patients for risk for falling and then identifying that patient with a visible symbol. The Falling Leaf program evolved from the Falling Star program and includes emphasis on identifying those at highest risk for falling and conducting root cause analyses to determine needed improvements in intervention techniques.

 $<sup>^{*}</sup>$  The court found the patient 50% negligent and the home care provider 50% negligent. The patient appealed and lost.



### **RESPONDING TO FALLS**

Even the most effective falls prevention program will not eliminate all patient falls. Thus, the risk manager should establish, in conjunction with administration, the insurance carrier, and general counsel, a policy on how to communicate with patients and families when a patient falls. Knowing how to convey compassion without assigning blame when a fall occurs can relieve awkwardness for the staff and possibly decrease the patient's or family's inclination to sue. The hospital's disclosure policy should be communicated to floor nurses through in-service educational programs. Facilities have more success defending falls claims when the organization is well staffed, follows its policies and procedures, provides appropriate documentation, and shows compassion.<sup>69</sup> Bill write-offs may also be considered on a case-by-case basis-in accordance with fraud and abuse laws and regulations-if additional testing or treatment is required as a result of the fall.

#### **Postfall Patient Assessment**

As soon as a fallen patient is discovered, an assessment must be made to determine the extent of any sustained

## Home Falls Prevention Checklist

- Are frequently used articles within easy reach?
- Have all rugs, runners, and floor mats been evaluated for slippage?
- Are furniture edges secured where needed, or is rubber matting used to prevent slippage?
- Are all electrical cords placed away from walking, standing, and rising areas?
- Has clutter blocking walking areas such as hallways and steps been removed?
- Is the lighting level appropriate?
- Are there light switches at entrances to rooms?
- Are there glow switches?
- Are there grab bars near toilets, in tubs, and in showers?
- Are there nonskid mats in tubs and showers?
- Are there handrails on both sides of stairs?
- Is appropriate footwear worn (avoid wearing only socks or smooth-soled shoes and slippers)?
- Can ramps be installed to avoid using steps going into or out of the home?
- Can a sleeping area be moved to avoid the need to climb stairs?

**Source:** U.S. Department of Health and Human Services. Administration on Aging. Home safety checklist.

injuries. Policies and protocols should be developed and implemented that guide caregivers and nonclinical staff on the appropriate way to respond if they discover a fallen patient.

Postfall assessments should include instruction on assessing patients who are disoriented, confused, and/ or noncommunicative. Assessment may include a review of behavior or functional change (e.g., change in gait, consciousness, neurologic function, skin integrity, appetite, or vital signs) to determine possible injury. Interviewing roommates or staff is also advised, as is interviewing the patient. All information should be documented. If a fall is suspected, interventions that will promote safety must be evaluated and implemented.<sup>70</sup>

#### **Event Reporting**

Reporting and tracking falls in any healthcare setting can be problematic. Staff may fail to file an event report because a fall not resulting in injury is considered insignificant or because they fear blame and recrimination. (Further guidance on avoiding these and other pitfalls associated with event reporting is located elsewhere in the HRC System.) The incidence of home health patient falls is even more difficult to assess. Because falls are rarely witnessed by home health staff, reports of falls often rely on information received from the patient or the patient's family. However, falls in the home often go unreported, particularly if no injury occurs or if patients fear institutionalization as a result of frequent falling. Patient event reports from one home health agency showed that falls accounted for about one-quarter of all reported incidents.71

Beyond the patient's and staff's failure to report known falls, there is often a lack of uniformity with respect to the definition of a fall and how staff should report falls.<sup>72</sup> A poll of HRC member facilities indicates 100% of respondents require staff to report falls, but that 21% of those facilities have not established a definition of a fall. The falls team should develop and communicate to all staff clear and consistent guidelines for documenting and reporting falls.<sup>73</sup> Examples of inconsistent reporting may include repeat falls in a short time frame being reported as a single fall or slides to the floor from a chair not being reported as falls.

Event reports for home healthcare patients should contain an account of all known falls, regardless of whether an injury was sustained. Like hospital event reports, home health reports should indicate whether a staff person was present at the time of the fall, the

nature of the fall (e.g., "during lift transfer," "off chair," "off commode," "during ambulation of patient"), and the nature of any injuries.

Postfall assessments should be conducted as soon as possible after the fall and should be documented using standardized falls event reports developed and implemented by the falls team. Falls follow-up activities should include the following:

- Documentation of progress notes
- Evaluation by physician
- Communication to all staff that the patient is at risk
- Communication with the family that the patient has fallen
- ▶ Report to falls team for root cause analysis

Fall event reports should allow documentation of the following information:<sup>74</sup>

- Location of the fall
- Date of patient admission to ward
- Date and resulting score of last falls assessment\*
- ▶ Date and time of the fall
- Description of the fall
- ▶ Name of those who witnessed or reported the fall
- Notification of the patient's family and physician, as well as the falls team
- Description of injury
- Intrinsic factors
- Extrinsic factors
- Previously implemented intervention plan\*
- Equipment in use at the time of the fall
- ▶ New intervention plan to prevent recurrence of falls

Facilities can access a sample falls incident report from the Falls Toolkit on the VA NCPS Web site. See the Resource List for further information.

#### Monitoring a Program's Effectiveness

Facilities should collect and review unit-specific data on patient falls to aid the falls team in determining each patient population's specific risk factors. In the previously mentioned study on patient falls conducted at University of Virginia Health Systems, data collection and analysis of falls incident reports revealed that psychiatric patients tended to fall while walking through the hallways. This led to implementation of interventions focused on ambulation in psychiatric unit hallways.<sup>75</sup>

Retrospective chart reviews should be used as a tool for measuring the efficacy of risk assessments and interventions. When conducting these reviews, facilities should include a review of patients who fell and an equal random sample of patients who did not fall. When identifying trends or evaluating the success of interventions, facilities should compare falls rates within a facility from one time period to another. The assessment should also include any equipment that was in use during the incident.<sup>76</sup>

#### **EMPLOYEE AND VISITOR FALLS**

Despite the best precautions, visitor and worker falls will occasionally occur.

#### Worker Falls

Depending on a variety of factors such as type and severity of injury and availability of clinic staff, it is recommended that workers who have fallen be treated in the employee health clinic, rather than the hospital's emergency department (ED). One large insurance company recommends that its insured clients not treat these employees in the ED but refer the employees to a separate employees health clinic to avoid liability exposure for malpractice as well as Workers' Compensation.<sup>77</sup> By better preserving the employee-employer relationship, treatment in the employee health clinic will limit the facility's potential liability compared to treatment in the ED.

Department heads and supervisors should be aware of where they should instruct an injured employee to be treated. (For more details, see the Risk Analysis "Workers' Compensation" in the *HRC System*.)

#### **Visitor Falls**

Although sometimes overlooked, visitors' falls potential can also be informally assessed. Reception area personnel, nurses, and others should be attuned to visitors who may need wheelchairs or an escort. Remember also that visitors, unlike employees, can sue the facility for negligence in maintaining safe premises. For more information on premise liability, see "The New Look of

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<sup>\*</sup> While this information is important for quality review purposes, facilities should only include it in an event report if their legal counsel confirms that it is peer-review protected by state law.

## **Resource List**

#### **Agency for Healthcare Research and Quality** 450 Gaither Road

Rockville, MD 20850 (301) 427-1364 http://www.ahrq.gov

• Evidence-based clinical practice guidelines for falls prevention. Available from Internet: http://www.guideline. gov/search/searchresults. aspx?Type=3&txtSearch=falls +prevention&num=20.

American Geriatrics Society Suite 801 Empire State Building 350 Fifth Avenue New York, NY 10118 (212) 308-1414 http://www.americangeriatrics.org

• Clinical practice guidelines for falls prevention. Available from Internet: http://www.americangeriatrics. org/staging/products/positionpapers/abstractPF. shtml.

#### American Medical Directors Association Suite 760 10480 Little Patuxent Parkway Columbia, MD 21044 (800) 876 2632

(800) 876-2632 http://www.amda.com

• Clinical practice guidelines for falls and falls risk. Available from Internet: http://www.amda.com/ info/cpg/ falls.htm.

Premises Liability" in the April 2000 issue of the *Risk Management Reporter*.

Patients, families, and staff should be urged to watch for and report physical hazards (e.g., inadequate lighting, awkward intravenous lines, slippery floors) that might contribute to visitor and employee falls, as well as patient falls. Once a hazard is reported, action should be taken quickly to remove or reduce the risk.

Foreseeability and preventability will likely be important factors if a fall case goes to litigation. For example, the South Carolina Supreme Court upheld a ruling that a hospital was negligent for failing to remove sweet gum trees from its parking lot after a construction company warned that debris from the trees would cause problems. A visitor filed suit against the hospital after suffering injuries from a fall in the hospital's parking lot allegedly caused by an accumulation of • Articles and tools for falls prevention. Available from Internet: http://www.amda.com/clinical/falls/index. htm.

**Centers for Medicare & Medicaid Services** 7500 Security Boulevard Mail Stop S3-02-01 Baltimore, MD 21244 (877) 267-2323

http://www.cms.hhs.gov

• Evidence reports on the effectiveness of various implemented falls interventions in the Medicare population. Available from Internet: http://www.cms.hhs.gov/ healthyaging/FallsPI.asp.

Foundation of Nursing Studies

32 Buckingham Palace Road London SW1W 0RE England (020) 7233 5750 http://www.fons.org

• Report of falls prevention program implemented within nine British acute care hospitals, including sample assessment tools, flowcharts, and care plans. Available from Internet: http://www.fons.org/patient\_falls/projects/pdfs/Swanseafinal.pdf.

Merck Institute of Aging and Health Suite 350W 1100 New York Avenue NW Washington, DC 20005 (202) 842-0525 http://www.miahonline.org

sweet gum balls. The failure to take reasonable remedial action in response to a reported hazard may help support a finding of negligence.<sup>78</sup>

In the event of a visitor's fall, staff should be helpful and courteous, without accepting or assigning any blame or responsibility for the fall. Security and environmental staff should be notified immediately to enable them to respond to the event according to their falls protocols and procedures. Visitor falls that result in injury should be reported immediately to the risk manager; if no injury occurred, the fall should be reported as part of the hospital's adverse-event reporting system.

The hospital's ED may provide medical treatment or examination following a visitor's fall. Bill write-offs for medical treatment may be considered in accordance with federal regulations.

· Falls toolkit for healthcare professionals, including assessments, interventions, and patient education materials. Available from Internet: http://www.miahonline. org/tools/falls/tools.html.

National Center for Injury Prevention and Control 4770 Buford Highway Mail Stop K63 Atlanta, GA 30341 (770) 488-1506 http://www.cdc.gov/ncipc

• Toolkit for falls prevention. Available from Internet: http://www.cdc.gov/ncipc/pub-res/toolkit/toolkit. htm.

#### National Center for Patient Safety

Veterans Health Administration 24 Frank Lloyd Wright Drive, Lobby M Ann Arbor, MI 48106-0486 (734) 930-5890 http://www.patientsafety.gov

• Falls toolkit, including a sample policy, risk assessment tool, falls incident report, and data collection and analysis. Available from Internet: http://www.va. gov/ncps/ SafetyTopics/fallstoolkit/notebook/index. html.

National Council on the Aging Suite 801 300 D Street SW Washington, DC 20024 (202) 479-1200 http://www.ncoa.org

• National initiative to prevent falls. Available from Internet: https://www.ncoa.org/content. cfm?sectionID=30#goresult.

## ACTION RECOMMENDATIONS

- Develop and maintain an interdisciplinary falls prevention team to implement, monitor, and modify as needed a falls prevention program using root cause analyses, the facility's falls data, and a falls baseline.
- Develop, implement, and modify as needed all falls reduction policies, protocols, and risk assessment tools.
- Develop and implement initial and ongoing falls reduction education programs for staff, nursing personnel, volunteers, and nonclinical facility employees, including but not limited to conducting a thorough risk assessment, implementing proper interventions, responding appropriately to falls, and correctly filing event reports.

#### National Institute on Aging Room 5C27

Building 31, MSC 2292 31 Center Drive Bethesda, MD 20892 (301) 496-1752 http://www.nia.nih.gov

• Article regarding reducing the risk of falling in people with Alzheimer's disease. Available from Internet: http://www.alzheimers.org/pubs/con01spr.pdf.

#### Premier, Inc.Suite 625

444 N Capitol Street NW Washington, DC 20001 (202) 393-0860 http://www.premierinc.com

• Comprehensive online resource for falls prevention programs, including intervention and prevention strategies, falls definitions, education and training tools, measurement tools, product guide, and directory of other Web sites for falls prevention programs. Available from Internet: http://www.premierinc.com/all/safety/ resources/falls/

#### U.S. Food and Drug Administration

5600 Fishers Lane Rockville MD 20857-0001 (888) 463-6332 http://www.fda.gov

- "Hospital Beds and the Vulnerable Patient." Findings from a multidisciplinary workgroup addressing the safety of hospital beds. Available from Internet: http:// www.fda.gov/cdrh/beds/index.html.
- Ensure that patients are assessed and/or reassessed at the following times: on admission, when the patient's physical condition changes, when being transferred to a new unit or for testing, when a fall or near miss occurs, and, for residents, on a quarterly basis.
- Ensure that medication regimens are reviewed by dispensing pharmacists and that they communicate to physicians the benefits of reducing or eliminating those drugs that increase the risk of falling.
- Ensure that environmental rounds are conducted regularly to reduce or eliminate extrinsic risks (e.g., equipment in poor repair, clutter, poor lighting) whenever possible, and ensure that patients, visitors, and all staff are encouraged to report extrinsic risk factors whenever identified.
- Provide initial and ongoing staff education on falls reduction techniques, including patient assessments

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## Safety and Security 2

and falls interventions; application of restraint policies and procedures, including frequent toileting; usage and maintenance of equipment (e.g., bedrails, alarms, assistive devices, restraints); and transfer techniques.

- Ensure that the patient's or resident's risk for falling is effectively communicated to the patient or resident and his or her family and all clinical and nonclinical staff.
- Educate home care providers on home falls prevention techniques. Ensure that home care patient and family education is taking place.
- Educate all staff on the appropriate way to respond to falls, including assessment for patient injury, reassessment of the risk for falling, and communication of the fall and subsequent risk assessment results to family, staff, and physician.
- Incorporate inspection and preventive maintenance of all falls prevention equipment into the healthcare facility's equipment maintenance program.
- Ensure that falls policies address the prevention and response to visitor and employee falls, including treatment of employee falls through the facility's employee health program.
- Complete the HRC Self-Assessment Questionnaire on falls.

#### Notes

- 1. National Safety Council. National Safety Council joins US Consumer Product Safety Commission to reduce elderly falls and injuries [press release online]. 2005 Feb 14 [cited 2005 Mar 23]. Available from Internet: http:// www.nsc. org/news/nr021405.htm.
- 2. Stevens JA. Falls among older adults—risk factors and prevention strategies. In: *Falls free: promoting a national falls prevention action plan.* Washington (DC): National Council on Aging; 2004:3-18.
- 3. National Center for Injury Prevention and Control. U.S. fall prevention programs for seniors [online]. 2000 [cited 2005 Jul 13]. Available from Internet: http://www.cdc. gov/ncipc/falls/fallprev.pdf.
- 4. National Center for Injury Prevention and Control. Falls and hip fractures among older adults [online]. 2004 Aug 5 [cited 2005 Jun 8]. Available from Internet: http:// www. cdc.gov/ncipc/factsheets/falls.htm.
- 5. Landro L. Hospitals aim to curb injuries from falling; risk for young patients. *Wall St J* 2005 Mar 3;Sect D:1, 7.
- 6. Joint Commission on Accreditation of Healthcare Organizations (JCAHO). *Comprehensive accreditation manual for hospitals*. Oakbrook Terrace (IL): JCAHO; 2004.
- 7. 42 CFR § 483.25(h)(1).
- 8. 42 CFR § 483.25(h)(2).
- 9. 42 CFR § 482.13(c)(2).

- CNA Financial Corporation. Long-term care claims study: an analysis of claims and risk management recommendations 1996-2003. Chicago (IL): CNA Financial Corporation; 2004 Sep.
- Failure to restrain patient after repeated falls from bed death—\$7 million Alabama verdict. *Med Malpract Verdict Settlements* 2002 Aug;18(8):32.
- 12. Patient falls: court sees it as malpractice, dismisses case. *Leg Eagle Eye Newsl Nurs Prof* 2004 *Jan;*12(1):2.
- 13. Autumn Breeze Health and Rehabilitation Center v. Centers for Medicare & Medicaid Services, No. CR1285 (Dep't Health Human Servs. Dep't App. Bd., Mar. 29, 2005). Also available: DAB decisions. CCH Medicare Medicaid Guide 2005 Apr 19;(1355):6.
- Country Club Retirement Center, Inc v. Centers for Medicare & Medicaid Services, No. CR1281 (Dep't Health Human Servs. Dep't App. Bd., Mar. 10, 2005). Also available: Preventable accidents in nursing homes. CCH Medicare Medicaid Guide 2005 Mar 29;(1352):9.
- Birmingham Nursing & Rehabilitation Center—East v. Centers for Medicare & Medicaid Services, No. CR1281 (Dep't Health Human Servs. Dep't App. Bd. Feb. 1, 2005). Also available: Resident fall compliance. CCH Medicare Medicaid Guide 2005 Mar 1;(1348):10.
- 16. Kimbell S. Breaking the fall factor. *Nurs Manag* 2002 Sep; 33(9):22-5.
- 17. Tinetti ME, Baker DI, Dutcher J, et al. *Reducing the risk of falls among older adults in the community*. Berkeley (CA): Peaceable Kingdom Press; 1997. Cited in: Guidelines for the prevention of falls in people over 65. *BMJ* 2000 Oct 21;321(7267):1007.
- 18. Gowdy M, Godfrey S. Using tools to assess and prevent inpatient falls. *Jt Comm J Qual Saf* 2003 Jul;29(7):363-8.
- Nell Wood (Director of Marketing and Communications, Maryland Quality Indicator Project). E-mail to: Karen Holloway. 2005 Apr 20.
- 20. Donaldson N. Baseline data and first formative assessment of intervention impacts. In: CalNOC Partners to Reduce Patient Falls Project: leveraging partnerships, performance, and evidence through coaching for excellence [online]. 2005 Jul 13 [cited 2005 Jun 8]. HA. Available from Internet: http://stti.confex.com/stti/ preinrc16/techprogram/paper\_23878.htm.
- 21. Tinetti ME et al., supra note 17.
- 22. Measuring success. In: National Center for Patient Safety. Falls toolkit [online]. 2004 May [cited 2005 May 30]. Available from Internet: http://www.patientsafety. gov/SafetyTopics/fallstoolkit/notebook/ 07\_measuringsuccess. pdf.
- 23. Falls policy. In: National Center for Patient Safety. Falls toolkit [online]. 2004 May [cited 2005 May 10]. Available from Internet: http://www.patientsafety.gov/ SafetyTopics/fallstoolkit/notebook/05\_FallsPolicy.pdf.
- 24. Hakim M. Take another look at fall preventions programs. ProNational Ins Co Advis Newsl [online]. 2002 [cited 2005 Apr 14]. Available from Internet: http:// www.pronational. com/news/hsriskrv/2002q3hsfalls. htm.
- 25. Tinetti M. Preventing falls in elderly persons. *N Engl J Med* 2003 Jan 2;348(1):42-9.

- 26. Pennsylvania Patient Safety Reporting System. Medications contributing to fall risk. *PA-PSRS Patient Saf Advis* 2004 Dec;1(4):6.
- 27. Pharmacist meds review may reduce patient falls. *Healthc Risk Manage* 2003 Jul:81.
- Lyons SS. University of Iowa Gerontological Nursing Interventions Research Center, Research Dissemination Core. Fall prevention for older adults [guideline online]. 2004 Feb [cited 2005 Jul 13]. Available from Internet: http:// ngc.gov/summary/summary. aspx?ss=15&doc\_id= 4833&nbr=&string=.
- 29. National Center for Patient Safety. Falls prevention and management [online]. 2004 [cited 2005 Jul 9]. Available from Internet: http://www.patientsafety.gov/FallPrev/ Highrisk.html.
- Interventions. In: National Center for Patient Safety. Falls toolkit [online]. 2004 May [cited 2005 May 30]. Available from Internet: http://www.patientsafety.gov/ SafetyTopics/fallstoolkit/notebook/06\_interventions. pdf.
- 31. 42 CFR § 482.13(e).
- 32. Mion LC, Strump N. Use of physical restraints in the hospital setting: implications for the nurse. *Geriatr Nurs* 1994 May-Jun;15(3):127-31.
- 33. Background. In: National Center for Patient Safety. Falls toolkit [online]. 2004 May [cited 2005 May 30]. Available from Internet: http://www.patientsafety.gov/ SafetyTopics/fallstoolkit/notebook/03\_background.pdf.
- 34. Joint Commission on Accreditation of Healthcare Organizations. Preventing falls without the use of restraint. *Jt Comm Perspect Patient Saf* 2002 Dec:6-7.
- 35. Hakim M, supra note 24.
- 36. 42 CFR § 482.13(f)(3)(ii).
- U.S. Food and Drug Administration. FDA safety alert: entrapment hazards with hospital bed side rails [online]. 1995 Aug 28 [cited 2005 Jul 13]. Available from Internet: http://www.fda.gov/cdrh/bedrails.html.
- 38. Interventions, *supra* note 30.
- 39. ECRI. Bed exit alarms: a component (but only a component) of fall prevention. *Health Devices* 2004 May;33(5):157-74.
- 40. Lyons SS, supra note 28.
- 41. Joint Commission on Accreditation of Healthcare Organizations. 2005 National Patient Safety Goals FAQs [online]. 2005 Jan 24 [cited 2005 Jul 13]. Available from Internet: http://www.jcaho.org/ accredited+organizations/patient+safety/05+npsg/ 05\_npsg\_faqs.htm.
- 42. Landro L, *supra* note 5.
- 43. Joint Commission on Accreditation of Healthcare Organizations, *supra* note 41.
- 44. Ibid.
- 45. Video 2. In: National Center for Patient Safety. Falls toolkit [online]. 2004 May [cited 2005 May 30]. Available from Internet: http://www.patientsafety.gov/ SafetyTopics/fallstoolkit/notebook/09\_videos123.pdf.
- 46. Special report 2005! Joint Commission National Patient Safety Goals: practical strategies and helpful solutions for meeting these goals [online]. 2004 Sep [cited 2005

May 2]. Available from Internet: http://www.jrinc.com/ subscribers/patientsafety.asp?durki=7916&site=22&retu rn=154.

- 47. Vu MQ, Weintraug N, Rubenstein LZ. Falls in the nursing home: are they preventable? *J Am Med Dir Assoc* 2004 Nov-Dec;5(6):401-6.
- 48. Feder F, Cryer C, Dovovan S, et al. Guidelines for the prevention of falls in people over 65. *BMJ* 2000 Oct 21;321(7267):1007-10.
- 49. Meyer G, Warnke A, Bender R, et al. Effect on hip fractures of increased use of hip protectors in nursing homes: cluster randomised controlled trial. *BMJ* 2003 Jan 11;326(7380):76.
- 50. Ibid.
- 51. Lyons SS, supra note 28.
- 52. Video 2, *supra* note 45.
- 53. Meyer G, *supra* note 49.
- 54. Lyons SS, supra note 28.
- 55. Hitcho EB, Krauss MJ, Birge S, et al. Characteristics and circumstances of falls in a hospital setting: a prospective analysis. *J Gen Intern Med* 2004 Jul;19(7):732-9.
- 56. Joint Commission on Accreditation of Healthcare Organizations. Rise in falls rates triggers data-driven performance improvement program. *Jt Comm Perspect Patient Saf* 2003 Nov:5-6.
- 57. Ward A, Candela L, Mahoney J. National Association for Healthcare Quality. Developing a unit-specific falls reduction program [online]. 2004 Mar [cited 2005 May 23]. Available from Internet: http://www.nahq.org/ journal/ ce/article.html?article\_id=173.
- 58. Joint Commission on Accreditation of Healthcare Organizations. Root causes: tips and strategies for addressing the top three root causes of falls. *Jt Comm Perspect Patient Saf* 2003 Jun:5.
- 59. Heslin K, Towers J, Leckie C, et al. Managing falls: identifying population-specific risk factors and prevention strategies. In: Funk SG, Tornquist EM, Champagne MT, et al., eds. *Key aspects of elder care. Managing falls, incontinence, and cognitive impairment.* New York (NY): Springer Publishing Company; 1992.
- 60. Joint Commission on Accreditation of Healthcare Organizations, *supra* note 58.
- 61. Joint Commission on Accreditation of Healthcare Organizations. Reducing injuries from patient and resident falls: managing the environment of care to help meet the new National Patient Safety Goal [online]. 2004 Dec [cited 2005 Apr 14]. Available from Internet: http:// www.jcrinc.com/ publications.asp?durki=8905&site=4& return=8907.
- 62. Falling Leaf program tells who is most at risk to fall. *Healthc Risk Manage* 2003 Jul:94.
- 63. Lyons SS, *supra* note 28.
- 64. Richard H. Fink, Jr. v. Kimberly Services, Inc. d/b/a Kimberly Quality Care and Patricia Hoffman, No. 91-11794-18 (Fla. Cir. Ct.).
- 65. National Council on Aging (NCOA). *Falls free: promoting a national falls prevention action plan.* Washington (DC): NCOA; 2005:64.

## Safety and Security 2

- 66. Joint Commission on Accreditation of Healthcare Organizations. Reducing injuries from patient and resident falls: managing the environment of care to help meet the new National Patient Safety Goal [online]. 2004 Dec [cited 2005 May 24]. Available from Internet: http:// www.jcrinc. com/publications.asp?durki=8905&site=153 &return=8455.
- 67. Lewis CL, Moutoux M, Slaughter M, et al. Characteristics of individuals who fell while receiving home health services. *Phys Ther* 2004 Jan;84(1):23-32.
- 68. Joint Commission on Accreditation of Healthcare Organizations. (JCAHO) *Comprehensive accreditation manual for home care.* Oakbrook Terrace (IL): JCAHO; 2004.
- 69. Hakim M, supra note 24.
- 70. Miceli D. Falls associated with dementia: how can you tell? *Geriatr Nurs* 2005 Mar-Apr;26(2):106-10.
- 71. Visiting Nurse Alliance of Vermont and New Hampshire 1994 Jan-Jun.

- 72. Kanten DN, Mulrow CD, Gerety MB, et al. Falls: an examination of three reporting methods in nursing homes. *J Am Geriatr Soc* 1993 Jun;41(6):662-6.
- 73. Hake RS. Using CQI to reduce patient falls: a fresh perspective on a chronic problem. *QRC Advis* 1994 Oct; 10(12):1-6.
- 74. Falls policy. In: National Center for Patient Safety. Falls toolkit [online]. 2004 May [cited 2005 May 30]. Available from Internet: http://www.patientsafety.gov/ SafetyTopics/fallstoolkit/notebook/05\_fallspolicy.pdf.
- 75. Benchmarking clinic: VA pilot organizations use good data measures to reduce fall injuries. *Jt Comm Benchmark* 2003 May;5(5):8-10.
- 76. Joint Commission on Accreditation of Healthcare Organizations, *supra* note 58.
- 77. Hakim M, supra note 24.
- 78. Henderson v. St. Francis Community Hospital, 399 S.E.2d 767 (S.C. 1990).

This assessment should be performed within 4 hours of admission to the unit. Circle one response from each category. Add all scores to obtain patient falls risk score, then choose appropriate corresponding interventions. Note: This form is an example and is not a scientifically verified assessment tool.

			,			ſ
Patient age			Bowel activity level		Learning ability	
0-29		0	Bowel activity normal	1	Ability to learn	1
30-49		1	Bowel activity slightly affected/diarrhea or	2	Limited ability to learn	2
50-59		2	constipation		Extremely limited ability to learn	ю
60-69		ю	Bowel activity moderately affected/diarrhea or	ε	No ability to learn	4
70-79		4	constipation			
80 +		ß	Bowel activity severely affected/diarrhea or	4	Agitation	
Ealle history			constipation		Displays no agitation or distress	
No falls in nast three months		,	Urinary activity level		Disnlavs nersistent agitation or distress	4 69
1-2 falls in past three months		- 60	Urinary frequency normal		Displays aggressive behavior	4
3-4 falls in past three months		4x3	Urinary frequency mild	2	00 ( 1	
			Urinary frequency moderate	ю	Vision	
Medications (anesthetics, anti	lhistamines,		Urinary frequency high	4	Vision unimpaired or properly corrected	
antihypertensives, antiseizure,	, benzodiazepines,		Voidine meaner laval		Vision slightly impaired or inadequately	2
ratification and such the position of the providence of the provid	enues, nar coucs, notice)		Voids with no urgency	-	Ulsion modurately immaized or movely corrected	~
None of these medications pre-	escribed		Voids with mild urgency	5	Vision substantially impaired with no correction	04
Change in any medications wi	ithin last week	5	Voids with moderate urgency	m	Internet in the indust of the provide internet	-
1-2 of these medications presci	ribed	ю	Voids with severe urgency	4	Speech	
3-4 of these medications presc	ribed or taken in	4x3			Verbal communication is clear, coherent	
last week			Nighttime voiding pattern		Verbal communication is inconsistent	7
			Does not void at night		Verbal communication is poor	e
Responsiveness		,	Voids once at night	1	Verbal communication is non-existent	4
Responsive, alert, communica	tive, and coherent	1	Voids sporadically at night	0		
Responsive, alert, communica	tive, short term	7	Voids frequently at night	4	Hearing	
memory impairment			;		Hearing unimpaired or properly corrected	
Responsive to stimuli, not aler	rt, non-	т	Systolic pressure	,	Hearing slightly impaired or inadequately	5
communicative		,	No noted drop when rising from horizontal	-	corrected	,
Kesponse only to pain/no res	ponse	4	position		Hearing moderately impaired or poorly corrected	m
Comprehension			Less than 20 mm Hg when rising from horizontal position	m	Hearing substantially impaired with no correction	4
Comprehends and acknowled	lges limitations,	1	More than 20 mm Hg when rising from horizontal	4	Mobility	
Commehends and acknowled	aac limitatione	,	position		Mobility is not impaired	
but does not always act accord	dingly	1	Column total		Mobility is completely impaired Mobility is mildly impaired	4 m
Acknowledges limitations, bu	t does not act	ю			Mobility is moderately impaired	4
accordingly Does not acknowledge limitati	ione doae not act	-	Score Range/Level of Risk		Mobility is severely impaired	ы
accordingly	10112, 4063 1101 441	۲	16-20 Low Risk		Accistive devices	
			21 — 25 Moderate Risk		Use of walker	2
Column total			26 — 30 High Risk		Use of wheelchair	14
			31 + Very High Risk			
					Column total	
Patient name:			Assessor name (pr	int):		
Assessment date:	Assessment time:		Total score from Assessor signature   all columns:			

## Appendix

**HEALTHCARE RISK CONTROL** 

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