

Clinical Alert

Summer 2013

**Maryland Department
of Health and
Mental Hygiene
Office of
Health Care Quality**

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Revisiting Falls in Maryland Hospitals: Time to Focus on Injury Prevention

In 2005, one year after the inception of COMAR 10.07.06, Patient Safety Programs, the Office of Health Care Quality released the first Clinical Alert based on data acquired from hospital-reported Level 1 (those that cause death or serious injury) adverse events. The topic of that Clinical Alert was falls in Maryland hospitals. Since we are now entering the tenth year of the patient safety program, it seems like a good time to revisit the topic of falls.

According to the Agency for Healthcare Research and Quality (AHRQ), 1.9 to 3 percent of hospitalized patients fall each year. That means that at least 1 million falls occur each year, with a fatality rate of less than 1 percent.¹ For our first clinical alert on this subject, the Office had received only 20 reports of falls with injuries. Half of those falls were fatal. We now average 100 reports of Level 1 falls per year, with a fatality rate of approximately 10 percent. The higher death rate among reported Maryland falls is almost certainly due to the requirement that hospitals report only the most serious patient injuries to the Office of Health Care Quality.

Since March 1, 2004, Maryland hospitals have reported 665 patient falls causing serious injuries or death. For all years, the death rate is 13 percent. The most common intervention (56%) is surgery to repair fractures. Another 11 percent of falls result in permanent or long-term loss of function, usually from fractures that are inoperable due to the patient's other co-morbidities. Nine percent of fall victims required transfer to a higher level of care (often for head injuries or complex orthopedic procedures), and 10 percent of falls resulted in an extended length of stay.

In reviewing fall data from the past two fiscal years (July 1, 2011 to June 30, 2013), we note that of a total of 195 falls, the death rate is 8.7 percent, 59 percent

resulted in surgery, 11.3 percent required transfer, 18 percent suffered long-term or permanent loss of function, and 3.5 percent of patients who fell had an extended length of stay. A review of the 17 deaths occurring as the result of falls in FY 12 and FY13 reveals that 16 of these patients died from intracranial hemorrhage and one patient had a massive coronary event shortly after the fall. Three of the patients who suffered intracranial hemorrhage were medically anti-coagulated and another had a very low platelet count (platelets cause blood to clot).

The risk factors and root causes for falls are well known and have been discussed at length during the Safe from Falls Collaborative and the annual Keeping Patients Safe from Falls outcomes congress sponsored by the Maryland Patient Safety Center. The contributing factors for reported patient falls in Maryland hospitals are consistent with published research. We still see assessments that fail to consider all patient risk factors and fail to compensate for new risk factors such as hospital-induced polypharmacy; new neurological/balance disorders; nighttime mental status and sensory changes; elderly patients given zolpidem; failure to consider toileting needs; and inadequate staff training leading to confusion about how to use bed alarms. As in all other event types, the lack of effective communication contributed to most of the reported falls with injury. Communication problems included unit to unit, department to department, or shift change hand-offs during which information about fall risks and interventions in place, was not effectively exchanged. Some electronic medical record systems also contribute to poor assessments and poor communication when the electronic risk assessment is the same as the old paper risk assessment and is not linked to, or does not prompt for, interventions. More than any other adverse event, patients who fall are often blamed for failing to follow directions. Instead of pointing the finger at our own failure to protect patients from injury, patients are blamed for being non-compliant.

During the last Safe from Falls out-comes congress on June 27, 2013, the first speaker was Pat Quigley, the associate director of the VA's Patient Safety Center for Excellence for VISN 8 (Veterans Integrated Service Network for region 8), who also contributed to the IHI toolkit noted below. According to Dr. Quigley, it is time to focus on preventing injury from falls rather than trying to prevent every fall. She stated that the current risk assessment tools are merely screening tools and are not predictive of the likelihood of any particular patient fall. Hospitals should consider all patients to be at risk for falling, while a few patients are at high risk of serious injury. Patients should be assessed for physiologic risks (both known and anticipated), and the risks should be mitigated as much as possible. While it may be impossible to fix all risks during an average hospital length of stay of three or four days, it is relatively simple to make sure patients are wearing glasses if they need them and are wearing non-skid footwear, that the bed is positioned such that the patient cannot get out on his weaker side, and that the rooms are well lit and free of clutter.

According to the Institute for Healthcare Improvement (IHI), in their 2012 How-to Guide for Reducing Patient Injuries from Falls,² the following patients are at highest risk for serious injuries:

- Individuals who are ≥85 years old or frail due to a clinical condition,
- Patients with bone conditions, including osteoporosis, a previous fracture, prolonged steroid use, or metastatic bone cancer,
- Patients with bleeding disorders,

either through use of anticoagulants or underlying clinical conditions,

- Post-surgical patients, especially patients who have had a recent lower limb amputation or recent, major abdominal or thoracic surgery (pg. 13).

IHI recommends using the simple mnemonic, ABCS, for evaluating risk of serious injury.

- A** Age,
- B** Bones: osteoporosis, previous fractures, etc.,
- C** Coagulation status, and
- S** Recent surgery

Injury prevention calls for a universal population-based fall prevention protocol, similar to the universal protocols for infection prevention, used with patient-specific assessments and interventions designed to prevent injury. Some hospitals report that their environmental services staff place basic fall prevention kits in each patient room when cleaning and setting up the rooms for new patients. More focused interventions should be individualized for the specific patients assessed to be at higher risk of injury.

Ninety-five percent of the fatal falls reported to the Office of Health Care Quality in the past two years were due to head injuries, including patients who collided with sinks or furniture in the rooms. Two patients landed face down on IV stands, both suffered extensive facial injuries. One of these patients lost an eye and the other died of massive intracranial bleeding. According to research presented by Dr. Quigley, in biomechanical studies conducted by the VA using crash-test dummies, feet-first falls from the

bed cause the most severe injuries. In feet-first, over the rail falls from a bed at the standard height, there is a 40 percent chance of a serious head injury. The risk of serious head injury in falls from low bed with no side rails is 25 percent. Using floor mats with the low bed, reduces the risk of serious head injury to approximately 1 percent. Nurses seem leery about using floor mats as they are believed to tripping hazards. However, there are many different types of floor mats, including those that can fold up or slide under the bed during care. Using mats with beveled edges may also reduce the tripping hazard. It seems that the risk/benefit ratio for floor mats is firmly on the benefit side.

So what can we do to protect patients from injury? It's time we child-proof, or patient-proof, the care environment by padding sharp edges, eliminating rolling furniture, and using anti-tip and self-locking wheelchairs. It is time to ask bed manufacturers to build in tray tables that fold out of the way, similar to "motion furniture" or airplane seats and eliminate the rolling over-bed table that so many patients try to use as a crutch. It is time to install hand-rails around every wall in patient rooms so patients have something to hold when ambulating. We need to assist vulnerable patients to the toilet at least every two hours, instead of just asking them if they need to go, and toilet patients prior to administration of pain medications or sedatives. It is time to use more bedside commodes so patients don't feel like they have to get all the way to the bathroom. It is time to assess and re-assess risks and change interventions accordingly. It is time to improve staff training so assessments and

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is published periodically by the
Office of Health Care Quality

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interventions are used consistently across departments and across units. It is time to flag all new orders for anxiolytics, hypnotics, and narcotics, both for pharmacy review of appropriateness and to facilitate implementation of focused injury prevention. It is time to enlist the help of physical and occupational therapists in evaluating and improving patient functional status. And, just as we would not send our children out to ride a bike or skate board without protective padding, it is time to use hip protectors on our patients at risk for hip fractures.

Patient and family education about specific injury risks is crucial to gaining the cooperation of at-risk patients. It's great to say "call, don't fall," but we also need to tell the anticoagulated patient that he is at high risk of a fatal head injury if he falls, and we need to tell the patient with osteoporosis that she is at high risk for a fracture if she falls. The IHI2 recommends using a teach-back method to ensure patient/family understanding. Teaching should include the following:

1. The reasons that the patient is at risk for falling and/or injury,
2. The reasons fall prevention is important,
3. Actions the patient can take to stay safe,
4. The importance of patients asking for help when accessing the bathroom,
5. The location and use of the call light, and
6. The importance of using non-slip footwear (pg.53)

We need to assume most patients will get up without help given the opportunity, and stop blaming them for human nature. In Maryland hospitals, as well as in the rest of the country, falls with serious injury continue to be the most frequently reported adverse event. Focusing our energies and resources on those patients most at risk of serious injury and on environmental and process safety has the best potential to prevent serious injuries and death.

1. (http://www.ahrq.gov/professionals/clinicians-providers/resources/nursing/resources/nurseshdbk/CurrieL_FIP.pdf)

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