

# Patient Safety Tip of the Week

## February 20, 2018 Delirium and Falls

Delirium is a risk factor for falls and falls in patients with delirium are particularly likely to result in injuries. A recent CDPH (California Department of Public Health) statement of deficiencies provides an example ([CDPH 2017](#)). A patient was admitted to an acute rehabilitation service following a stroke. Fall Risk Indicators assessed on admission indicated the patient was at high risk for falling. A sitter was ordered and an order was issued to "...assess assistance level required for safe/effective self care. Encourage functional activity performance with appropriate level of assistance based upon level of ability." (Keep in mind that on rehab services there is often a fine line between promoting fall safety and "pushing" patients to ambulate as part of their rehab program. We discussed many issues related to falls on rehab in our October 7, 2008 Patient Safety Tip of the Week "[Lessons from Falls...from Rehab Medicine](#)".) The patient was receiving gait training and safe bed mobility and transfers with a four-wheel walker.

During the second week she was described as being uncooperative and combative. A sitter was in the doorway with a clear view of the patient. However, the sitter may have temporarily gone outside the room to get a nurse to assist in transferring the patient from a wheelchair to bed. The patient apparently arose from the wheelchair on her own and fell forward, striking her face on the floor. There was no loss of consciousness. Exam showed facial ecchymoses and blood coming from her mouth. No other head or neck injuries were noted. CT scan of the head showed a small amount of subarachnoid blood, felt to be most likely from trauma. The patient was transferred to the Trauma ICU for observation. Plavix and subcutaneous heparin, which she had been on prior to the fall, were held. A Consult-Liaison psychiatrist diagnosed delirium. She had a progressive decline in function and cognition and an impaired alertness level. Family decided she should be placed on comfort care. She died several months later. During the latter period she was described as moving from a hyperactive delirium to a profound hypoactive delirium.

Review by the CDPH found that, rather than having a 1:1 sitter as ordered, one sitter had been assigned to observe patients in two adjacent rooms. There were also issues regarding the training the sitter had for observing such patients (lack of proper training of sitters is a problem we've noted in several other columns). The sitter (a CNA) stated that she had gone outside the patient's room to call for help in moving the patient but then saw the patient rise from the wheelchair and fall before she could get back to the patient. The Director of Risk Management stated the sitter should not have left the room and should have remained within arm's distance of the patient so she could reach the patient if she stood up. Also, the patient had not already been diagnosed as having delirium and the patient's combative and aggressive behavior should have led to a call to the physician for evaluation.

Unfortunately, the case example above is repeated at multiple hospitals every year. Timely recognition of delirium is important and patients with delirium can be very difficult to manage. Therefore, prevention and early recognition are important.

One healthcare organization recently published results of its years-long program on delirium and saw a substantial reduction in falls related to delirium ([Ferguson 2017](#)). A multidisciplinary team at Virginia Mason Medical Center developed a program for both prevention of and recognition and treatment of delirium. They used an EMR-based version of the CAM (Confusion Assessment Method) and the CAM-ICU tools to screen for delirium. This used “nonpharmacological interventions that included efforts to minimize, treat, or prevent sensory deprivation or overload; impaired sleep-wake cycle; immobility; poor nutrition or dehydration; urinary retention; constipation; suboptimal pain management; deliriogenic medications; unnecessary lines or tethers; hypoxia; and alcohol withdrawal.” Regular readers of our own columns (see full list below) will recognize those interventions as part of the HELP (Hospital Elder Life Program) or similar multicomponent programs used to prevent and manage delirium. An EMR-based form included questions about risk factors for delirium and CAM assessment was to be completed at least twice per day for every hospitalized patient. Rates of the latter increased from 9.5% at baseline to 86% over a 5-year period. Audits also revealed CAM accuracy ranged between 85% and 98% (average 91%).

The rate of delirium-related falls decreased from 0.91 per thousand patient days before the intervention to 0.75 per thousand patient days during the implementation, before stabilizing at a postintervention rate of 0.50 per thousand patient days. The rate of delirium falls with injury was too low for analysis. Overall hospital falls also decreased during the period from 2.58 to 2.03 per thousand patient days ( $P = .0007$ ).

The authors also found that education related to delirium screening, prevention, and treatment and bedside tools such as “The Language of Delirium” ([Puelle 2015](#)) were vital foundational elements necessary to nurse and program success.

Falls related to delirium may be devastating. Programs like the one at Virginia Mason demonstrate that organization-wide nonpharmacologic multicomponent programs can substantially reduce rates of delirium-related falls. They also likely help mitigate the numerous other consequences of delirium that we’ve discussed in our prior columns. The Ferguson study did not report a cost effectiveness analysis of their program but we’d be willing to bet that the savings accrued (not just from fall prevention but also from prevention of other consequences of delirium) likely exceeded the costs of implementing and maintaining the program.

#### **Some of our prior columns on delirium assessment and management:**

- October 21, 2008 “[Preventing Delirium](#)”
- October 14, 2008 “[Managing Delirium](#)”

- February 10, 2009 “[Sedation in the ICU: The Dexmedetomidine Study](#)”
- March 31, 2009 “[Screening Patients for Risk of Delirium](#)”
- June 23, 2009 “[More on Delirium in the ICU](#)”
- January 26, 2010 “[Preventing Postoperative Delirium](#)”
- August 31, 2010 “[Postoperative Delirium](#)”
- September 2011 “[Modified HELP Helps Outcomes in Elderly Undergoing Abdominal Surgery](#)”
- December 2010 “[The ABCDE Bundle](#)”
- February 28, 2012 “[AACN Practice Alert on Delirium in Critical Care](#)”
- April 3, 2012 “[New Risk for Postoperative Delirium: Obstructive Sleep Apnea](#)”
- August 7, 2012 “[Cognition, Post-Op Delirium, and Post-Op Outcomes](#)”
- February 2013 “[The ABCDE Bundle in Action](#)”
- September 2013 “[Disappointing Results in Delirium](#)”
- October 29, 2013 “[PAD: The Pain, Agitation, and Delirium Care Bundle](#)”
- February 2014 “[New Studies on Delirium](#)”
- March 25, 2014 “[Melatonin and Delirium](#)”
- May 2014 “[New Delirium Severity Score](#)”
- August 2014 “[A New Rapid Screen for Delirium in the Elderly](#)”
- August 2014 “[Delirium in Pediatrics](#)”
- November 2014 “[The 3D-CAM for Delirium](#)”
- December 2014 “[American Geriatrics Society Guideline on Postoperative Delirium in Older Adults](#)”
- June 16, 2015 “[Updates on Delirium](#)”
- October 2015 “[Predicting Delirium](#)”
- April 2016 “[Dexmedetomidine and Delirium](#)”
- April 2016 “[Can Antibiotics Lead to Delirium?](#)”
- July 2016 “[New Simple Test for Delirium](#)”
- September 20, 2016 “[Downloadable ABCDEF Bundle Toolkits for Delirium](#)”
- January 24, 2017 “[Dexmedetomidine to Prevent Postoperative Delirium](#)”
- March 21, 2017 “[Success at Preventing Delirium](#)”
- July 2017 “[HELP Program Reduces Delirium Rate and LOS](#)”
- January 2018 “[What Happens After Delirium?](#)”

**Some of our prior columns related to falls:**

- April 16, 2007 “[Falls With Injury](#)”
- July 17, 2007 “[Falls in Patients on Coumadin or Heparin or Other Anticoagulants](#)”
- January 1, 2008 “[Fall Prevention](#)”
- October 7, 2008 “[Lessons from Falls....from Rehab Medicine](#)”
- November 18, 2008 “[Ticket to Ride: Checklist, Form, or Decision Scorecard?](#)”
- August 4, 2009 “[Faulty Fall Risk Assessments?](#)”
- September 22, 2009 “[Psychotropic Drugs and Falls in the SNF](#)”

- December 22, 2009 “[Falls on Toileting Activities](#)”
- January 2010 “[Falls in the Radiology Suite](#)”
- June 2010 “[Seeing Clearly a Common Sense Intervention](#)”
- May 29, 2012 “[Falls, Fractures, and Fatalities](#)”
- June 5, 2012 “[Minor Head Trauma in the Anticoagulated Patient](#)”.
- January 15, 2013 “[Falls on Inpatient Psychiatry](#)”
- March 2013 “[Sedative/Hypnotics and Falls](#)”
- December 3, 2013 “[Reducing Harm from Falls on Inpatient Psychiatry](#)”
- June 2014 “[New Glasses and Fall Risk](#)”
- July 8, 2014 “[Update: Minor Head Trauma in the Anticoagulated Patient](#)”
- August 2014 “[Cataract Surgery and Falls](#)”
- November 4, 2014 “[Progress on Fall Prevention](#)”
- March 2015 “[Another Paradox: Falls Due to Walking Aids](#)”
- June 9, 2015 “[Add This to Your Fall Risk Assessment](#)”
- July 28, 2015 “[Not All Falls Are the Same](#)”
- October 2015 “[Patient Perception of Fall Risk](#)”
- October 27, 2015 “[Sentinel Event Alert on Falls and View from Across the Pond](#)”
- February 16, 2016 “[Fall Prevention Failing?](#)”
- March 14, 2017 “[More on Falls on Inpatient Psychiatry](#)”
- July 2017 “[Mobility vs. Falls](#)”
- February 2018 “[Global Sensory Impairment and Patient Safety](#)”

## References:

CDPH (California Department of Public Health). 2017. Intake Number CA00500940  
[https://www.cdph.ca.gov/Programs/CHCQ/LCP/CDPH%20Document%20Library/Hospital%20Administrative%20Penalties/2017/2017-CPMC\\_Davies220013211\\_IJAP\\_SF.pdf](https://www.cdph.ca.gov/Programs/CHCQ/LCP/CDPH%20Document%20Library/Hospital%20Administrative%20Penalties/2017/2017-CPMC_Davies220013211_IJAP_SF.pdf)

Ferguson A, Uldall K, Dunn J, et al. Effectiveness of a Multifaceted Delirium Screening, Prevention, and Treatment Initiative on the Rate of Delirium Falls in the Acute Care Setting. *Journal of Nursing Care Quality* 2017; Published Ahead of Print: October 13, 2017  
[https://journals.lww.com/jncqjournal/Abstract/publishahead/Effectiveness\\_of\\_a\\_Multifaceted\\_Delirium.99542.aspx](https://journals.lww.com/jncqjournal/Abstract/publishahead/Effectiveness_of_a_Multifaceted_Delirium.99542.aspx)

Puelle MR, Kosar CM, XU G, et al. The language of delirium: keywords for identifying delirium from medical records. *J Gerontol Nur.* 2015; 41(8): 34-42

<https://www.healio.com/nursing/journals/jgn/2015-8-41-8/%7B1b302cb4-97f7-4c2f-8b80-c48b91fa682f%7D/the-language-of-delirium-keywords-for-identifying-delirium-from-medical-records>

 The  
Truax  
Group  
Healthcare Consulting  
[www.patientsafetysolutions.com](http://www.patientsafetysolutions.com)

<http://www.patientsafetysolutions.com/>

[Home](#)

[Tip of the Week Archive](#)

[What's New in the Patient Safety World Archive](#)