

MORNING REPORT

# Inpatient Falls and Interprofessional Communication

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**M**r. J is a 68-year-old man who presents to the emergency department with chief complaints of acute nausea, vomiting, constipation, and fever of 101°. He is initially diagnosed with acute gastroenteritis and is started on supportive therapy, including fluids and antiemetics, in addition to a bowel regimen of stool softener and multiple laxatives. Approximately one week prior to admission, the patient experienced an eight-foot fall from a ladder resulting in pelvic, coccyx, and rib fractures. Aside from a history of hyperlipidemia, the patient has no other chronic medical problems. During his hospital stay, Mr. J is found to have MSSA bacteremia and is started on nafcillin. Imaging eventually reveals a left-sided piriformis abscess, which is drained via CT-guided procedure. Mr. J's hospital course is complicated by hyperbilirubinemia of unclear source and the development of a rash in response to nafcillin therapy, which necessitates switching to cefazolin.

Because of his recent fall, orthopedics, occupational therapy, and physical therapy consultations are requested upon admission. The occupational therapy and orthopedics teams evaluate the patient soon after he arrives on the floor. The orthopedics team recommends that the patient be non-weight bearing on the left lower extremity while weight bearing on the right lower extremity. The nursing staff assessment includes a fall risk assessment utilizing the Morse score. Due to his recent fall and the resulting limited mobility, his Morse score is 95 (i.e. at high risk for fall if greater than or equal to 45; see Table 1). Several safety measures are put in place to decrease his risk of falls, including patient education (e.g. request assistance with

daily activities, use mobility aids and non-skid socks) and modifications to environment of care (e.g. bedside commode in place, bed in low position, call light in easy reach).

*The Morse Fall Scale (MFS) is one of several tools that is commonly used to predict a patient's risk of inpatient fall. Other scales include the St. Thomas Risk Assessment Tool in Falling (STRATIFY) and the Hendrich Falls Risk Model II (HFRM).<sup>1</sup>*

*The authors of the MFS claim a sensitivity of 79% and specificity of 82% in predicting inpatient falls, though more recent studies show that the MFS and other scales lack both sensitivity and specificity in an inpatient setting.<sup>1</sup> However, in the ab-*

*sence of other tools to predict inpatient falls, such scales remain the best available method for estimating a patient's risk of falls and have been used to target those who need more intensive fall-prevention interventions. Better instruments are needed to identify and target patients at high risk for inpatient falls.*

Nine days after admission, the patient experiences a fall. Immediately prior to the fall, his nurse is in the room preparing to administer his nafcillin. She steps away from the room briefly in order to complete this task, and while she is away, Mr. J reports an urgent need to use the toilet. He asks his son to assist him to the commode because he feels he cannot wait for the nurse's help. Mr. J then has an acute episode of diarrhea and slips in his own stool while trying to use the bedside commode. The nurse hears Mr. J fall and returns to the room, at which point she takes his vital signs, which are within normal limits; notifies the overnight provider and her supervisor; and after assisting the patient back to bed, completes a note in the chart describing the circumstances surrounding the fall in detail. The overnight provider does not document assessing the patient.

*A wide variety of factors put inpatients at risk for falls, including muscle weakness, agitation, confusion, changes in urination, postural hypotension, and use of certain prescription drugs.<sup>1</sup> Inpatient falls are a source of significant morbidity. Approximately 28% of those who fall in the hospital have minor soft tissue injuries such as bruises while 11% have severe soft tissue injuries, including lacerations.<sup>1</sup> More serious injuries, including fractures and head*

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**Table 1. Morse Fall Scale Scoring**

HX of Fall	Score
No	0
Yes	25
<b>Secondary DX</b>	
No	0
Yes	15
<b>Ambulatory Aid</b>	
Walks without assistance or nurse help, wheelchair or bed rest	0
Crutches, walker, cane	15
Clutching furniture for support	30
<b>IV or IV access</b>	
No	0
Yes	20
<b>Gait</b>	
Normal/bed rest/immobile	0
Weak	10
Impaired	20
<b>Mental Status</b>	
Consistent/normal	0
Non-consistent/unrealistic	15

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trauma, occur in another 7% of inpatients who fall.<sup>1</sup> Certain groups of patients are at particularly high risk of injury from falls. For example, patients on warfarin and those with high blood alcohol are at higher risk of brain injury following a ground-level fall.<sup>2</sup> Injury rates are also higher among older patients, patients who fall outside of the patient room, and those who experience an unassisted fall.<sup>3</sup> In this case, the patient required assistance by staff and further mobility training due to his partial non-weight-bearing status. He utilized the assistance of a family member in the act of toileting due to staff unavailability and subsequently had a fall.

Although falls are associated with increased mortality, death is often unrelated to the fall itself. Rather, falls may be a predictor of frailty or greater disease burden than initially indicated by the principal diagnosis. Falls may also reveal important clinical information, such as gait instability, muscle weakness, and decreased vision. Both inpatient and outpatient falls highlight the need for creating a safe environment in the home, which is important in the transition from inpatient to outpatient care. Patients who fall in the hospital, particularly those with multiple falls, are significantly more likely to fall after discharge than those who do not experience an inpatient fall.<sup>4</sup>

In the morning, the intern acknowledges the patient's overnight fall. Physical exam demonstrates no signs of injury. According to the intern's note, the patient describes the overnight fall as "a very light fall." Two days after his fall, the patient is assessed for the first time by a physical therapist and is issued a wheelchair due to his impaired mobility. The patient's mobility sta-

tus and fall are not further addressed by his physicians during this inpatient stay.

*Gait disturbance, muscle weakness, and improper use of ambulatory devices are risk factors associated with patient falls.<sup>5</sup> Unfortunately, many hospitals limit patients' ambulation in an attempt to decrease the short-term risk for falls. This practice may put patients at higher risk for deconditioning and increased long-term risk for falls. An American Academy of Nursing Choosing Wisely recommendation relates to this problem: "Don't let older adults lie in bed or only get up into a chair during their hospital stay. Walking while in the hospital is critical for maintaining functional ability. For years, bed rest was thought to be essential in overcoming illness or injury, but evidence shows a lack of walking increases the length of hospital stays and the need for rehabilitation services while elevating the risk of falling after being discharged."<sup>6</sup>*

*While it is counterproductive to discourage patients with limited mobility from ambulating, it is also necessary to ensure that those with gait or mobility problems have an appropriate level of support from staff to ambulate safely while in the hospital. Outpatient physical therapy is effective in reducing falls among older adults in the community.<sup>7</sup> The influence of inpatient physical therapy on fall rates in the hospital is less clear, although many inpatient fall prevention initiatives include an exercise component. In this case, the patient was neither seen by a physical therapist nor issued a wheelchair until after his inpatient fall. Earlier assessment by physical therapy may have benefited this high-risk patient with limited mobility.*

Despite the overnight nurse's documentation that the patient's fall was due to diarrhea, the intern fails to address this or other underlying causes of the fall. The intern reports in the patient's daily progress note that Mr. J was constipated and continues to use a stool softener and one laxative that he had been on previously. Ultimately, the patient is released home with no further interventions related to the fall. The inpatient fall is not reported in his discharge documentation.

*Good communication between health care professionals is necessary to achieve optimal patient care. A variety of factors, including stability and physical proximity of team members, have been found to impact interprofessional team functioning and improve communication within the team.<sup>8</sup> In this case, important clinical information was lost in communication between the night nurse, the overnight resident, and the primary team. Information was also lost in the patient's transition from hospital to home due to a failure to report Mr. J's inpatient fall in the discharge documentation.*

*Studies show that communication among health care providers is best when teams have relatively structured or standardized methods of communication.<sup>9,10</sup> Use of standardized forms based on the SBAR (Situation, Background, Assessment, Recommendation) method for communication can improve subjective and objective measures of handoff effectiveness in a variety of clinical settings.<sup>10</sup> Strategies for improving communication between health care professionals have been put into place at many institutions, but the data on these interventions*

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are lacking. A 2009 Cochrane review found mixed evidence of the impact of interdisciplinary bedside rounds on clinical outcomes.<sup>11</sup> More recently, implementation of software to automatically alert residents to events that occur during cross-cover was found to improve residents' perception of handoff accuracy and decrease handoff time. The impact of such a strategy on clinical outcomes is as of yet unknown.<sup>12</sup> Overall, research on communication between health care professionals is limited and often underestimates the complexity of real-world interactions.<sup>13</sup> Some strategies for improving communication show promise, but more research is needed on the impact of interventions to improve interprofessional communication on health outcomes.

**References**

1. Spoelstra SL, Given BA, Given CW. Fall prevention in hospitals: an integrative review. *Clin Nurs Res* 2012; 21(1):92-112.
2. Sarani B, Temple-Lykens B, Kim P, Sonnad S, Bergey M, Pascual JL, Sims C, Schwab CW, Reilly P. Factors associated with mortality and brain injury after falls from the standing position. *J Trauma* 2009; 67(5):954-8.
3. Krauss MJ, Nguyen SL, Dunagan WC, Birge S, Costantinou E, Johnson S, Caleca B, Fraser VJ. Circumstances of patient falls and injuries in 9 hospitals in a midwestern healthcare system. *Infect Control Hosp Epidemiol* 2007; 28(5):544-50.
4. Davenport RD, Vaidean GD, Jones CB, Chandler AM, Kessler LA, Mion LC, Shorr RI. Falls following discharge after an in-hospital fall. *BMC Geriatr* 2009; 9:53.
5. Boelens C, Hekman EE, Verkerke GJ. Risk factors for falls of older citizens. *Technol Health Care* 2013; 21(5):521-33.
6. American Academy of Nursing Announces Engagement in National Choosing Wisely® Campaign. Available at <http://www.choosingwisely.org/american-academy-of-nursing-announces-engagement-in-national-choosing-wisely-campaign/> (accessed on November 11, 2014).
7. Gillespie LD, Robertson MC, Gillespie WJ, Lamb SE, Gates S, Cumming RG, Rowe BH. Interventions for preventing falls in older people living in the community. *Cochrane Database Syst Rev* 2009; 2: CD007146.
8. Brock D, Abu-Rish E, Chiu CR, Hammer D, Wilson S, Vorvick L, Blondon K, Schaad D, Liner D, Zierler B. Interprofessional education in team communication: working together to improve patient safety. *BMJ Qual Saf* 2013; 22(5):414-23.
9. Meisel ZF, Shea JA, Peacock NJ, Dickinson ET, Paciotti B, Bhatia R, Buharin E, Cannuscio CC. Optimizing the patient handoff between EMS and the emergency department. *Ann Emerg Med* 2014; 65(3):310-7.
10. Flemming D, Hübner U. How to improve change of shift handovers and collaborative grounding and what role does the electronic patient record system play? Results of a systematic literature review. *Int J Med Inform* 2013; 82(7):580-92.
11. Zwarenstein M, Goldman J, Reeves S. Interprofessional collaboration: effects of practice-based interventions on professional practice and healthcare outcomes. *Cochrane Database Syst Rev* 2009; 3: CD000072.
12. Nabors C, Patel D, Khera S, Kolte D, Gupta R, Balasubramaniyam N, Ambrale S, Mukhi N, Lamba R, Ramachandraiah V, Subramanian K, Syed R, Nam KH, Dardi IK, Bommena S, Mittal V, Peterson SJ. Improving resident morning sign-out by use of daily events reports. *J Patient Saf* 2014; 10(4):211-7.
13. Varpio L, Hall P, Lingard L, Schryer CF. Interprofessional communication and medical error: a reframing of research questions and approaches. *Acad Med* 2008; 83(10 Suppl):S76-81.

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