Update: A Comparative Analysis of Multi-Factorial Fall Prevention Intervention on Patient Falls on a Transplant Unit

Renee DiGiovanni, BS, BSN, RNBC, CCTN, Erin Trembley, RN, CCTN, Tere Crouchet, RNBC, CCTN, Karen Rice, DNS, APRN, ACNS-BC, ANP, Ochsner Medical Center, New Orleans, Louisiana

Background

- Inpatient fall related injuries cost more than $19 billion/year
- Evidence supports that multi-factorial interventions work best in fall prevention
  - TSU trialed several interventions with limited success
- Adherence to safety instruction is a major contributor
- Different perceptions about what is told & tolerance to wait for help
- Patient engagement in the plan is critical
- Hardwiring a prevention plan & engaging the patient should reduce falls with injury

Literature Review

- Multi-factorial interventions can be effective when:
  - Programs are delivered by a multidisciplinary team
  - Clinical medications are reviewed by a pharmacist
  - Exercises are carefully assessed per each individual's capability as there is the possibility that exercise programs may increase falls
  - Focus is on elderly patients with longer lengths of stay (at least three weeks) in long term care facilities (Cameron et al., 2010; Oliver et. al., 2007).

Level of Evidence-1

- Nurses' perceive falls are due to inadequate care giver communication, inadequate care, unsafe care environment and inadequate care planning (Dykes et al., 2009; Tzeng & Yin, 2008; Redmond & Pratt, 2009; Schlenk & Boehm, 1998).

Level of Evidence-4

- Multi-factorial interventions that include risk assessment and individualized fall prevention strategies work best in preventing falls (Ruy, Roche & Brunton, 2009; Sulla & McMyler, 2007).

Level of Evidence-6

Purpose

The purpose of this investigation is to evaluate whether hardwiring fall prevention interventions into nurses' work on a step-down unit reduces falls.

Findings

5.35 falls*

Phase 1 (2009)
- Baseline mean fall rate
- Mean age 56 yrs (range 24-93)
- 11,296 patient days

N = 1075

1.45 falls*

Phase 2 (April 1- June 30, 2010)
- Total 4 Falls/ 2765 patient days
  - 2/4 falls with injury
  - No serious injury
- Patient characteristics
  - Mean age 64 ± 24 yrs (range 30-86)
  - None called for help
- Reasons for falls

3.6 falls*

Phase 3 (July 1- September 30, 2010)
- Total 11 Falls/ 3206 patient days
  - 2/11 falls with injury
  - No serious injury
  - 3 called for help; 2 ambulating w/ staff
- Patient characteristics
  - Mean age 55.01 ± 14.53 yrs (range 19-93)

**Falls reported as number per 1000 patient days*

Study Design

Phase 2

Guidelines For Patients At Risk For Falls

If your nurse determines, or if you feel that you may be at an increased risk to fall, a plan of care will go into effect designed to do all we can to ensure your safety. The plan may include any of the following elements:

1. Parts of the care plan might be posted on the white board in your room.
2. A special band might be placed on your wrist to identify your special needs to all staff members.
3. A small flag might be posted near your door to encourage staff members to check your room frequently.
4. You will be asked to use your call light to ask for help in getting out of bed. It is important to remain lying or sitting while you are waiting – someone will assist you as soon as possible.
5. Use the call light to call for help getting up for at least 24 hours after anesthesia and as long as you are taking pain medication (unless you are told different).
6. When you do get up, sit on the edge of the bed for awhile before standing. Then rise carefully and walk slowly.
7. Wear footwear that is non-slip, has closed heels and fits securely.
8. Do not remove or readjust side rails or other protective devices. They are for your safety and protection.
9. Family members can be very helpful by maintaining a clear pathway in your room and keeping your personal items within reach.

Evaluating the Risk for Falls

Identifying those factors which place a person at fall risk is the first step in preventing a fall while you are hospitalized or at home. A nurse will evaluate your specific risk factors upon admission and daily. The patient and their family members can give us valuable information. The more information that we know about you, the better we are able to anticipate times and circumstances when you may be more likely to fall.

There are a number of factors that increase the risk of patient falls. Some examples are:

1. Unfamiliar environment.
2. Medications such as:
   - Tranquilizers, muscle relaxants, sleeping pills and pain relievers may make you feel dizzy, disoriented and/or unsteady.
   - Diuretics (water pills) can cause frequent trips to the bathroom or urine leakage.
   - A recent reduction in alcohol or nicotine can cause restlessness, anxiety and difficulty walking.
3. Procedures and their preparations:
   - Enemas and laxatives can make you feel weak and cause frequent bathroom trips. Not eating can leave you weak and unsteady.
   - Sedation may make you feel groggy.
4. Physical or mental impairments such as:
   - An unsteady gait, use of crutches or walkers
   - Sight or hearing problems
   - Confusion and disorientation
   - Previous history of falls
   - Strong urges to urinate or leakage
   - Diarrhea

Phase 3

Fall Prevention Contingency Contract
Patient/Nurse Agreement to Prevent Falls

Hi! Welcome to TSU. We are glad to have you on our unit and hope your stay with us exceeds your expectations.

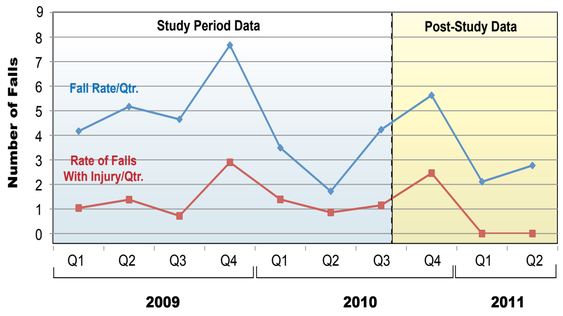
- To ensure your safety, we evaluate all patients admitted to our unit for the risk of falling, both on admit and each day.
- **You are at High Risk for Falling because:**
  (A "check mark" below indicates why you are at risk)
  - ✓ Unsteadiness when walking, getting out of bed, or getting up & out of a chair
  - ___ Weakness
  - ___ Recent history of dizziness or fainting
  - ___ Poor eyesight or trouble with depth perception
  - ___ Difficulty remembering things
  - ✓ Medications you may be taking can increase the risk for falling
  - ___ Recent surgery or procedure
  - ✓ Unfamiliar environment
  - ✓ Equipment (IV pump, chest tubes, catheters or drainage tubes)
- Our staff is here to assist you with all of your needs. **ALWAYS call us** for help with toileting, getting up, walking, reaching objects out of reach, or any other need you may have.
- We are grateful to have your family here to visit. However, **ALWAYS use the nurse call system when needing help rather** than having your family assist you in getting out of bed. At times, more than one person is needed to keep you safe.

Please sign below acknowledging the following statements:

- I have been informed of my fall risk.
- I understand why I am at risk for falling, and
- I agree to call for assistance **each and every time** before attempting to get out of bed or a chair, and/or to reach something.

Patient Signature/Date ____ Nurse ____

Fall Rate/1000 Patient Days With and Without Injury



Phase 1 2009
- Baseline data of falls
- Patient characteristics

Phase 2 2 QTR 2010
- Inclusion of patient/family in fall prevention education using a brochure
- Individual risks & prevention strategies highlighted on admit & reinforced daily

Phase 3 3 QTR 2010
- Add behavioral contingency contract signed by patient or family w/in 24 hrs. of admit

Summary

- Patients who fell (60 years ± 13) were 5 years older than those without a fall (p =ns)
- 15 patients fell
  - 3/15 confused
- 21 confused patients did NOT fall

Conclusion

- Using a structured process seems to be successful in hardwiring the fall prevention plan
- Partnering for fall prevention empowered families in patient safety
- Preliminary findings support a reduction in total falls and falls with serious injury

Implications

- Future research should include qualitative designs exploring why patients disregard instructions and experience multiple falls.

References

Cameron, I., Murray, G., Gillespie, L., Robertson, M., Hill, K., Cumming, R., Kerse, N. (2010). Interventions for preventing falls in older people in nursing care facilities and hospitals. The Cochrane Collaboration. Retrieved September 30, 2011 from http://www.cochranejournalclub.com/preventing-falls-in-nursing-care-facilities-and-hospitals/pdf/CD005465_standard.pdf

Dykes, P. C., Carroll, D. L., Hurley, A. C., Benoit, A., & Middleton, B. (2009). Why do patients in acute care hospitals fall? Can falls be prevented. *The Journal of Nursing Administration*, 39(6), 299-304.

Oliver, D. (2007). Preventing falls and fall injuries in hospital: A major risk management challenge. *Clinical Risk*, 13(5), 173-178.

Redmond, M. & Pratt, K. (2009). Understanding fall risk from medical-surgical patients' perspective: A qualitative study. Manuscript submitted for publication.

Ryu, Y. M., Roche, J. P., & Brunton, M. (2009). Patient and family education for fall prevention: Involving patients and families in a fall prevention program on a neuroscience unit. *Journal of Nursing Care Quality*, 24(3), 243-249.

Schlenk, E. A. & Boehm, S. (1998). Behaviors in type II diabetes during contingency contracting. *Applied Nursing Research*, 11(2), 77-83.

Sulla, S. J. & McMyler, E. (2007). Falls prevention at Mayo Clinic Rochester: A path to quality care. *Journal of Nursing Care Quality*, 122(2), 138-144.

Tzeng, H. & Yin, C. (2008). Nurses' solutions to prevent inpatient falls in hospital patient rooms. *Nursing Economic$*, 26(3), 179-187.