

Falls Prevention

*With as many as 50% of residents in long-term care homes falling each year, 10% of whom suffering serious injury, a Toronto nursing home elected to join the **National Collaborative on Falls Prevention in Long-Term Care Homes**. The goal was to decrease the number of falls among its residents by 25% and to reduce the number of injuries within six months. Compared to the previous year, there were 24% fewer falls resulting in injuries, and no residents suffering serious injuries such as hip fractures.*

By Janusz Kaleta

Improving LTC safety to reduce falls injuries

Research completed in 2007 by the Ontario Injury Prevention Resource Centre shows that every 10 minutes at least one senior visits an emergency department due to a fall (OIPRC, 2007). One third of all adults over age 64, living outside of institutions, fall each year, with the likelihood of falls increasing with older age (Stevens et al., 2006).

More vulnerable in LTC

LTC residents, on the other hand, are nearly three times more likely to fall than elders living in the community (Panel on falls, 2001). Compared with community-dwelling elders, nursing home residents generally have more co-morbidities and advanced diseases, including dementias, thereby making them more vulnerable to falls. In a 100-bed facility, for example, there will generally be between 100 and 200 falls each year, with many residents falling more than once (CDC, 2008).

Falls often result in serious injuries

such as hip fractures and head trauma, especially when they occur among elderly, frail seniors.

The cost of falls to Canadians is estimated at \$2.8 billion annually (Public Health Agency of Canada, 2005). Also, Accreditation Canada recently added 'fall prevention' as one of the new required organizational practices for accreditation by Accreditation Canada.

National collaboration

Recognizing the enormous challenge facing seniors, Cedarvale Terrace Long-Term Care Home in Toronto decided to join the National Collaborative on Falls Prevention in Long-Term Care Homes. It has been participating in this safety improvement initiative since May, 2008.

Upon joining this initiative, Cedarvale Terrace set a goal to decrease the number of falls among its residents by 25% and to reduce the number of injuries within six months.

The interdisciplinary team involved in this initiative embraced various disciplines: medical, nursing, physiotherapy, rehabilitation, program management, staff education, housekeeping, quality coordinator, front-line nursing staff (personal service workers - PSW and health care workers - HCA), and management personnel. All focused on safety for our residents.

Through utilization of the latest Quality Improvement Model known as Plan-Do-Study-Act, or P-D-S-A, our team was able to test several fall prevention interventions.

Improvement initiatives

The RNAO Nursing Best Practice Guidelines for Prevention of Falls and Fall Injuries in the Older Adult served as a guiding tool of all improvement initiatives (RNAO, 2005).

Currently, the medical team, pharmacy and nursing are working on finalizing the protocol to provide vitamin D supplementation for our resi-

dents. Research shows that vitamin D is beneficial in falls prevention among elderly people (Broe et al., 2007)

Below is an example of the P-D-S-A cycle for vitamin D and calcium supplementation for implementation in the Cedarvale facility.

The P-D-S-A cycle

The objective of the P-D-S-A cycle is to evaluate the effectiveness of vitamin D and calcium in the prevention of falls among residents newly admitted to Cedarvale Terrace.

Plan

A review of the research literature and evidence regarding the utilization of vitamin D and calcium among geriatric patients and its effectiveness in the prevention of falls points to:

- Vitamin D as an emerging therapy in falls prevention since it improves muscle strength and function,
- Combined use of vitamin D and calcium has been shown to improve body sway, and reduce risk of hip and non-vertebral fracture.
- Vitamin D and Ca supplementation studies pointed to significant reduction in fracture rates in institutionalized and community-living elderly people.

Do

Introduce the P-D-S-A Quality Improvement Model to Physicians on the Falls Prevention Team for review and feedback. Supplementation of vitamin D and calcium to newly admitted residents who, upon assessment, and deemed appropriate by the physician to receive this therapy, was suggested. On the 'to do' list:

- Communicate the project goals to newly admitted clients and family.
- Obtain *consent for treatments*.
- Inform nursing staff of the rationale for vitamin D and calcium.
- Share information with family, SDM, POA.
- Utilize vitamin D and calcium upon admission (medication reconciliation).
- Review effectiveness of the therapy.

- Involve pharmacy regarding consultations and the setting of appropriate dosage.

Study

- Review effectiveness of vitamin D and calcium and track incidence of falls among newly admitted patients.
- Track records regarding critical injuries, i.e., fractures due to falls.

Act

- Analyze the results to see if there is a potential for a wider application/utilization of the vitamin D and calcium supplementation in the Falls Prevention Program.
- Explore further opportunities to develop a LP's Geriatric Guiding Protocol on use of vitamin D and calcium.

Falls prevention through technical innovation

1. Non-removable clips

Description: Special non-removable clips may be utilized with an existing call bell system instead of purchasing bed alarms. This may potentially save hundreds of dollars.

This specially engineered clip has a special lock between its wings that prevents unwanted removal.

Rationale for use

- Regular clips, often removed by clients at high risk for falls, are not effective in falls prevention
- Non-removable clips, once properly used with call bell systems and/or alarms, are safe and will always alert staff regarding safety concerns.
- Cost of each clip is approximately \$2.00, as opposed to the \$80.00 - \$100.00 cost of a new alarm unit.

2. Staff reminders

Use of simple reminders for staff, such as a particular pen of a certain color, may remind staff to re-check their clients for safety while signing in documentation for conducted/scheduled safety tasks.

The latest research developments in neuroplasticity show that only a small part of the information that enters our eyes actually leads to a conscious awareness. One particular finding shows a distinction between where you look and what you see.

'S-A-F-E' practices

Safe environment . . .

- At least one bed rail down unless assessed otherwise.
- Pathways clear of clutter.
- Bed brakes always applied.
- Adequate and appropriate lighting.

Assist with mobility . . .

- Safe and regular toileting.
- Transfer/mobility status adequately documented.
- Mobility aids/urinals within reach.

Fall risk reduction . . .

- Call bell within the client's reach.
- Bed in lowest position for client.
- Personal items reachable.
- Proper footwear available.

Engage client and family . . .

- Communicate mutual plan.
- Discuss risk factors.

Results

This author is pleased to report on behalf of the Falls Prevention Team that, in 2008, there were 24% fewer falls resulting in injuries, compared to 2007. Further, and more specifically, Cedarvale Terrace did not have any clients with serious injuries such as hip fractures. Most of the falls resulted in no major injuries and/or a skin tear or bruise. Total number of falls was reduced by 10.8% in 2008.

The challenge is to continue to improve resident safety - without limiting their mobility and independence.

How families can help

Families can assist in safety-related challenges by providing proper footwear (i.e., soft, without heels, non slip-

pery), as well as participating in therapy sessions and addressing any safety related observations to the unit nurse or a nurse manager.

It takes a collaborative work attitude of all involved to effectively and early on (at admission) to identify risks and prevent a fall before it occurs. ■

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About the author

Janusz Kaleta is Associate Nurse Manager and Falls Prevention Team Leader, Cedarvale Terrace Long-Term Care Home, Toronto, Ontario.

Reducing the likelihood of falls for residents in LTC

The **National Collaborative on Falls Prevention** was a joint effort of the *Canadian Patient Safety Institute (CPSI)* and the *Registered Nurses' Association of Ontario (RNAO)*. The Collaborative is one of the *Safer Healthcare Now* campaign interventions to improve safety in Canadian healthcare settings including LTC homes.

"Preventing falls and reducing serious injury from falls is absolutely critical," said Irmajean Bajnok, the RNAO's director of international affairs and best practice guidelines programs. "Staff in long-term care facilities who have a person-centred, evidence-based approach to reducing falls and fall injuries can increase quality of life for their residents and reduce costs associated with serious injury from falls."

According to *Safer Healthcare Now*, nearly half of all elderly residents in long-term care homes fall every year and 40% of their admissions are the direct result of a fall. One in three people who fall will develop serious injuries and those who fall are at higher

risk for future falls and injury.

Long-term care homes taking part in the **Ccollaborative** were asked to establish teams, including nurses, personal support workers, physiotherapists, physicians, occupational therapists and pharmacists, who work to implement best practices in the home over the course of 12 months.

These teams were supported through learning sessions, regular facilitated teleconferences and networking with other improvement teams and national experts in falls prevention.

Teams participating in the project implemented strategies such as teaching staff, residents and families how to prevent falls; having residents do balance and strength training; lowering the height of beds; and using bed exit alarms when patients are at a high risk.

"We did not advocate restricting movement or using restraints of any sort," Bajnok said. "Our focus was on assessing and identifying those at risk of falling and setting up as many preventative strategies as possible." ■

Ear disorders may be lead to falls in some residents

More than a third of older adults may unknowingly have an inner ear balance disorder that puts them at high risk of potentially disabling falls.

Vestibular dysfunction

A recent study shows that 35% of adults age 40 and older have vestibular dysfunction of the inner ear, which hampers their sense of balance control.

People with symptoms of vestibular

dysfunction were eight times more likely to experience a fall.

"Given the high prevalence of this impairment, notably among the elderly, and the costs associated, screening for vestibular dysfunction in nursing homes could be a life-saving and cost-effective practice," writes researcher Yuri Agrawal of The Johns Hopkins School of Medicine in the *Archives of Internal Medicine* (May 25; Vol. 169). ■