Prevention of Falls and Fall Injuries in the Older Adult: A Pocket Guide

RNAO

Registered Nurses’ Association of Ontario
L'Association des infirmières et infirmiers autorisés de l'Ontario
This pocket guide resource has been summarized from the Registered Nurses’ Association of Ontario’s (RNAO) nursing best practice guideline, *Prevention of Falls and Fall Injuries in the Older Adult (2005)*. This resource has been created for the long term-care sector, and will allow nurses and other health care providers to keep important guideline recommendations and tools on hand when caring for older persons.

The recommendations and selected tools from the *Prevention of Falls and Fall Injuries in the Older Adult* guideline have been condensed for quick reference in your practice. This pocket guide has been created to be used in conjunction with the complete guideline.

For the full list of recommendations, interpretation of evidence levels, discussion of evidence and noted appendices, please consult the appropriate RNAO nursing best practice guideline. The complete guideline can be accessed from our website: [www.RNAO.org/bestpractices](http://www.RNAO.org/bestpractices).

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Falls Statistics in Canada

• According to the Canadian Institute for Health Information (CIHI, 2000), falls are the primary cause of injury admissions to Canada’s acute care hospitals, accounting for 54.4% of all hospitalizations and 75.7% of all in-hospital deaths for clients admitted for injuries.

• For seniors age 65 years and older, falls were the cause of 84.8% of all injury admissions.

• Falls are the second leading cause of both head and spinal cord injuries (35% and 37%, respectively) (CIHI, 2004).

Falls Statistics in Ontario

• Falls were responsible for 80% of head injury hospitalizations in people age 65 and older in Ontario in 1998/99 (CIHI, 2000).

• Women are admitted to Ontario hospitals for injuries from falls twice as often as men.

Guideline Purpose and Scope

• The purpose of this guideline is to increase nurses’ confidence, knowledge, skills and abilities in the identification of adults within health care facilities at risk of falling and to implement interventions for the prevention of falling.

• It does not include interventions for prevention of falls and fall injuries in older adults living in community settings.

• The guideline has relevance to areas of clinical practice including acute care and long-term care.

• The guideline will assist nurses to:
  • Identify risk factors for falls;
  • Decrease incidence of falls; and
  • Decrease the incidence of injurious falls.
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Falls Intervention Model

REDUCTION OF INJURY STRATEGIES
Having implemented a falls prevention program, some falls will still occur. In these cases, take steps to minimize the harm to the resident.

Disclosure
Open disclosure to resident & family

Protective Devices/Interventions
- Hip protectors
- Osteoporosis interventions

Initial Response
- Rapid & complete assessment and treatment
- Process for investigating falls and causes
- Incident reporting/documentation

FALL INTERVENTION STRATEGIES
When a fall happens or is about to happen, LTC staff can take action to reduce its impact.

Alarms/ Monitors
Assist to Floor
Immediate Response

PREVENTION STRATEGIES
Modifying the environment, establishing formalized processes and taking proactive measures can reduce or prevent falls.

Education
- Environmental risk
- Safe transfers
- Specific feedback
- Memos, flyers, safety fairs
- External info sources: RNAO, IHI, Community resources
- Resident/family education: Tai Chi, strength training, diet

Organizational Strategies
- Minimal restraints
- Toileting schedules
- Medical therapy
- Polypharmacy management
- Safe exit
- Low bed
- Frequent environmental rounding
- Motion sensors

Environmental Hazard Reduction
- Lift devices
- Furniture arrangement
- Environmental (spills, etc.)

ENVIRONMENTAL HAZARD REDUCTION
- Lift devices
- Furniture arrangement
- Environmental (spills, etc.)

ALARM SYSTEMS/MONITORS
- Alarms
- Monitoring devices

Assist to Floor
- Staff assistance
- Night呼ばれ

Immediate Response
- Emergency procedures
- Medical intervention

AWARENESS OF RISK STRATEGIES
Of those residents who are at risk for falling

Assessment
- Risk assessment tool
- Medication review

Identification (RISK STATUS)
- Ex. wristbands, blankets, rooms signs

Communication
- At change of shift between caregivers
- Document and inform high risk residents and families

Adapted from Falls Reduction: An Error Management Model with Permission from Sentara Virginia Beach General Hospital
### Risk Factors & Associated Odds of Falling

<table>
<thead>
<tr>
<th>Risk Factor</th>
<th>Hospitalized</th>
<th>Long-Term Care Home</th>
</tr>
</thead>
<tbody>
<tr>
<td>History of a previous fall</td>
<td>OR, 2.76</td>
<td>OR, 3.41</td>
</tr>
<tr>
<td>Age</td>
<td>&gt; 75</td>
<td>&gt; 87 (OR, 1.16)</td>
</tr>
<tr>
<td>Gender</td>
<td>insufficient data</td>
<td>Male (OR, 1.14)</td>
</tr>
<tr>
<td>Medical conditions</td>
<td>Parkinson’s disease, diabetes mellitus, arthritis, cerebrovascular accidents, recent hospitalization and illness via their effect on strength, balance, and proprioception can contribute to fall risk. Although these diseases cannot be altered, other risk factors may be modifiable to lower the patient’s overall risk.</td>
<td></td>
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<tr>
<td>Cognitive impairment</td>
<td>OR, 2.62-6.33</td>
<td>Wandering behaviour (OR, 1.84)</td>
</tr>
<tr>
<td>Balance and gait</td>
<td>insufficient data</td>
<td>Unsteady gait (OR, 1.13)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Transfer independence (OR, 1.49)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Wheelchair independence (OR, 1.39)</td>
</tr>
<tr>
<td>Ambulatory aids</td>
<td>Use of ambulatory aids (OR, 2.84)</td>
<td>Use of cane/walker (OR, 1.44)</td>
</tr>
<tr>
<td>Environmental hazards</td>
<td>insufficient data</td>
<td>Falls attributed to environmental factors: 27.3% in this population. Restraint use (OR, 10.2)</td>
</tr>
<tr>
<td>Drugs</td>
<td>Psychotrophic drugs: OR, 1.93-7.95</td>
<td>Polypharmacy (4+ medications)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Benzodiazepines (adjusted RR, 1.44)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Psychotrophics: 2-fold increase rate of falls, Diuretics (OR, 7.2)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Vasodilators (OR, 3.0)</td>
</tr>
<tr>
<td>Vision (decreased)</td>
<td>OR, 2.46</td>
<td>OR, 1.6</td>
</tr>
<tr>
<td>Systolic hypotension</td>
<td>insufficient data</td>
<td>OR, 2.0</td>
</tr>
<tr>
<td>(&lt;110 systolic)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hospital ward</td>
<td>Geropsychiatry and rehabilitation wards with higher incidence of falls.</td>
<td></td>
</tr>
<tr>
<td>Number of risk factors</td>
<td>Five factors, including fall as a presenting complaint, a low transfer or mobility score of 3 or 4, or the primary nurses’ judgment that the patient was agitated, needed frequent toileting, or was visually impaired were found to predict falls in a hospital setting. Having more than two of these risk factors was defined as high risk.</td>
<td></td>
</tr>
</tbody>
</table>
Practice Recommendations

Assessment

1.0 Assess fall risk on admission.
(see chart on pg.6)

1.1 Assess fall risk after a fall.

Intervention

Tai Chi

2.0 Tai Chi to prevent falls in the elderly is recommended for those clients whose length of stay (LOS) is greater than four months and for those clients with no history of a fall fracture. There is insufficient evidence to recommend Tai Chi to prevent falls for clients with LOS less than four months.

Exercise

2.1 Nurses can use strength training as a component of multi-factorial fall interventions; however, there is insufficient evidence to recommend it as a stand-alone intervention.

Multi-factorial

2.2 Nurses, as part of the multidisciplinary team, implement multi-factorial fall prevention interventions to prevent future falls.

Medications

2.3 Nurses, in consultation with the health care team, conduct periodic medication reviews to prevent falls among the elderly in health care settings. Clients taking benzodiazepines, tricyclic antidepressants, selective serotonin-reuptake inhibitors, trazodone, or more than five medications should be identified as high risk. There is fair evidence that medication review be conducted periodically throughout the institutional stay.
Recommendations

**Hip Protectors**

2.4 Nurses could consider the use of hip protectors to reduce hip fractures among those clients considered at high risk of fractures associated with falls; however, there is no evidence to support universal use of hip protectors among the elderly in health care settings.

**Vitamin D**

2.5 Nurses provide clients with information on the benefits of vitamin D supplementation in relation to reducing fall risk. In addition, information on dietary, life style, and treatment choice for the prevention of osteoporosis is relevant in relation to reducing the risk of fracture.

**Client Education**

2.6 All clients who have been assessed as high risk for falling receive education regarding their risk of falling.

**Environment**

3.0 Nurses include environmental modifications as a component of fall prevention strategies.
Education Recommendations

4.0 Education on the prevention of falls and fall injuries should be included in nursing curricula and on-going education with specific attention to:

- Promoting safe mobility;
- Risk assessment;
- Multidisciplinary strategies;
- Risk management including post-fall follow-up; and
- Alternatives to restraints and/or other restricted devices.

Organization & Policy Recommendations

Least Restraint

5.0 Nurses should not use side rails for the prevention of falls or recurrent falls for clients receiving care in health care facilities; however, other client factors may influence decision-making around the use of side rails.

6.0 Organizations establish a corporate policy for least restraint that includes components of physical and chemical restraints.

Organizational Support

7.0 Organizations create an environment that supports interventions for fall prevention that includes:

- Fall prevention programs;
- Staff education;
- Clinical consultation for risk assessment and intervention;
- Involvement of multidisciplinary teams in case management; and
- Availability of supplies and equipment such as transfer devices, high/low beds, and bed exit alarms.
Medication Review

8.0 Implement processes to effectively manage polypharmacy and psychotropic medications including regular medication reviews and exploration of alternatives to psychotropic medication for sedation.

RNAO Toolkit

9.0 Nursing best practice guidelines can be successfully implemented only where there are adequate planning, resources, organizational and administrative support, as well as appropriate facilitation. Organizations may wish to develop a plan for implementation that includes:

- An assessment of organizational readiness and barriers to education.
- Involvement of all members (whether in a direct or indirect supportive function) who will contribute to the implementation process.
- Dedication of a qualified individual to provide the support needed for the education and implementation process.
- Ongoing opportunities for discussion and education to reinforce the importance of best practices.
- Opportunities for reflection on personal and organizational experience in implementing guidelines.

In this regard, RNAO (through a panel of nurses, researchers and administrators) has developed the Toolkit: Implementation of Clinical Practice Guidelines based on available evidence, theoretical perspectives and consensus. The Toolkit is recommended for guiding the implementation of the RNAO guideline Prevention of Falls and Fall Injuries in the Older Adult.
1. Morse Fall Scale
Author: Morse, J. M., Morse, R., & Tylko, S. (1989)
The Morse Fall Scale (MFS) (Morse, Morse, & Tylko, 1989) is used widely in acute care settings, both in hospital and long-term care inpatient settings. The MFS requires systematic, reliable assessment of a client’s fall risk factors upon admission, after a fall, with a change in status, and at discharge or transfer to a new setting.
Available: The National Center for Patient Safety (NCPS)
http://www.janicemorse.com/fallscalephp

2. STRATIFY (St. Thomas Risk Assessment Tool in Falling Elderly Inpatients)
The St. Thomas’s risk assessment tool (STRATIFY) (Oliver et al., 1997) is used to identify clinical fall risk factors in the elderly and to predict chance of falling.
Available: Dr. Oliver
Address: Department of Elderly Care (Division of Medicine)
United Medical and Dental Schools,
St. Thomas’s Hospital
London, UK SE1 7EH

3. Hendrich II Fall Risk Model©
The Hendrich II Fall Risk Model© (Hendrich, et al, 1995) is used both nationally and internationally to identify patients at risk for falls.
Contact: Ann Hendrich, Inc.
P.O. Box 50346, Clayton, MO 63105, U.S.A.
Phone: (866) 653-6660
Licensing information available at: http://www.ahincorp.com/
4. Implementation Resources

The following resources can help you implement the Prevention of Falls and Fall Injuries in the Older Adult guideline in your organization and can be downloaded at www.RNAO.org/bestpractices:

- Toolkit: Implementation of Clinical Practice Guidelines
- Falls Prevention: Building the Foundations for Patient Safety, Self-Learning Package
- Toolbox for Implementation of Falls Prevention in Long-Term Care
- Health Education Fact Sheet: Reduce Your Risk for Falls

5. Useful Websites

Restorative Care Education and Training Program
The Centre for Activity and Aging
The University of Western Ontario
London, Ontario N6G 1K7
Phone: (519) 661-1603
Fax: (519) 661-1612
http://www.uwo.ca/actage/

Practice Standard: Restraints
College of Nurses of Ontario
http://www.cno.org/docs/prac/41043_Restraints.pdf

Patient Restraints Minimization Act, 2001
Ontario Legislative Library
http://www.e-laws.gov.on.ca/html/statutes/english/elaws_statutes_01p16_e.htm
Clinical Practice Guidelines for the Diagnosis and Management of Osteoporosis

Visit [www.RNAO.org/bestpractices](http://www.RNAO.org/bestpractices) to download RNAO’s implementation resources!