Falls Prevention and Management

Regional Clinical Practice Guidelines

- Personal Care Homes / Long Term Care Facilities

Winnipeg Regional Health Authority
Caring for Health
Office régional de la santé de Winnipeg
À l’écoute de notre santé

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WRHA Regional Clinical Practice Guidelines
for Falls Prevention and Management

1. BACKGROUND

Within Manitoba, falls are the most frequent cause of injury-related deaths and hospitalizations for older adults. In fact, falls account for more than $164 million in health care spending. Hip fractures are one of the serious injuries stemming from falls. Falls account for more than 90% of hip fractures among older adults. Only 50% of these individuals are able to return to their home or live independently again. In-hospital hip fracture rates are higher in Manitoba relative to other Canadian provinces and territories.

Every year in the Winnipeg Health Region, there are more than 22,500 reported falls in community, hospital and personal care home settings. Falls not only account for 54% of all regional critical incidents but are also responsible for 2,000 fall-related hospitalizations each year among adults 65 years of age and over. The average length of stay in a hospital following a fall is 33 days.

The incidence and significance of falls has prompted Accreditation Canada to designate falls prevention and management as a Required Organizational Practice. Specifically, Accreditation Canada now requires all health care teams to “implement and evaluate a fall prevention strategy to minimize the impact of client falls”.

In October 2008, an interprofessional and intersectoral Regional Falls Prevention Leadership Committee was established to facilitate the coordination and consistency of Winnipeg Regional Health Authority’s (WRHA) falls prevention and management initiatives for older adults with the aim of decreasing falls and injuries resulting from falls within the region (refer to Appendix A for a list of committee members). To support this goal, these regional clinical practice guidelines for falls prevention and management were developed.

2. GOALS AND OBJECTIVES OF THE GUIDELINES

The overall goal of this document is to provide evidence informed guidelines to guide falls prevention and management programs across all sectors within the WRHA. Specific objectives include:

– To ensure a consistent approach to falls prevention and management across the region

– To ensure falls assessment and management is prompt, appropriate, and consistent

– To ensure falls assessment and management includes the use of systematic and validated tools

– To identify and address risk factors for falls, decrease the incidence of falls and decrease the incidence of injurious falls
– To provide the foundation upon which falls prevention and management education is based
– To ensure falls prevention and management programs are continually evolving based on critical analysis of key quality indicators and new evidence

3. TARGET POPULATION

These guidelines specifically target adults over the age of 65 years but are applicable to any adult whose condition places them at risk of falling such as those with a history of falls, neurological conditions, cognitive problems, depression, visual impairment or other medical conditions leading to an alteration in functional ability.6

4. TARGET AUDIENCE

These guidelines were designed to be used by all health care providers including direct care staff working with older adults, policy makers, educators, and administrators. The guidelines apply equally to all members of the interprofessional team.

5. KEY DEFINITIONS

Fall: Unintentionally coming to rest on the ground, floor or other lower level with or without an injury (Developed by the Canadian Falls Prevention Curriculum and adopted by the Manitoba Falls Prevention Network, October 31, 2008).

Falls Screening Tool: A tool used to identify a person’s risk of falling. A screening tool attempts to identify those at highest risk of falling.6

Falls Risk Assessment: A detailed and systematic process used to identify a person’s risk factors of falling. It is used to help identify which interventions to implement.6

Guidelines: Reflect a summary of best available evidence. Levels of evidence within these guidelines are defined as follows:

Level I: Evidence obtained from a systematic review of all relevant randomized controlled trials

Level II: Evidence obtained from at least one properly designed randomized controlled trial

Level III-1: Evidence obtained from well-designed pseudo-randomized controlled trials (alternate allocation or some other method)

Level III-2: Evidence obtained from comparative studies with concurrent controls and allocation not randomized (cohort studies), case-control studies, or interrupted time series with a control group
Level III-3: Evidence obtained from comparative studies with historical control, two or more single arm studies, or interrupted time series without a parallel control group

Level IV: Evidence obtained from case series, either post-test, or pretest and post-test\(^6\,^7\)

No Level Stated: Evidence obtained from expert opinion and stakeholder feedback only

Guidelines without a level of evidence cited beside them reflect those based on expert opinion.

Good practice points: Speak to areas without strong research evidence but are deemed important based on clinical experience or expert consensus.\(^6\)

Additional definitions are included in the Glossary (see page 9).

6. GUIDING PRINCIPLES

- The older adult’s perspective and individual needs are key considerations in the application of this guideline.
- The principle of maintaining the highest quality of life possible while striving for a safe environment and practices should guide intervention choices. Risk-taking, dignity, autonomy and self-determination are to be supported, respected and considered in the plan of care.
- The older adult, their family / caregivers and the interprofessional team must work collaboratively to prevent falls.
- Successful falls prevention programs require screening and assessment of falls risk. However, multifactorial fall prevention interventions are critical to achieve positive client outcomes.
- Understanding the complex interaction between intrinsic factors (e.g. age-related changes, medication, underlying health conditions, lifestyle, etc.) and extrinsic factors (e.g. icy sidewalks, scatter rugs, poor lighting, etc.) is fundamental to fall prevention and management.
- Leadership commitment to a falls prevention and management program is critical for success.
7. Methodology

A comprehensive literature review was conducted to identify currently published systematic reviews, meta-analyses, and clinical practice guidelines. From this review, promising guidelines developed by the Australian Commission on Safety and Quality in Health Care (ACSQHC) were identified. These guidelines entitled “Preventing falls and harm from falls in older people: Best practice guidelines for Australian hospitals, residential care facilities and community care (2009)”

- Include the most recently published evidence on falls prevention and management (publication date of December 2009)
- Separate guidelines into three areas: hospital, residential aged care facilities (equivalent to PCH/long term care facilities), and community care
- Provide extensive supporting documentation in a clear, easy to understand manner and include implementation tools and guides
- Represent the second revision of the original guidelines created and piloted in 2005.

In order to objectively assess the quality of the ACSQHC guidelines, the Appraisal of Guidelines for Research and Evaluation (AGREE) Tool was used. The AGREE tool is a reliable and valid instrument designed specifically to provide a framework for assessing the quality of clinical practice guidelines. Based on the results of the AGREE tool, the Regional Falls Prevention Leadership Committee agreed to adopt the guidelines from ACSQHC (2009). Permission for use was obtained from the ACSQHC.

The ACSQHC guidelines were modified to reflect WRHA terminology and context. Select guidelines around screening, education, evaluation, and sustainability were added. These administrative guidelines pertain equally to all sites, programs, and facilities. Additionally, the existing WRHA clinical practice guidelines for the prevention and management of falls within the Personal Care Home Program were reviewed in July 2010 and embedded into Appendix C of this document.

The draft guidelines were disseminated widely across the WRHA to obtain stakeholder feedback. All stakeholder feedback was reviewed and incorporated at the discretion of the Regional Falls Prevention Leadership Committee based on the congruence of the feedback with the existing evidence.

According to the ACSQHC, the guidelines will be reviewed in 2014 at which time the WRHA will also review and update this document as required.

8. How to Use These Guidelines

The application of these guidelines “is intended to be in the context of professional judgment, clinical knowledge, competence and experience of health professionals. The guidelines acknowledge that the clinical judgment of informed professionals is best practice in the absence of good-quality published evidence. Some flexibility may therefore be required to adapt these guidelines to specific settings, to local circumstances, and to older adult’s needs, circumstances and wishes” (ACSQHC, p. xv).
9. Guidelines

This document represents a summary of the guidelines contained in the full ACSQHC guidelines.6

9.1 Administrative Guidelines
(Applicable to all sites/programs/facilities)

Screening
- A standardized falls risk screening tool will be used within all sites/programs/facilities.
- Generally, a falls risk screening tool will provide an overall score. However, the focus should not be on the score but on the specific areas of risk identified.

Education for Staff
- All health care providers working with older adults shall be knowledgeable and competent in falls risk assessment, intervention, and prevention.9 Specific topics should include:
  • Definition of a fall
  • Falls statistics including frequency, outcomes and costs
  • Risk factors (intrinsic and extrinsic) associated with falls
  • Consequences of falls including the impact on quality of life and autonomy
  • Assessment of falls including documentation and use of falls assessment tools
  • Falls and injury prevention strategies

Education for Older Adults/Family
- Older adults and their family should be offered education regarding risk factors for falling and fall prevention and management strategies.
- Raising awareness of falls prevention among older adults, their family/caregivers, health care providers, policy makers, and the media should be delivered through a population wide information campaign.

Evaluation
- Each sector will monitor falls quality indicators on a regular basis and compare indicators across like programs/units to identify trends, causes and degree of injury. Indicators to be measured include incidence of falls, incidence of falls with injury, completion of a falls risk assessment tool, and presence of falls prevention strategies within the care plan.
- Quality indicator results will be widely disseminated (e.g. leadership/management committees, staff meetings, patient/family/resident councils, community groups and other relevant partners)
Administrative Guidelines (continued)

– Each sector will include falls prevention in their Quality Plans. The effectiveness of the fall prevention program will be evaluated to identify areas for improvement.\(^5\)

Sustainability

– Plans for sustainability should be a focus from the development of the program through implementation and evaluation. Continuing education and knowledge translation must be an ongoing priority.

– Each sector should develop strategies related to:
  
  – Sustaining the issue: keep falls awareness high on the agenda
  
  – Sustaining behavior changes: build skills, create supportive physical structures, and modify social environments so they are supportive of healthy behaviors
  
  – Sustaining programs: establish a falls prevention and management committee or working group, partner with other sites / programs / facilities / communities to integrate initiatives.\(^10\)

9.2 Clinical Guidelines and Good Practice Points

This document describes specific clinical guidelines and good practice points for Personal Care Homes / Long Term Care Facilities. This is a sub document of *Falls Prevention and Management Clinical Practice Guidelines for Acute Care Facilities, Personal Care Homes/ Long Term Care Facilities & Community Services & Programs.*

Sector specific subdocuments are also available for:

- Falls Prevention and Management Clinical Practice Guidelines: Acute Care Facilities
- Falls Prevention and Management Clinical Practice Guidelines: Community Services & Programs
Glossary

Balance programs
Exercises / techniques to improve the ability to correct displacement of the body during its movement though space and to compensate for external disturbances.

Bed / Chair alarms
Devices placed on beds / chairs that alarm when a person rises

Cognitive impairment
Impairment in one or more domains of normal brain function (eg memory, perception, calculation)6

Cognitively intact
Suffering no form of cognitive impairment6

Co morbidity
Two or more health conditions or disorders occurring at the same time6

Continence
The ability to retain the contents of bladder and / or bowel until conditions are proper for urination / defecation6

Delirium
An acute change in cognitive function characterized by fluctuating confusion, impaired concentration and attention6

Dementia
Impairment in more than one cognitive domain that impacts on a person's ability to function, and that progresses over time6

Extrinsic factors
Factors that relate to a person's environment or their interaction with the environment6

Hip protectors
Garments or undergarments with pockets on each side, into which protective pads are inserted. Protective pads may be hard or soft-shelled. In the event of a fall, the pad absorbs or disperses the force away from the hip11

Intrinsic factors
Factors that relate to a person's behavior or condition6
Malnutrition
A condition that occurs when an individual is not getting enough nutrients. The condition may result from an inadequate or unbalanced diet, digestive difficulties, absorption problems or other medical conditions.⁶

Mobility assistive devices
Therapist recommended devices such as walkers, canes, wheelchairs, scooters.

Multifactorial interventions
Where people receive multiple interventions, but the combination of these interventions is tailored to the individual, based on an individual assessment.⁵

Multiple interventions
Where everyone receives the same, fixed combination of interventions.⁶

Orthostatic hypotension
A difference in systolic blood pressure of greater than or equal to 20 mmHg between lying to standing/sitting after one minute. It can be acquired or idiopathic, transient or chronic, and may occur alone or secondary to a disorder of the central nervous system. It is associated with dizziness, blurred vision, and sometimes syncope, occurring upon standing. Orthostatic hypotension is more clinically significant if there is a large drop in systolic blood pressure, a low standing BP (e.g. below 90 mmHg) or if there are associated symptoms.

Pharmacodynamics
The study of the biochemical and physiological effects that medications have on the body.⁶

Pharmacokinetics
The study of the way in which the body handles medications, including the processes of absorption, distribution, excretion and localisation in tissues and chemical breakdown.⁵

Psychoactive medication
A medication that affects the mental state. Psychoactive medications include anti-depressants, anticonvulsants, antipsychotics, mood stabilizers, anxiolytics, hypnotics, antiparkinsonian medications, psychostimulants and dementia medications.⁶

Single interventions
Interventions targeted at single risk factors.⁶

Syncope
A temporary loss of consciousness with spontaneous recovery, which occurs when there is a transient decrease in cerebral blood flow.⁶
References


10. Canadian Agency for Drugs and Technologies in Health (CADTH). Policy guidance on hip protectors in long-term care. Ottawa, ON: Canadian Agency for Drugs and Technologies in Health (CADTH); 2010. 3p. [http://www.cadth.ca/media/pdf/CADTH_Hip_Protectors_Policy_Guidance_e.pdf]


64. Hawranik P, Bell S. The effectiveness of a vision care services project on falls and fractures in personal care home residents. J Safety Res. [In Press].


Appendix A

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Appendix C

Clinical Guidelines and Good Practice Points:
Personal Care Homes / Long Term Care Facilities

FALLS PREVENTION INTERVENTIONS

Guidelines

- A multifactorial approach using standard falls prevention interventions and provided by an interprofessional team should be routine care for all residents of personal care homes / long term care facilities. (Level I)\textsuperscript{12}

- In addition to a multifactorial approach using standard falls prevention interventions, develop and implement a targeted and individualized falls prevention plan of care based on the findings of a falls screen or assessment. (Level II)\textsuperscript{17}
FALLS RISK SCREENING AND ASSESSMENT

Guidelines

- On admission, review the older adult's pre-admission documentation. This could include a Home Care Minimum Data Set (MDS) Assessment, where an older adult at risk for falls is identified according to the Client Assessment Protocol (CAP) or other documentation from the referring facility.

- All residents should be assessed using the Falls Risk Assessment Tool (FRAT) or equivalent within 24 to 48 hours of admission, when the Falls Client Assessment Protocol (CAP) on the quarterly or annual MDS Assessment is triggered and with any significant change in status or decline in function/mobility.

- For residents assessed as being at risk for falls, the base care plan will include care planning around this risk. This plan should be completed and communicated to all staff within 24 hours of admission.

- With a quarterly or annual assessment, care planning should be reviewed/revised but a falls risk assessment does not need to be repeated if a resident has been previously assessed as high risk.

- Falls prevention and management programs need to be supported with education for staff. Intermittent reviews of how to use the FRAT should occur to ensure appropriate and consistent use. See the WRHA Personal Care Home Falls Assessment and Management Education modules.

Good practice points

- If a resident is identified as being ‘at risk’ for any item on a multiple risk factor screen, interventions should be considered for that risk factor even if the person has a low falls risk score overall.

- Interventions delivered as a result of the assessment provide benefit; therefore, it is essential that interventions systematically address the identified risk factors.
Balance and Mobility Limitations

Guidelines

- Involve occupational therapy and/or physiotherapy to develop supervised and individualized balance and gait exercises as part of a multifactorial intervention to reduce the risk of falls and fractures in personal care home residents. (Level II)\textsuperscript{51}

- Consider using gait, balance and functional coordination exercises as single interventions. (Level II)\textsuperscript{52, 53}

Good practice points

- Exercise should be supervised and delivered by appropriately trained individuals.

- Assess the resident’s ability to use mobility aids including walkers, wheelchairs, etc.

- Assess chairs, wheelchair and seating systems to ensure that they are appropriate for the resident’s needs.

- Ensure assistive devices are an appropriate height for resident and within easy reach.

- Ensure all assistive devices are in good working order. See the VA National Centre for Patient Safety 2004 Falls Toolkit: Equipment Safety Check List.\textsuperscript{54}

- Review education on safety with mobility aids with the resident and caregivers if applicable.

- Ensure that the proper transfer method/logo for the resident is assessed, communicated and consistently applied. For residents requiring total assistance, ensure appropriate sling, correct sling size, integrity of sling and transfer logo.
Cognitive Impairment

Guidelines

- Residents with cognitive impairment should have other falls risk factors assessed.
- Address identified falls risk factors as part of a multifactorial falls prevention program, and consider injury minimization strategies such as hip protectors or vitamin D and calcium supplementation. (Level I)\(^1\)

Good practice points

- Address all reversible causes of acute or progressive cognitive decline.
- Residents presenting with an acute change in cognitive function should be assessed for delirium and the underlying cause of this change. For example see the Confusion Assessment Method (CAM) instrument.\(^{19-21}\)
- Residents with gradual-onset, progressive cognitive impairment should undergo detailed assessment to determine diagnosis and, where possible, reversible causes of the cognitive decline. Reversible causes of acute or progressive cognitive decline should be treated.
- If a resident with cognitive impairment does fall, reassess his/her cognitive status, including presence of delirium.
- Interventions shown to work in cognitively intact populations should not be withheld from cognitively impaired populations; however, interventions for adults with cognitive impairment may need to be modified and supervised as appropriate.
**CONTINENCE**

**Guidelines**
- Review bowel and bladder continence status to check for problems that can be modified or prevented.
- Regular, individualized toileting should be in place for residents at risk of falling, as part of multifactorial intervention. (Level II)\textsuperscript{14}
- Managing problems associated with urinary tract function is effective as part of a multifactorial approach to care. (Level II-\textsuperscript{*})\textsuperscript{14}

Note: although there is observational evidence of an association between incontinence and falls, there is no direct evidence that interventions to manage incontinence affect the rate of falls.\textsuperscript{55}

**Good practice point**
- Individualized toileting programs may include having a commode at the bedside, assisting the resident to the bathroom at set intervals (e.g. every one to two hours), keeping the light on in the bathroom, etc.

**FEET AND FOOTWEAR**

**Guidelines**
- In addition to using standard falls risk assessments, screen older adults for ill-fitting or inappropriate footwear (e.g. slippers with no heel counter), foot pain or other foot problems.
- As part of a multifactorial intervention program, prevent falls by making sure residents have fitted footwear. (Level II)\textsuperscript{47}

**Good practice points**
- Refer residents to professionals with expertise in foot care for assessment and treatment of foot conditions as needed.
- Educate resident and family on safe footwear characteristics including:
  - **Soles**: shoes with thinner, firmer soles appear to improve foot position sense; a tread sole may further prevent slips on slippery surfaces
  - **Heels**: a low, square heel improves stability
  - **Heel Counter**: shoes with a supporting heel counter improve stability.
  - See the [Shoe Safety Checklist]\textsuperscript{24}
Orthostatic Hypotension

Good practice points

- Studies have indicated that orthostatic hypotension may not be the primary cause of falls. However, orthostatic hypotension does increase the potential to fall if the resident is already a fall risk.

- Assess orthostatic hypotension by monitoring lying and sitting/standing (depending on resident) blood pressure on admission and as required.
  - Have resident lie down for 15 minutes and then take the resident’s blood pressure while they are lying down.
  - Then, if the resident is able to stand, have him/her stand up, and after one minute, take a standing blood pressure. If resident is only able to sit up, then take a sitting blood pressure after one minute of sitting with legs dependent.

- If orthostatic hypotension is evident:
  - Determine underlying cause such as medications, infection, dehydration, underlying disease (e.g. diabetes, Parkinson’s, cardiovascular disease, stroke, adrenal insufficiency), and other deficiencies (e.g. B12 or folate). Treat underlying cause as appropriate. If medications are the cause, discontinue, decrease or switch as appropriate.
  - If possible, instruct resident to change position slowly, sit at edge of bed prior to getting up and sit down immediately if feeling dizzy.
  - Ensure adequate fluid intake.
  - Eat small, frequent meals. Liberalization of sodium content of the diet (of 4 to 6 grams daily) in the long term care setting is recommended.
  - Elevate head of bed (reverse trendelenberg position).

Syncope

Guidelines

- Residents who report unexplained falls or episodes of collapse should be assessed for the underlying cause.

- Assessment and management of presyncope, syncope and postural hypotension, and review of medications (including medications associated with presyncope and syncope) should form part of a multifactorial assessment and management plan for preventing falls in residents. (Level I-*)

Note: there is no evidence derived specifically from the personal care home setting relating to syncope and falls prevention. Guidelines have been inferred from community and hospital populations.
**Dizziness and Vertigo**

**Guidelines**

- Vestibular dysfunction as a cause of dizziness, vertigo and imbalance needs to be identified in residents in the personal care home setting.

  Note: there is no evidence from randomized controlled trials that treating vestibular disorders will reduce the rate of falls.

**Good practice points**

- Use vestibular rehabilitation to treat dizziness and balance problems where indicated and available.
- Screen residents reporting of dizziness for gait and balance problems, as well as for postural hypotension. Residents who report ‘dizziness’ may have pre-syncope, postural disequilibrium, or gait or balance disorders.

**Medications**

**Guidelines**

- Residents should have their medications (prescribed and non-prescribed) reviewed on admission, after a fall, after initiation or a change in dosage of medication, or if they are on five or more medications. A physician, pharmacist and nurse should review the medications at least quarterly. See Drugs and the Risk of Falling.25

- As part of a multifactorial intervention, or as a single intervention, residents taking psychoactive medication should have their medication reviewed by a pharmacist, physician, and nurse. Where possible, medications should be discontinued gradually to minimize side effects and to reduce their risk of falling. (Level II)22, 58

- Limit multiple drug use to reduce side effects and interactions. (Level II-*)58

- Due to the increased risk of bleeding post-fall, those older adults on anticoagulant therapy should have regular monitoring of their International Normalized Ratio (INR).

**Good practice points**

- Stopping or reducing the dosages of as many of the medications as possible should be the goal; the impact of any changes should be monitored on a regular basis.

- The short-term risk of falls is significantly elevated within 3 days of any change in a psychoactive medication. This includes initiation of a medication, an increase in dosage, a decrease in dosage, and an as needed dose.59
VISION

Guidelines

- On admission, screen for visual problems. Use a validated screening tool such as the Misericordia Health Centre Focus on Falls Vision Screening Tool.27

- If a vision screening tool indicates normal vision, arrange regular eye examinations (every two years) for residents in personal care homes / long term care facilities to reduce the incidence of visual impairment, which is associated with an increased risk of falls.

- Residents with visual impairment related to cataracts should have cataract surgery as soon as practical. (Level II-*)22, 60

- Environmental assessment and modification should be undertaken for residents with severe visual impairments (visual acuity worse than 20/80). (Level II-*)61

- When correcting other visual impairment (e.g. prescription of new glasses), explain to the resident and their caregivers that extra care is needed while the resident gets used to the new visual information. Falls may increase as a result of visual acuity correction. (Level II-*)62

- Advise residents with a history of falls or an increased risk of falls to avoid bifocals, trifocals, or progressives and to use single-lens distance glasses when walking — especially when negotiating steps or walking in unfamiliar surroundings. (Level III-2-*)63

Note: there have not been enough studies to form strong, evidence based guidelines about correcting visual impairment to prevent falls in any setting (community, hospital, personal care home), particularly when used as a single intervention. One unpublished study showed that falls could be reduced by improving vision in older adults living in personal care homes / long term care facilities.64 One trial, set in the community, showed an increase in falls as a result of visual acuity assessment and correction.62 However, correcting visual impairment may improve the health of the older person in other ways (e.g. by increasing independence). Considerable research has linked falls with visual impairment in the community setting, although no trials have reduced falls by correcting visual impairment. These results may also apply to the personal care home setting.

Good practice points

- As part of a multidisciplinary intervention for reducing falls, provide adequate lighting, contrast and other environmental factors to help maximize visual cues; for example, prevent falls by using night lights, luminous commode seats / toilet signs.

- If an older adult wears glasses, make sure that he / she wears them for the proper task, and that the glasses are clean (use a soft, clean cloth), unscratched and fitted correctly. If the older adult has a pair of glasses for reading and a pair for distance, make sure the glasses are labeled accordingly, and that distance glasses are worn when mobilizing.
ENVIRONMENTAL CONSIDERATIONS

Guidelines

- Residents considered to be at a higher risk of falling should be assessed by an occupational therapist and/or physiotherapist for specific environmental or equipment needs and education to maximize safety as required.

- Environmental review and modification should be considered as part of a multifactorial approach in a falls prevention program. (Level I)¹²

Good practice points

- Personal care home staff should discuss with residents their preferred arrangement for personal belongings and furniture. They should also determine the resident’s preferred sleeping arrangements.

- Make sure residents’ personal belongings, call system and equipment are easy and safe for them to access.

- Check all aspects of the environment and modify as necessary to reduce the risk of falls (e.g. furniture, adequate lighting, non-slip floor surfaces free of scatter rugs/clutter/spills/loose cords, and mobility aids, etc.). See the VA National Centre for Patient Safety 2004 Falls Toolkit: Equipment Safety Check List.⁵⁴

- Consider combining environmental reviews with workplace health and safety audits.

- Ensure bed is at the lowest height appropriate for the safety of the resident and in locked position i.e. the resident can sit and touch the floor with legs at 90°. Some residents may benefit from a bed designed to lower within inches of the floor.

- Consider use of falls mats as means of minimizing fall related injuries. Some types of falls mats may not be appropriate for ambulatory residents.

- Ensure properly positioned handrails are next to the toilet, bath and shower. Provide raised toilet seats or commodes as applicable. Ensure that toilets have appropriate equipment to provide supports for residents getting on/off toilet as required.

- For new residents or upon a room change, provide orientation to the new room and/or unit as the first few days in a new setting can be overwhelming and disorienting.
INDIVIDUAL OBSERVATION AND MONITORING

Guidelines

- Falls alerts used on their own are ineffective. (Level II)\(^65\)
- Falls risk alert cards and symbols can be used to flag high-risk residents as part of a multifactorial falls prevention program, as long as appropriate interventions are used as follow-up. (Level II-*)\(^16\)
- Include individual observation and monitoring as components of a multifactorial falls prevention program, but take care not to infringe on residents' privacy. (Level III-2-*)\(^22\)
- Residents with dementia should be observed more frequently for their risk of falling, because severe cognitive impairment is predictive of lying on the floor for a long time after a fall. (Level III-2-*)\(^22\)

Note: most falls in personal care homes/long term care facilities are unwitnessed.\(^66\) Therefore, as is done in the hospital setting, the key to reducing falls is to improve surveillance, particularly for residents with a high risk of falling.\(^22\)

Good practice points

- Individual observation and monitoring are likely to prevent falls. Many falls happen in the immediate bed or bedside area, or are associated with restlessness, agitation, attempts to transfer and stand, lack of awareness or wandering in adults with dementia.
- Residents who have a high risk of falling should be identified and checked regularly.
- A staff member should stay with at-risk residents while they are in the bathroom.
- Although many residents are frail, not all are at a high risk of falling; therefore, surveillance interventions can be targeted to those residents who have the highest risk.
- A range of alarm systems and alert devices are commercially available, including motion sensors, video surveillance and pressure sensors. They should be tested for suitability before purchase, and appropriate training and response mechanisms should be offered to staff. There is no evidence that their use in personal care homes/long term care facilities reduces falls or improves safety. In order to achieve an optimal effect, staff must respond in a timely manner.
- Monitoring alarms and devices do not replace the need for safety checks or regular monitoring by staff.
RERAINTS

Guidelines

- Causes of agitation, wandering or other behaviors should be investigated, and reversible causes of these behaviors (e.g. delirium) should be treated before the use of restraint is considered.

Note: physical restraints (including side rails) should be considered the last option for residents who are at risk of falling because there is no evidence that their use reduces incidents of falls or serious injuries in older adults. There is evidence that physical restraints can cause death, injury, or infringement of autonomy. Side rails have been shown to cause entrapment, serious injury, and death.

- See the WRHA Policy on Restraints and Protective Devices in Personal Care Home.

Good practice points

- The focus of caring for residents with behavioral issues should be on responding to the resident's behavior and understanding its cause, rather than attempting to control it.

- All alternatives to restraints should be considered, discussed with family and caregivers, and trialed. Examples of restraint alternatives include: individualizing resident's routine-sleep patterns, activity patterns, toileting routines, and rehabilitation and exercise programs; companionship; and environmental considerations. See the WRHA Policy on Restraints and Protective Devices in Personal Care Home.

- If all alternatives are exhausted, the rationale for using restraint must be documented and an anticipated duration agreed on by the health care team, in consultation with family and caregivers, and reviewed quarterly.

- If medications are used specifically to restrain a resident, the minimal dose should be used and the resident reviewed and monitored to ensure his/her safety. Chemical restraint must not be a substitute for quality care.
HIP PROTECTORS

Guidelines

- The use of hip protectors has been shown to reduce the risk of fractures for residents in personal care homes / long term care facilities. (Level I)\(^{11, 39}\)

- Hip protectors benefit some personal care residents more than others. Specific criteria should be applied to determine which residents would benefit most.\(^{11}\)

- When assessing a resident’s need for hip protectors in a personal care home, staff should consider the resident’s recent falls history, age, mobility and steadiness of gait, disability status, and whether they have osteoporosis or a low body mass index.

- When using hip protectors as part of a falls prevention strategy, personal care home staff should check regularly that the resident is wearing their protectors, that the hip protectors are in the correct position, and that they are comfortable and the resident can put them on easily. (Level I)\(^{39}\)

- Assessing the resident’s cognition and independence in activities of daily living skills (e.g. dexterity in dressing) may also help determine whether they will be able to use hip protectors.

- Occupational Therapy should be consulted when considering hip protectors.

- Hip protectors must be worn correctly for any protective effect, and the personal care home should educate and train staff in the correct application and care of hip protectors. (Level II)\(^{38}\)

Good practice points

- If hip protectors are to be used, they must be fitted correctly and worn at all times.

- Adequate numbers of hip protectors need to be available to allow for consistent use (compensating for laundering requirements, breakage or damage or other factors).\(^{11}\)

- Hip protectors are a personal garment and should not be shared among residents.

- Review manufacturer’s instructions for replacement.
**Nutrition and Hydration**

**Guidelines**

- Malnutrition and its potential effects such as frailty, impaired mobility, immune disorders, and cognitive impairment can increase the risk for falls. It is recommended that dietitians assess for risks and evidence of malnutrition and treat appropriately.\(^{40}\)

- Dietary Reference Intakes (DRI) fluid guidelines are 2.7 L for females and 3.7 L for adult males. Within the average mixed diet food provides 20% of fluid needs. 2.2 L (~8.6 cups) fluid per day consisting of all beverages including water and caffeinated beverages is recommended. Males may require additional fluid as per individual assessment.\(^{69}\)

**Good practice points**

- 65% of residents in long term care experience unintended weight loss and malnutrition.\(^{40}\)

- The prevalence of dehydration in long term care facilities has been estimated at 31%.\(^{40}\)

- Dehydration can cause hypotension, confusion, and disorientation and these in turn can increase the risk for falls.\(^{40}\)
**Vitamin D and Calcium Supplementation**

**Guidelines**

- Vitamin D and calcium supplementation are recommended as an intervention strategy to prevent falls in residents of personal care homes / long term care facilities. (Level I)  
- Benefits from supplementation are most likely to be seen in older adults who have vitamin D insufficiency or deficiency, comply with the medication, and respond biochemically to supplementation. (Level I*)  
- Diagnostic Services of Manitoba (DSM) currently uses the following cut off values to define vitamin D deficiency:

<table>
<thead>
<tr>
<th>25-hydroxy-vitamin D level</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than 25 nmol/L</td>
<td>Deficiency</td>
</tr>
<tr>
<td>25-75 nmol/L</td>
<td>Insufficiency</td>
</tr>
<tr>
<td>75-250 nmol/L</td>
<td>Optimal</td>
</tr>
<tr>
<td>&gt;250 nmol/L</td>
<td>Adverse effects</td>
</tr>
</tbody>
</table>

- Supplementation of a minimum of 800 to 1000 IU Vitamin D per day is warranted for optimizing vitamin D levels for residents in LTC at risk of falls. It is recommended that the facility Falls Risk Assessment Tool be reviewed as a guide to assess risk, and that fall risk be re-assessed on an ongoing basis. On admission, obtaining serum levels of 25-hydroxy-vitamin D may be beneficial but are cost prohibitive. Tolerable upper intake level is 4000 IU per day as per Health Canada’s Dietary Reference Intake.

- Need for calcium supplementation / fortification should be evaluated individually based on the dietitian’s assessment of resident requirements and calcium consumption.

- There is evidence that calcium supplementation of 1000 mg if taken without Vitamin D may increase mortality and is, therefore, not recommended.

- Calcium intake to a maximum of 1200 mg / d (elemental calcium) for males and females (Level 1)

**Good practice points:**

- 1000 IU of Vitamin D is recommended for those requiring a supplement of 800 IU, as only one versus two pills would need to be taken.

- Calcium supplementation without concurrent Vitamin D supplementation is not recommended.
Osteoporosis management

Guidelines

- Residents with a history of recurrent falls should be considered for a bone health check. Also, residents who sustain a minimal-trauma fracture should be assessed for their risk of falls.

- Residents with diagnosed osteoporosis or a history of low-trauma fracture should be offered treatment for which there is evidence of benefit. (Level I)\textsuperscript{45}

- Personal care homes /long term care facilities should establish protocols to increase the rate of osteoporosis treatment in residents who have sustained their first osteoporotic fracture. (Level IV)\textsuperscript{46}

Good practice points

- Strengthening and protecting bones will reduce the risk of injurious falls.

- In the case of residents with recurrent falls and those sustaining low-trauma fractures, the health care team should consider strategies for optimizing function, minimizing a long lie on the floor, protecting bones, improving environmental safety and prescribing vitamin D.

- When using osteoporosis treatments, older adults should be prescribed vitamin D (800-2000 IU) with calcium (up to 1200 mg).\textsuperscript{41}
**POST-FALL MANAGEMENT**

**Guideline**

- Fall risk factors and care plan interventions should be reviewed / revised after a fall.

**Good practice points**

- Personal care home staff should report and document all falls as per policy.
- Immediate post fall response includes assessment for environmental risk (e.g. wet floors, electrical cords, obstructions)
- Staff should follow the post-fall assessment and management algorithm for managing residents immediately after a fall. See [WRHA PCH Program Post Fall Assessment and Management Algorithm](#).
- When a resident falls, he/she is at greater risk to fall again. After the immediate follow-up of a fall, review the fall. This should include trying to determine how and why a fall may have occurred, and implementing actions to reduce the risk of another fall, including referrals to other interdisciplinary team members as appropriate.
- If a resident continues to fall, review medications and the overall care plan.
- It is better to ask a resident whether he/she remembers the sensation of falling rather than whether he/she thinks that they blacked out, because many older adults who have syncope are unsure whether they have blacked out.
- An in-depth analysis of the fall event (e.g. a critical incident review) is required if there has been a serious injury following a fall, or if there has been a death from a fall.