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Rehabilitative Care Best Practices for Patients with Hip Fracture

1.0 Background and Introduction

Purpose and Intent

Purpose

Development of the *Rehabilitative Care Best Practice Framework for Patients with Hip Fractures* was undertaken by the Rehabilitative Care Alliance (RCA) to support implementation of the Hip Fracture Quality Based Procedure (QBP), and the Hip Fracture QBP Clinical Handbook, developed by Health Quality Ontario (HQO).

HQO has developed Clinical Handbooks for a number of conditions, including hip fracture, "to serve as a compendium of the evidence-based rationale and clinical consensus driving the development of the policy framework and implementation approach for patients with specific conditions seen in hospitals."[i]

The Clinical Handbook for Hip Fractures includes high level recommendations for post-operative rehabilitative care; however the extent to which these recommendations can be operationalized across locations of care is limited. The *Rehabilitative Care Best Practice Framework for Patients with Hip Fractures* meets this need by identifying standardized rehabilitative care best practices, where not already defined in the Hip Fracture QBP Clinical Handbook.

Rehabilitation plays a significant role in the recovery of patients with hip fracture; improving functional recovery, through early post-operative mobility, and contributing to secondary prevention through improved strength and balance.[ii, iii] Rehabilitative care following hip fracture prevents decline in independent ambulation and transfers, d increase the probability of discharge home.[iv] Older adults who sustain a hip fracture can achieve significant functional gains through participation in rehabilitative care that includes comprehensive geriatric intervention.[v]

[i] Health Quality Ontario; Ministry of Health and Long-Term Care. Quality-based procedures: Clinical handbook for Hip Fractures. Toronto: Health Quality Ontario; 2013 Accessed: http://www.health.gov.on.ca/en/pro/programs/ecfa/docs/qbp_hipfracture.pdf

[ii] Handoll HHG, Cameron ID, Mak JCS, Finnegan TP. Multidisciplinary rehabilitation for older people with hip fractures. Cochrane Database of Systematic Reviews 2009, Issue 4. Art. No.: CD007125. DOI: 10.1002/14651858.CD007125.pub2.

[iii] Beaupre, L. Bone and Joint Canada. (2011). Functional recovery of hip fracture patients.

[iv] Naglie G, Tansey C, Kirkland JL, Ogilvie-Harris DJ, Detsky AS, Etchells E, et al. Interdisciplinary inpatient care for elderly people with hip fracture: a randomized control trial. CMAJ. 2002;167(1):25–32.

[v] Vidan M, Serra JA, Moreno C, Riquelme G, Ortiz J. Efficacy of a comprehensive geriatric intervention in older patients hospitalized for hip fracture: a randomized, controlled trial. J Am Geriatr Soc. 2005;53(9):1476–1482.

Intent

The Rehabilitative Care Best Practice Framework for Patients with Hip Fractures (the Framework) is intended to:

- Influence best practice across the province;
- Provide a basis for informing and improving quality care for this QBP population; and
- Provide a framework to support an approach to capacity planning that not only considers surgical allocations but also rehabilitative care allocations, and the optimal models/locations of rehabilitative care.

Development of the Framework

Hip Fracture QBP Task and Advisory Groups

The Framework was developed by Hip Fracture QBP Task and Advisory Groups of the RCA; provincial groups consisting of stakeholders with clinical and system-level expertise related hip fracture rehabilitation, with more than 30 representatives from Health Service Providers across the province. The Task and Advisory groups included representatives from surgical and acute care services, bedded rehabilitative care programs, community physiotherapy clinics, private rehab clinics, regional home and community care services, and the OACCAC.

The Framework

The Framework was developed based on existing Hip Fracture care pathways, which identify best practice recommendations specific to different levels/locations of rehabilitative care. The Framework includes best practice recommendations for Bedded, Ambulatory and In-Home rehabilitation, as well as Long Term Care. The framework does not include acute-care related best practices, as best practices and models of care in acute are well defined within the QBP Hip Fracture Clinical Handbook. This framework focuses on post-operative rehabilitative care provided in hospital and community locations.

The framework includes best practice recommendations for the assessment and management of geriatric syndromes which may not be unique to patients with hip fracture. These processes were included in an effort to create a comprehensive best practice framework relevant to rehabilitative care for the hip fracture population.

Alignment with HQO's Quality Standard for Hip Fracture

Health Quality Ontario's ***Quality Standard For Hip Fracture: Care for People with Fragility Fractures*** addresses care for adults aged 50 years and older undergoing surgery for fragility hip fractures. The quality standards are based on the best available evidence and set standards of care from admission through surgery, post-operative rehabilitation and follow-up care. The Rehabilitative Care Alliance (RCA)'s **Best Practice Framework for Hip Fracture** complements the quality standard by providing a detailed set of evidence-based best practices specific to hip fracture rehabilitative care, whether provided in hospital, community, home or long term care. Health Quality Ontario and the RCA have collaborated throughout the process of developing these two documents to ensure they are complementary.

Best Practice Recommendations

The Hip Fracture QBP Task and Advisory Groups established guiding principles to inform the identification and development of practice recommendations for inclusion in the framework. The groups agreed that the best practice recommendations would:

- Be patient centered
- Address the rehabilitative care needs for the majority of Hip Fracture patients and, where possible, identify considerations for Hip Fracture patients with more complex needs
- Be evidenced based whenever possible; in the absence of high quality evidence, make recommendations based on expert consensus

In addition to extensive iterative review and endorsement by the Hip Fracture QBP Task and Advisory groups, the best practice recommendations included in the framework were validated through consultation and review by external provincial stakeholders including physicians, clinicians working in rehabilitative programs, and regional rehab care committees from across the province.

Considerations

Location and Model of Hip Fracture Rehabilitative Care

As indicated in the QBP Hip Fracture Clinical Handbook, all hip fracture patients, including patients admitted from Long Term Care and patients with dementia, should receive an active rehabilitation program following discharge from acute care. Rehabilitative care may be conducted in a hospital inpatient setting, in the community (Ambulatory or In-Home) or from LTC homes (in the case of patients admitted from LTC).[i]

To support alignment with provincial directions for rehabilitative care, the Hip Fracture QBP Task Group adapted the RCA's Decision Referral Tree to serve as a decision making tool regarding the optimal location for post-acute rehabilitative care destination for patients with hip fractures. Processes related to determining the optimal location of rehabilitative care for patients with hip fracture should be implemented in consideration of the following recommendations from the QBP Hip Fracture Clinical Handbook[i]:

- Patients who have sustained a hip fracture who are medically stable, cognitively intact, and able to mobilize short distances benefit from early supportive discharge home to receive a community-based rehabilitation program
- Discharge of patients following hip fracture to community-based rehabilitation programs should not result in extended acute care Lengths of Stay (LOS) for these patients compared to discharge to inpatient rehabilitation
- Further work should be conducted to define criteria for the appropriate post-acute care setting for the more complex (e.g., medically unstable and/or cognitively impaired) hip fracture patient population

Interdisciplinary Implementation of Practice Recommendations

Diagnostic Tests and Medication sections are included in this framework in an effort to include all relevant best-practice recommendations in one document. While it is recognized that these recommendations may not be appropriate for rehabilitative care providers to implement, they are included to provide context to rehabilitative care interventions. In addition, the practice recommendations in the framework include processes that represent an interdisciplinary approach to care. Where a process is outside of the scope or expertise of the clinicians on an interdisciplinary team, it is understood that this process may not be delivered within that context.

2.0 Hip Fracture QBP Process Indicators

To inform identification of indicators to support performance monitoring of QBP-related outcomes and system performance, the Hip Fracture QBP Task Group conducted a review of possible indicators, including the indicators contained in Health Quality Ontario's draft hip fracture quality standard, from October 2016.

Process indicators from the HQO document were chosen to support performance monitoring, related to the implementation of hip fracture QBP-related best practices, in order to align with similar provincial work to improve care for patients with hip fracture. The task group identified the need to focus on indicators that ensure patients are receiving the rehabilitative care needed in order to return to functional activities and independent living.

With that in mind, four priority process indicators were identified from the HQO document*:

1) Percentage of hip fracture patients who are mobilized at least once daily postoperatively while in hospital
2) Percentage of hip fracture patients who are assessed for delirium with a validated tool within 8 hours of arrival at hospital
3) Percentage of hip fracture patients who participate in a postoperative interdisciplinary rehabilitation program
4) Percentage of hospitals that have educational resources available for hip fracture patients related to their care

**Note: The identified process indicators may be subject to change. Given that they were based on a draft version of the HQO Hip Fracture Quality Standard, the Hip Fracture Task Group endorses alignment of these process indicators with the indicators identified in the final version of the quality standard.*

3.0 Rehabilitative Best Practices for Patients with Hip Fracture

Rehabilitative Care Best Practices for Patients with Hip Fracture Best Practice Framework				
Processes of Care	***Bedded Levels of Rehabilitative Care***	***Community-Based Ambulatory Rehabilitative Care***	***In-home Rehabilitative Care***	***Long Term Care***
Orientation: Family and Patient				
Assessments/Monitoring				
Delirium, Dementia and Depression				
Treatment Interventions				
Pain				
Pressure Ulcer Prevention				
Fluid/Nutrition & Elimination				
Osteoporosis Management				
Fall Prevention/Fall Risk Mitigation				
Mobility and Function ○ ***ADLs (Bathing and Grooming, Dressing, Toileting, Eating)*** ○ ***Mobility***				
Client and Family Perspective/Education				
Discharge Planning				
Tests				
Medication				

Rehabilitative Care Best Practices for Patients with Hip Fracture	
Processes of Care	**Bedded Levels of Rehabilitative Care**

Orientation: Family and Patient	• Health Care Professionals (HCP) orient patient and family to rehabilitative care. [1]
	  ○ Discussing expectations for rehab stay. [1]
	  ○ Orienting patient and family to patient specific care plan. [1,2]

Assessments/Monitoring	• Nursing Assessment should be completed within 24 hours of admission to a bedded level of rehabilitative care.[2] • OT/PT assessments should be initiated within 24 hours of admission to a bedded level of rehabilitative care. .[2] • Complete skin and wound assessment, using a standardized tool (e.g., Braden Scale); identify/implement preventative strategies. [1, 2] • Complete a falls risk assessment (as per protocol).[1, 2] • Assess Pain at least every 4 hours (Q4H). [1, 2] • Assess for behavioural, cognitive, and functional status. [1, 2] • Establish and document goals with patient and family to maximize function and ensure a safe discharge to final destination, taking into consideration baseline cognitive and physical functioning [3]
Delirium, Dementia & Depression	**<u>Delirium, Dementia and Depression</u>** • A high index of suspicion should be maintained for delirium, dementia and depression in the older adult.[4] • Use a structured assessment method to differentiate the clinical features of delirium, dementia, and depression.[4] • Factors such as sensory impairment and physical disability should be assessed and considered in the selection of mental status tests. [4] • Depression should not be diagnosed in the context of an acute delirium, but reassessment for depressive symptoms should be done after delirium has cleared [4] • Clinicians should avoid physical and chemical restraints as first line care strategies for older adults with delirium, depression, and dementia.[5] • All clinicians working with older persons should be aware that the symptoms of delirium may be superficially similar to those of a dementia and that the two conditions frequently co-exist. Clinicians should be aware of the features that can help differentiate delirium from dementia. [4] • Use assessment findings to inform the initiation of referral to geriatrician, geriatric psychiatry, social worker and other community resources/programs (e.g., falls prevention program, senior's mental health).[3, 4] • Provide family with standardized education materials on delirium, depression and dementia.[6] • Consider support for caregivers and provide community resources if available.[3] • All clinicians working with older persons should be aware that the symptoms of delirium may be superficially similar to those of a dementia and that the two conditions frequently co-exist. Clinicians should be aware of the features that can help differentiate delirium from dementia. [4] • Patients should be screened for changes in cognition, function, behaviour and/or mood, based on ongoing observations of the patient and/or concerns expressed by the patient, family and/or interdisciplinary team, including other specialty physicians. [4] • Clinicians should recognize their clients' retained abilities, and understand the impact of the environment when tailoring and implementing caregiving strategies.[4]

- Teach patient/family/caregiver regarding identification and prevention of delirium and depression.

Instruct family to contact primary care provider with any acute changes in cognition.

Delirium

Screening & Assessment

- Delirium is a medical emergency and requires urgent intervention. Treatment of all potentially correctable contributing causes of the delirium should be done in a timely, effective manner.[7]
- Delirium can be detected more easily when a structured and routine process to screen for delirium and cognitive function is established, using standardized instruments. This facilitates detection of delirium and also helps to differentiate its symptoms from chronic or slower onset syndromes like dementia or depression. Tools include:[4]
    - Confusion Assessment Method (CAM).
    - Delirium Observation Screening (DOS) Scale
- The evaluation of an older person for the possibility of delirium should include a review of their prior cognitive functioning

(e.g., over the previous six months).

Prevention & Management

- Consider the following 5 precipitating risk factors for the development of delirium: Immobility, malnutrition, more than three medications, use of bladder catheter, and any iatrogenic events during hospitalization. [7]
- Prevention efforts should be targeted to the older person's individual risk factors for delirium.[5]
- Multi-component interventions targeting multiple risk factors should be implemented in older persons who have intermediate to high risk for developing delirium.[7]
- Use evidence-based delirium prevention and treatment strategies, such as: [7]
    - Orientation, environmental adaptation and the use of structured activities[5]
    - Ensuring older persons with visual impairments are provided with existing visual aids and/or other adaptive equipment.
    - Monitoring of pain management and symptoms of UTI
    - Ensuring older persons with hearing impairments are evaluated for reversible causes and provided with their existing hearing aids and/other needed amplifying devices [7]
    - The use of non-pharmacological sleep enhancement.
    - The use of proven effective communication strategies[5]
    - Monitoring of pain management and symptoms of UTI[5]

Dementia

Screening & Assessment

- Screen for dementia using a standardized screening assessment tool (e.g., Mini-Cog or MMSE or MOCA)[1,2]
- Consideration should be given to the patient's pre-morbid level of cognitive function.
- Use assessment findings to trigger referral to geriatrician, geriatric psychiatry, social worker and other community resources/programs (e.g., falls prevention program, senior's mental health).[1,3]
- Clinicians should contribute a comprehensive clinical assessment regarding the identification and monitoring of dementia, based on standardized assessments, their ongoing observations, and expressed concerns from the client, family, and interdisciplinary team.[8]

Intervention & Management

- Strong evidence supports use of an interdisciplinary care program in those patients with mild to moderate dementia who have sustained a hip fracture to improve functional outcomes.
- Clinicians caring for patients with dementia should be knowledgeable about pain assessment and management in this population to promote physical and emotional well-being.[8]
    - Clinicians caring for patients with dementia should be knowledgeable about non-pharmacological interventions for managing behaviour to promote physical and psychological well-being.[8]
    - Techniques employed should be patient-sensitive and this individualized approach should maintain the "person" as the centre of care. Occupational activities, environmental modification, validation therapy, reminiscence and sensory stimulation are interventions that can be considered.
- Promote activity engagement for patients with dementia or depression (e.g., participate in group or individual exercise and social activities).[3]

Depression

Screening & Assessment

- Staff should be familiar with the physical, psychological, and social risk factors for depressive disorders in older adults and include a screening for depression for patients who present with some of these risk factors.[9]
- If depression is suspected – member of the clinical team to complete a valid and reliable assessment measure for depression (e.g., Geriatric Depression Scale or Cornell Depression Scale for those with dementia).[1]
- Depression should not be diagnosed in the context of an acute delirium, but reassessment for depressive symptoms should be done after delirium has cleared significantly. [9]
- Appropriate depression screening tools for elderly persons without significant cognitive impairment in general medical or geriatric settings include the self-rating Geriatric Depression Scale (GDS), and the SELFCARE self-rating scale.[9]
- For patients with moderate to severe cognitive impairment, an observer-rated instrument, such as the Cornell Scale for Depression in Dementia is recommended

	instead of the GDS.[9] • Staff should always assess the risk of suicide in residents with suspected depression by directly asking residents (as well as their family) about suicidal ideation, intent and plan. Those at high risk for suicide should be referred to a specialized mental health professional and/or service as a priority for further assessment, treatment, and suicide prevention strategies.[9] ***Intervention & Management*** • If suicidal thoughts, psychosis, or comorbid substance abuse are present, a referral for a comprehensive psychiatric evaluation should be made.[10] • For severe depression (GDS score ≥11), refer for psychiatric evaluation. [9] • For less severe depression (GDS score ≥6), refer to mental health services for psychotherapy/counseling. Consider resources such as psychiatric liaison nurses, geropsychiatry advanced practice nurses, social workers, psychologists, and other community- and institution-specific mental health services[9] • A model of care should be implemented that addresses the physical/functional and psychosocial needs of older depressed adults. Interdisciplinary involvement is recommended, given the complex care needs of older adults.[9] • For patients with dementia or depression, promote activity (e.g., walk to meals, participate in group or individual exercise and social activities).[3]
Treatment Interventions	• Patient with hip fracture are typically elderly and living with a variety of other comorbidities. For these frail individuals, a hip fracture can be a catastrophic event that precipitates a steep decline in health and independence. Patients with hip fracture require postoperative and restorative care from an interdisciplinary team in accordance with principles of geriatric care. **<u>Initiation</u>** • Upon admission initiate range of motion/strengthening, mobility and balance exercises. [2, 11] **<u>Duration</u>** • The average length of stay for inpatient rehabilitation is dependent on patient's clinical needs; for all hip fracture patients that are discharged to inpatient rehabilitation the target average LOS is 24-28 days; for patients requiring rehabilitation for a longer duration, the recommended maximum length of stay is 90 days.[12] **<u>Frequency</u>** • Patients should receive daily physiotherapy and/or occupational therapy 7 days/week, regardless of cognitive status.[13, 14] [15] ○ Strong evidence supports intensive physical therapy post-discharge to improve functional outcomes in Hip Fracture patients.[13]

Pain	***Screening & Assessment*** • Use pain scales (e.g., Numeric Pain Rating Scale [NPRS]) to assess pain levels – need to consider pre-hospital pain conditions and pain medications.[12] • For those patients who cannot express themselves verbally, the use of non-verbal pain scales is recommended [12] • The following tools have established validity in assessing the intensity of pain [16] • Visual Analogue Scale (VAS) • Numeric Rating Scale (NRS) • Verbal Scale • Faces Scale • Behavioural Pain Scale • Additionally, the "Checklist of Non-Verbal Pain Indicators" can be used to assess pain in non-communicative adults.[12] ***Intervention & Management*** • Strong evidence supports multimodal pain management after hip fracture surgery.[13] • Educate patient/caregivers on pain management • Discuss pain management techniques and provide education regarding self-management of pain. • Create a pain management plan to ensure patient's ability to carry out ADLs. [3] • Recommend patient take pain medications, if needed, 30-45 min prior to ambulatory rehabilitative care visit/treatment. • Wean off narcotics as tolerated • Assess/monitor and communicate the effectiveness of pain medication.[2] • If pain score is >4 and determined to be unmanageable contact Physician/Pharmacist • Prophylactic prescription of a bowel routine including medications may be required for patients on opioids.[12]

Pressure Ulcer Prevention	• The patient's risk for pressure ulcer development is determined by the combination of multi-disciplinary clinical judgement and the use of a valid reliable risk assessment tool. Use a standardized tool, which has been tested for validity and reliability. Examples include:[17]
	  ○ Braden Scale for Predicting Pressure Sore Risk
	  ○ Norton Pressure Sore Risk Assessment Scale
	  ○ Waterlow Pressure Ulcer Risk Assessment Tool
	• All findings should be documented at the time of assessment and reassessment.[18]
	• Patients should be assessed for pressure[F], friction[G] and shear[H] in all positions and during lifting, turning and repositioning. [17]

[F] Pressure is the force per unit area that acts perpendicularly between the body and the support surface. It is affected by the stiffness and thickness of the support surface, the composition of the body tissue, and the geometry of the body being supported (AHCPR, 1994).

[G] The resistance to motion in a parallel direction relative to the common boundary of two surfaces." (National Pressure Ulcer Advisory Panel, 2007, p.124)

	• All pressure ulcers should be identified and described using standardized systems and language (e.g., National Pressure Ulcer Advisory Panel and European Pressure Ulcer Advisory Panel pressure ulcer classification system.) [18]
	• Use proper positioning, transferring, and turning techniques. Consult Occupational Therapy/Physiotherapy (OT/PT) regarding transfer and positioning techniques and strategies, as well as devices to reduce pressure friction and shear in all positions and how to optimize patient independence. [1,2]
	  ○ Utilize devices to totally relieve pressure on the heels and bony prominences of the feet, as appropriate [17]
	  ○ Floating heels/heel protection recommended
	  ○ Implement pressure relieving mattress and cushions as appropriate
	  ○ Use pillows or foam wedges to avoid contact between bony prominences[17]
	• Before implementing localized pressure management devices (e.g., heel boots, wedges, etc.) consider the following: [17]
	  ○ Potential for increased pressure over surrounding areas of the skin by the device;
	  ○ Caregiver training and education to ensure correct use of the device; and/or
	  ○ Factors that enable patient adherence
	• For individuals restricted to bed: [17]
	  ○ Utilize an interdisciplinary approach to plan care.
	  ○ Use devices to enable independent positioning, lifting and transfers (e.g., trapeze, transfer board, bed rails).
	  ○ A re-positioning schedule of at least every two hours should be promptly implemented when using a standardized mattress, emergency stretcher or operating table surface.
	  ○ When using a pressure management surface (e.g., re-distribution mattress or cushion) use a re-positioning schedule of at least every four hours or as required by the patient's condition. Consider other patient factors such as the development of redness to increase the frequency of repositioning.
	  ○ A 30° turn to either side is recommended to avoid positioning directly on the trochanter.
	  ○ Reduce shearing forces by maintaining the head of the bed at the lowest elevation consistent with medical conditions and restrictions. A 30° elevation or lower is recommended.
	  ○ Use lifting devices to avoid dragging patients during transfer and position changes.
	  ○ Do not use donut type devices or products that localize pressure to other areas.
	• For individuals restricted to chair: [17]
	  ○ Utilize an interdisciplinary approach to plan care.
	  ○ Have the patient shift weight every 15 minutes, if able.
	  ○ Reposition at least every hour if unable to shift weight.
	  ○ Use pressure-reducing devices for seating surfaces

[H] Mechanical force that acts on a unit area of skin in a direction parallel to the body's surface. Shear is affected by the amount of pressure exerted, the coefficient of friction between the materials contacting each other (i.e. how easily one surface slides over another), and the extent to which the body makes contact with the support surface (RNAO, 2007).

	○ Do not use donut type devices or products that localize pressure to other areas. ○ Consider postural alignment, distribution of weight, balance, stability, support of feet and pressure reduction when positioning individuals in chairs or wheelchairs. ○ Refer to Occupational Therapy/Physiotherapy (OT/PT) for seating assessment and adaptations for special needs. • Assess, document and effectively manage pain to enable implementation of the most appropriate plan of care for pressure ulcer prevention without compromising comfort and quality of life. [17] • Consider the patient's risk for skin breakdown related to the loss of protective sensation or the ability to perceive pain and to respond in an effective manner (e.g., Impact on analgesics, sedatives, neuropathy, etc.) [17] • Patients identified to be at risk for developing a pressure ulcer should be resting on a pressure management surface such as a high-specification foam pressure redistribution mattress. [17] • Interventions should be based on identified intrinsic and extrinsic risk factors and those identified by a risk assessment tool such as Braden's categories of sensory perception, mobility, activity, moisture, nutrition, friction and shear. [17] • An individualized plan of care should be developed in collaboration with the patient, significant others and an interdisciplinary team, including consulting health care providers as appropriate. The team uses assessment and reassessment data in combination with clinical judgement to identify risk factors and to recommend the plan of care. Patient-centered care aligns with the recommendations and the patient's choice of goals. [17] • Protect skin from excessive moisture and incontinence to maintain skin integrity: [17] ○ Monitor fluid intake to ensure adequate hydration; ○ Use a pH balance, non-sensitizing skin cleanser with warm water for cleansing; ○ Minimizing force and friction during care (e.g., use a soft wipe or spray cleanser); ○ Maintain skin hydration by applying moisturizing agents that are non-sensitizing; pH balance fragrance free and/or alcohol free; ○ Use topical protective barriers to protect skin from moisture. Avoid ingredients and excess application of products that may compromise the absorptive capacity of the incontinent brief; ○ Use protective barriers (e.g., liquid barrier films, transparent films, hydrocolloids) or protective padding to reduce friction injuries ○ If skin irritation persists due to moisture, consult with advanced practice nurses and/or with the appropriate interdisciplinary team for evaluation and topical treatment; ○ Establish a bowel and bladder program
Fluid/Nutrition & Elimination	• Diet as ordered, should include high protein and high fibre diet (DAT).[1,2] • Provide and encourage adequate hydration. [2] • Assess and set up appropriate bathroom equipment as required. [1,2] • Monitor dietary intake; initiate dietary consult if warranted, and provision of supplements as needed. [1] • As needed, initiate continence programs early; start bladder retraining program, as appropriate based, on assessment.[1] • Monitor urine output/urinary retention; discontinue use of Foley catheters as soon as possible.[1, 19] ○ Avoid use of indwelling catheters, wherever possible, (intermittent catheterization protocol). [2]

	• Monitor bowel function/ Initiate bowel routine, as needed (as per protocol) [1,2] Recommendations:[1,2,3] ○ Encourage patient to sit up in chair for meals. ○ Encourage independence to feed and self-set-up ○ Toilet patient every 2 (q2) hours or as needed (prn). ○ Assist patient to transfer to commode/toilet, as needed, to promote bowel function
Osteoporosis Management	• All individuals with a fragility fracture of the hip should be considered as high risk for osteoporotic fractures.[21] ***Screening & Assessment*** • The Canadian WHO Fracture Risk Assessment Tool (FRAX) and the Canadian Association of Radiologist and Osteoporosis Canada (CAROC) risk assessment systems can be used in Canada at the present time, since they have been validated in a Canadian population. • Refer to Osteoporosis Canada guidelines for the recommended elements in the assessment of osteoporosis, and recommended fracture prediction tools.[20] • Include recommended elements in the history and physical examination of fracture risk/osteoporosis: [21] ○ Identify risk factors for low Order Bone Mineral Density (BMD), future fractures and falls ○ Inquire about gait, balance and falls in the previous 12 months ○ Get-Up-and-Go-Test ○ Additional biochemical testing to rule out secondary causes of osteoporosis in selected patients based on clinical assessment ○ Complete lateral thoracic and lumbar spine radiographs if clinical presentation is suggestive of a vertebral fracture ***Intervention & Management*** • Begin/continue muscle strengthening, balance and posture exercises for Osteoporosis management – PT as per BONEFIT principles. [1] • Provide Osteoporosis Patient/Family Education (print/multimedia resources available at osteoporosis.ca)[1] • Provide other non-pharmacologic therapies: [21] ○ For those with or at risk for osteoporosis: Appropriate resistance training and/or weight-bearing aerobic exercise as per BoneFit principles. ○ For those with vertebral fractures: Directed core stability exercises. ○ For those at risk of falls: Exercises that focus on balance (e.g., Tai chi, balance and/or gait training). • Adequate vitamin D status, in addition to calcium from diet and supplements, is essential for the prevention and treatment of osteoporosis.[21] • Refer to Osteoporosis Canada as required.[20]
Fall Prevention/Fall Risk Mitigation	***Screen for Falls Risk*** • Assess all patients' falls risk on admission, and on a regularly scheduled basis; repeat falls risk assessment following a significant change in status, or a fall,.[22] • Risk screening is an effective method for identifying fall-prone individuals. The tool used must be appropriate for the setting and for the specific patient population. Therefore, it is essential to assess the patient population in order to select a tool most appropriate for the setting. Examples of tools include: [22] ○ STRATIFY Risk Assessment Tool

- Morse Fall Scale
- Tinetti Balance Scale
- Berg Balance Scale

Engage Patients/Caregivers in Falls Prevention

- Communicate the results of the falls risk assessment to the healthcare team, patient and the family. [22]
- Educate all patients and families of those who have been assessed at high risk for falling regarding their risk status. [22]
- Validate falls awareness/prevention teaching with patient.[3]
- Orient patient to room and ensure patient is aware of how to get assistance.[22]
- Fear of falling is common among patients with a hip fracture and interventions should consider the patient's anxiety and falls-related self-efficacy.[23]

Implement Individualized Falls Prevention Strategies

- Investigate each fall or near fall (near miss) to identify contributing factors and to prevent re-occurrence. [22]
- Modify the environment and provide personal devices to reduce risk of falls-related injury. [22]
- Identify those at high risk of falls using bracelets, signage in room or on mobility aid, health record. [22]
- Use multifactorial approach to prevent falls. (e.g., BEEEACH – behavior change, education, equipment, environment, activity, clothing). [22]
  - Strength training can be used as a component of multi-factorial fall intervention; however, there is insufficient evidence to recommend it as a stand-alone intervention.[11]
  - Physical activity/training is supported as a component of multi-factorial fall intervention program taking into consideration client risk factors.[11]
  - Clinicians 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 older adult in healthcare settings. [11]
- Nurses, in collaboration with the health care team, should conduct medication reviews on admission and periodically throughout the continuum of client's care to prevent falls among older adults in health care settings. Clients taking multiple, and known high risk medications, should be identified as at higher risk for falls.[11]
- Health Care Providers should not use side rails for the prevention of falls; however, other client factors may influence decision-making around the use of side rails. [11]

Promote an Organizational Culture of Falls Prevention

- Organizations should create an environment that supports interventions for fall prevention, including: [11]
  - Fall prevention programs;
  - Staff education;
  - Clinical consultation for risk assessment and intervention;
  - Involvement of interprofessional teams in case management; and

	○ Availability of supplies and equipment such as transfer devices, high low beds, and bed exit alarms (based on individualized assessment) • Complete rounds at every two hours (Q2H), at minimum, to specifically address pain, positioning, possessions, toileting, protection, etc. [3] • Provide on-going staff education on the prevention of falls and fall injuries, with specific attention to:[11] ○ Risk assessment; ○ Interprofessional strategies; ○ Risk management including post-fall follow-up; ○ Alternatives to restraints and/or other restrictive devices; ○ Frequent bedside nursing visits, and; ○ Safe mobility and toileting. • Develop approaches for regular safety checks, including environmental audits and modifications. [22] • Develop organizational policies for falls prevention/reduction and management that include roles and responsibilities of each care provider. [22] • Organizations should establish a corporate policy for least restraint, including physical and chemical restraints. [11]
Mobility and Function; **ADLs** (Bathing and Grooming, Dressing, Toileting, Eating) ** "Days" refer to the days following admission to a bedded level of rehabilitative care, and not post-operative days.*	• Consider a validated assessment tool (e.g., TUG/Barthel) on admission and discharge to track progress in function and mobility.[3] • Develop and implement a goal-directed intervention plan, based on patient's physical, cognitive and behavioural status.[1,2] • Promote independence in self-care, transfers, ambulation, and Activities of Daily Living (ADLs).[2] • Review mobility precautions, as needed (e.g., Total Hip Replacement or Hemi-arthroplasty precautions).[1] **<u>On Days 1-3:</u>** [1,2] • Assess transfers and mobility status, and provide appropriate mobility aid, as needed. • Provide education on safe transfers and use of gait aids, and practice safe transfer techniques. • Commence Range of Motion (ROM)/Strengthening/Balancing exercise programs specific for fractured hips. • Encourage patient to weight-bear, as tolerated, unless otherwise indicated ○ For patients who have been previously mobile, the need for immediate weight-bearing as tolerated is of paramount importance in promoting future recovery as it has been shown to decrease medical complications, decrease mortality, and improve functional recovery and functional outcomes. • Obtain history of cognitive and functional pre-injury status • ADL assessments – promote independence as much as possible (e.g., dress in own clothes) ○ See Nutrition/Elimination section for toileting/commode assessment & training recommendations. **<u>On Days 4-6:</u>** [2,3] • Perform gait training and stairs management assessment and practice as appropriate • Progress mobility and gait aids, as needed • Progress balance and strengthening exercises

- Progress ADL's
  - Bathing and Grooming – Up to bathe/shower using equipment and assistance as required.
  - Dressing – Up and dressed daily, using dressing aids (e.g., reacher; sock aid) if required.
  - Toileting & Eating – See Nutrition/Elimination

On Days 7 to Discharge: [2,3]

- Continue to work towards safe/independent discharge, as per patient's goals: ADL's, ambulation, stairs, car transfers, kitchen assessment and other IADL assessments.
- Assess and practice ability to safely mobilize outside (e.g., uneven sidewalks, curbs, ramps, various weather conditions).
- Assess and practice ability to walk functional distance required for everyday living, ie., for meals and toileting at home setting.
- Assess and practice safe transfers with equipment as required (e.g., in/out of bed, chair, shower, etc.)
  - Complete outcome measures (e.g., Berg Balance Scale (BERG), Timed up and go (TUG), and Patient Specific Functional Scale (PSFS)) as required/appropriate.
  - Arrange for day pass and OT home visit as required
  - Determine equipment needs and arrange pick up/delivery
  - Increase therapy duration and intensity as the patient's tolerance increases, to achieve patient goals

- As the patient progresses toward discharge, it is important for patients and families to understand that changes in cognition, changes in medication, and reduced physical function can increase the risk of motor vehicle accidents among older adult drivers. Any member of an interdisciplinary team might be the first to identify a driving safety issue. Currently, the Ministry of Transportation can only process reports regarding driving safety that are filled by a physician, optometrist or an occupational therapist who is specifically affiliated with a Driving Rehabilitation Fitness Centre. Interprofessional healthcare professionals who do not have a legal obligation to report do have an ethical obligation to inform the patient's physician of driving-related concerns identified through assessment and intervention. [24]

Client and Family Perspective/Education	• Patient and family/caregiver education is best accomplished using a combination of methods. When education materials are provided, in addition to verbal communication, patient education is more effective. [25]
	• Providing quality health information (accurate, accessible, and actionable) enables patients to better manage their health and wellbeing, and make fully informed decisions about their treatment and care. [25]
	• Patient education materials should be developed using plain language as a key strategy for improving health literacy and be compliant with the Accessibility for Ontarians with Disabilities Act (AODA) requirements for accessibility. [26]
	• Multi-modal education should be provided to patients, which can be tailored to individual preferences and experiences. [25]
	• Educate all patients and their families regarding their falls risk status.[11]
	  ○ Review and promote patient/family's role in safety and falls prevention.
	  ○ Validate falls awareness/prevention teaching with patient and family.
	• Engage patient/family through ongoing communication to review care and treatment program and discharge plan.[1,2]
	• Identify and address patient/family concerns. [1,2]
	• Express confidence in patients progressing activity level and safe precautions.[1]
	• Consider patient and family's level of health literacy, and ability to understand written or verbal information relating to their health and health care needs. Consider the person's level of health literacy in the care and discharge plan(s).
	• Information should be provided to the patient/family regarding osteoporosis management, and falls prevention as outlined in the previous sections of the framework.

Transition Care Planning	**Transition Planning – Within 24 Hours of "Decision to Admit"** [27]
	• Assess the current state patient, including:
	  ○ Clinical status and prescribed interventions
	  ○ Social status and support network
	  ○ Cognitive and psychological status
	  ○ Clinical functional status
	  ○ Environmental factors
	  ○ Existing advanced directives
	  ○ Ability to cope
	  ○ Quality of life
	  ○ Health care goals and preferences
	  ○ Cultural values and beliefs
	  ○ Preferred language of communication
	• Consider the patient's level of health literacy, or the person's ability to understand written or verbal information relating to their health and health care needs. Include the person's level of health literacy in the care and discharge plan(s).

- Ensure the individual's primary care provider is notified immediately following the decision to admit to hospital.
- Assess and document the individual's post-hospital care preferences and needs, including:
    - Preferences (e.g., living arrangement, correspondence), social and cultural supports
    - Clinical status and prescribed interventions
    - Cognitive and psychological supports
    - Medications and reconciliation follow-up plan
    - Diet (routine or special)
    - Access to social and financial resources
    - Ability to perform self-care or monitor health status
    - Challenges of physical environment

Transition Planning – During Hospital Stay[27]

- Anticipate the expected date of discharge, and share it with the person, their caregiver(s) and the next care provider(s).
- Implement the individualized care and discharge plan(s); revise as required based on therapeutic progress, consultations, and new information.
- Confirm or re-evaluate the person's risk of readmission using a standardized tool. Revise care and discharge plans as required.
- Based on discharge plan and risk assessment score, schedule follow-up care and assessments (with primary care team, home care, other) and initiate clinical and social services. Confirm and document appointments in discharge plan.
- Incorporate the following evidence-best practice when transitioning older adults from hospital to home:
    - Start transition planning early, obtain medication history from all possible sources and complete medication reconciliation; assess and discuss with patients factors related to their ability to manage self-care; assess and discuss with family caregivers factors related to their ability to assist in in caring for the patient. Provide patients and families with resources; consider literacy level, cultural and ethnic values, and cognitive abilities when providing information. Use standardized communication tools for clear and timely exchange of information across sectors.[28]

Transition Planning – At time of discharge[27]

- Schedule face-to-face and real time discharge conversations ("warm handoffs") with the person and their family or informal caregivers.
- Provide the written individualized discharge plan to the person and their caregiver(s) at the time of discharge from hospital. Provide written individualized care and discharge plans to their primary care team, specialists and other providers within 24 hours of discharge. Provide an updated post-discharge medication regimen and review with the person and their family/caregiver(s) at time of discharge.
- Provide list of scheduled follow-up appointments and review with the person and their family/caregiver(s) at time of discharge.
- Confirm person's (and/or their family and caregivers') comprehension of the information discussed. Document level of understanding in the person's chart.

	Transition Planning
	• Referral to home care and outpatient providers should be made as soon as it is identified that the patient will require ongoing rehab.[2]
	• Rehab Day 1 -3: Discuss discharge options, goals and discharge criteria with patient and family.
	• For patients who have been identified as at risk for a delayed discharge, schedule the first patient/family team meeting by the second week of admission (in rehab) and within 4-6 weeks of admission for patients in LTLD rehab.[1]
	• The family physician or community care provider should be informed about the pending discharge and a follow-up appointment made within 2 weeks of discharge. Patients without a regular primary care provider should be attached to one (e.g., through the hospital's CCAC care coordinator, HealthCare Connects, Health Links, local FHTs, CHC or NP-led clinics).
	• Community services/consultations/medical follow-ups coordinated and family/caregivers aware.[8]
	• Provide patient with name, date, and time of next care provider for each appropriate discipline.[8]
	• Identify high falls risk patients to next care providers.
	• Determine plan for duration of anticoagulant thromboprophylaxis (as per protocol).[1]
	• Dermine discharge criteria:[1,2]
	  ○ Patient is hemodynamically stable and afebrile and
	  ○ Patient wound is clean and dry and
	  ○ Patient lab work is within acceptable limits and
	  ○ Patient tolerates pre-injury diet and
	  ○ Patient pain is well controlled and
	  ○ PT/OT/Nursing/SW determine patient is safe to be D/C to community setting, or
	  ○ Transition to another bedded level of Rehabilitation Care (i.e., Activation/Restoration).
	• Complete transition checklist.
	• Communicate hip fracture precautions, fall risk, and ongoing care plan and client goals with all care providers across the continuum of care.

Tests	• CBC, lytes, Creatinine, INR if on warfarin and determine next order date as per rehab unit protocol, BS (if diabetic).[1,2]
Medication	• Teach patient about pain medication use.[3] • Assess/monitor and communicate the effectiveness of pain medication (therapy and mobilization).[2] • Post-op pain management (as per protocol).[1] • Anticoagulant, if on warfarin, a longitudinal anticoagulant record must be maintained (as per protocol).[1]

Processes of Care	Community-Based Ambulatory Rehabilitative Care
***Considerations**	**Where best practice recommendations may be out of scope for providers or not feasible within existing resources, it is the expectation that the provider will refer elsewhere, where available, in order to ensure the client has the opportunity to receive best practice (e.g., A single service physiotherapy provider may want to refer to other community services, where appropriate, to screen for the risk of depression).**
Orientation: Family and Client	• Discuss the role of the community ambulatory rehabilitative care program and outline the services that will be provided during orientation with client and family. • Establish goals with client and family to maximize function.[3] • Orient clinet and family to client's specific care plan.[1,2] • Discuss expectations with client/family during episode of care.[1]
Assessments/Monitoring	• Complete functional assessment using standardized outcome measure (e.g., Berg, TUG, PSGS, Short Version Falls Efficacy Scale-International (Short FES-I).[8] • Obtain history of cognitive and functional pre-injury status.[1,2] ○ Share information related to assessments from inpatient and in-home setting to support the continuity of care and the consistent use of outcome measures. [8]
Delirium, Dementia & Depression	***Delirium, Dementia & Depression*** • A high index of suspicion should be maintained for delirium, dementia and depression in the older adult.[4] • Use a structured assessment method to differentiate the clinical features of delirium, dementia, and depression.[4] • Factors such as sensory impairment and physical disability should be assessed and considered in the selection of mental status tests. [4] • Depression should not be diagnosed in the context of an acute delirium, but reassessment for depressive symptoms should be done after delirium has cleared significantly. [4] • Clinicians should avoid physical and chemical restraints as first line care strategies for older adults with delirium, depression, and dementia.[5] • All clinicians working with older persons should be aware that the symptoms of delirium may be superficially similar to those of a dementia and that the two conditions frequently co-exist. Clinicians should be aware of the features that can help differentiate delirium from dementia. [4] • Use assessment findings to inform the initiation of referral to geriatrician, geriatric psychiatry, social worker and other community resources/programs (e.g., falls prevention program, senior's mental health).[3, 4] • Provide family with standardized education materials on delirium, depression and dementia.[6] • Consider support for caregivers and provide community resources if available.[3] • All clinicians working with older persons should be aware that the symptoms of delirium may be superficially similar to those of a dementia and that the two conditions frequently co-exist. Clinicians should be aware of the features that can help differentiate delirium from dementia. [4] • Clients should be screened for changes in cognition, function, behaviour and/or mood, based on ongoing observations of the client and/or concerns expressed by the client, family and/or interdisciplinary team, including other specialty physicians. [4] • Clinicians should recognize their clients' retained abilities, and understand the impact of the environment when tailoring and implementing caregiving strategies.[4]

Delirium

- Delirium may be identified and interventions implemented in the hospital/rehabilitation setting, and will often still be present when the client is discharged to the community. Families and caregivers need to be aware of interventions that have been successful in starting to reverse the delirium and strategies to maintain the person's safety in the home.
- While in a delirious state, clients should not be driving a car or operating machinery, should not be responsible for the care of others, may not be able to be left alone, and will need supervision.
- Existing delirium should be monitored and interventions continued through the primary care provider and nursing services. Exacerbation in symptoms may be a new delirium and be a medical emergency and require urgent intervention.
- Strategies are needed to prevent any recurrence of delirium.
- Provide information on community resources and supports, if available (e.g., day programs, Seniors Mental Health).[3]

Screening & Assessment

- Delirium is a medical emergency and requires urgent intervention. Treatment of all potentially correctable contributing causes of the delirium should be done in a timely, effective manner.[7]
- Delirium can be detected more easily when a structured and routine process to screen for delirium and cognitive function is established, using standardized instruments. This facilitates detection of delirium and also helps to differentiate its symptoms from chronic or slower onset syndromes like dementia or depression. Tools include:[4]
    - Confusion Assessment Method (CAM).
    - Delirium Observation Screening (DOS) Scale
- The evaluation of an older person for the possibility of delirium should include a review of their prior cognitive functioning

(e.g., over the previous six months).

Prevention & Management

- Consider the following 5 precipitating risk factors for the development of delirium: Immobility, malnutrition, more than three medications, use of bladder catheter, and any iatrogenic events during hospitalization. [7]
- Prevention efforts should be targeted to the older person's individual risk factors for delirium.[5]
- Multi-component interventions targeting multiple risk factors should be implemented in older persons who have intermediate to high risk for developing delirium.[7]
- Use evidence-based delirium prevention and treatment strategies, such as: [7]
    - Orientation, environmental adaptation and the use of structured activities[5]
    - Ensuring older persons with visual impairments are provided with existing visual aids and/or other adaptive equipment.
    - Monitoring of pain management and symptoms of UTI

- Ensuring older persons with hearing impairments are evaluated for reversible causes and provided with their existing hearing aids and/other needed amplifying devices [7]
- The use of non-pharmacological sleep enhancement.
- The use of proven effective communication strategies[5]
- Monitoring of pain management and symptoms of UTI[5]

Dementia

Screening & Assessment

- Screen for dementia using a standardized screening assessment tool (e.g., Mini-Cog or MMSE or MOCA)[1,2]
- Consideration should be given to the client's pre-morbid level of cognitive function.
- Use assessment findings to trigger referral to geriatrician, geriatric psychiatry, social worker and other community resources/programs (e.g., falls prevention program, senior's mental health).[1,3]
- Clinicians should contribute a comprehensive clinical assessment regarding the identification and monitoring of dementia, based on standardized assessments, their ongoing observations, and expressed concerns from the client, family, and interdisciplinary team.[8]

Intervention & Management

- Strong evidence supports use of an interdisciplinary care program in those client's with mild to moderate dementia who have sustained a hip fracture to improve functional outcomes.
- Clinicians caring for clients with dementia should be knowledgeable about pain assessment and management in this population to promote physical and emotional well-being.[8]
    - Clinicians caring for clients with dementia should be knowledgeable about non-pharmacological interventions for managing behaviour to promote physical and psychological well-being.[8]
    - Techniques employed should be client-sensitive and this individualized approach should maintain the "person" as the centre of care. Occupational activities, environmental modification, validation therapy, reminiscence and sensory stimulation are interventions that can be considered.
- Promote activity engagement for clients with dementia or depression (e.g., participate in group or individual exercise and social activities).[3]

Depression

Screening & Assessment

- Staff should be familiar with the physical, psychological, and social risk factors for depressive disorders in older adults and include a screening for depression for clients who present with some of these risk factors.[9]

	• If depression is suspected – member of the clinical team to complete a valid and reliable assessment measure for depression (e.g., Geriatric Depression Scale or Cornell Depression Scale for those with dementia).[1] • Depression should not be diagnosed in the context of an acute delirium, but reassessment for depressive symptoms should be done after delirium has cleared significantly. [9] • Appropriate depression screening tools for elderly persons without significant cognitive impairment in general medical or geriatric settings include the self-rating Geriatric Depression Scale (GDS), and the SELFCARE self-rating scale.[9] • For clients with moderate to severe cognitive impairment, an observer-rated instrument, such as the Cornell Scale for Depression in Dementia is recommended instead of the GDS.[9] • Staff should always assess the risk of suicide in residents with suspected depression by directly asking residents (as well as their family) about suicidal ideation, intent and plan. Those at high risk for suicide should be referred to a specialized mental health professional and/or service as a priority for further assessment, treatment, and suicide prevention strategies.[9] ***Intervention & Management*** • If suicidal thoughts, psychosis, or comorbid substance abuse are present, a referral for a comprehensive psychiatric evaluation should be made.[10] • For severe depression (GDS score ≥11), refer for psychiatric evaluation. [9] • For less severe depression (GDS score ≥6), refer to mental health services for psychotherapy/counseling. Consider resources such as psychiatric liaison nurses, geropsychiatry advanced practice nurses, social workers, psychologists, and other community- and institution-specific mental health services[9] • A model of care should be implemented that addresses the physical/functional and psychosocial needs of older depressed adults. Interdisciplinary involvement is recommended, given the complex care needs of older adults.[9] • For client's with dementia or depression, promote activity (e.g., walk to meals, participate in group or individual exercise and social activities).[3]
Treatment Interventions	• Clients with hip fracture are typically elderly and living with a variety of other comorbidities. For these frail individuals, a hip fracture can be a catastrophic event that precipitates a steep decline in health and independence. Clients with hip fracture require postoperative and restorative care from an interdisciplinary team in accordance with principles of geriatric care. **Initiation** • Rehabilitation should commence no later than one week following discharge from the acute-care setting[25] **Duration** • Duration of the community episode of care is from 6 weeks to 3 months, averaging 8 weeks, depending on the clinet's clinical needs [29] • Moderate evidence supports clients be discharged from community rehab clinic with an ongoing in-home or group-based functional strengthening program for 6-12 months [29]

	Frequency • Strong evidence supports intensive physiotherapy post discharge, with an emphasis on functional strength training to improve functional outcomes in clients with Hip Fracture. [29] • Optimal frequency of rehabilitative care in the community remains unclear, due to heterogeneity in the models of care represented in literature[30, 29]
Pain	***Screening & Assessment*** • Use pain scales (e.g., Numeric Pain Rating Scale [NPRS]) to assess pain levels – need to consider pre-injury pain conditions and pain medications.[12] • For those clients who cannot express themselves verbally, the use of non-verbal pain scales is recommended [12] • The following tools have established validity in assessing the intensity of pain [16] • Visual Analogue Scale (VAS) • Numeric Rating Scale (NRS) • Verbal Scale • Faces Scale • Behavioural Pain Scale • Additionally, the "Checklist of Non-Verbal Pain Indicators" can be used to assess pain in non-communicative adults.[12] ***Intervention & Management*** • Strong evidence supports multimodal pain management after hip fracture surgery.[13] • Educate clients/caregivers on pain management • Discuss pain management techniques and provide education regarding self-management of pain. • Create a pain management plan to ensure client's ability to carry out ADLs. [3] • Recommend client take pain medications, if needed, 30-45 min prior to ambulatory rehabilitative care visit/treatment. • Wean off narcotics as tolerated • Assess/monitor and communicate the effectiveness of pain medication.[2] • If pain score is >4 and determined to be unmanageable contact Physician/Pharmacist • Prophylactic prescription of a bowel routine including medications may be required for clients on opioids.[12]

Pressure Ulcer Prevention	• Clients who continue to have limited mobility in the community may continue to have issues with skin integrity.
	• The client's risk for pressure ulcer development is determined by the combination of clinical judgement and the use of a valid reliable risk assessment tool. Use a structured tool that has been tested for validity and reliability. Examples include:[17]
	  ○ Braden Scale for Predicting Pressure Sore Risk
	  ○ Norton Pressure Sore Risk Assessment Scale
	  ○ Waterlow Pressure Ulcer Risk Assessment Tool
	• Interventions should be based on identified intrinsic and extrinsic risk factors and those identified by a risk assessment tool, such as Braden Scale's categories of

	sensory perception, mobility, activity, moisture, nutrition, friction and shear.[17] • Assess, document and effectively manage pain to enable implementation of the most appropriate plan of care for pressure ulcer prevention without compromising comfort and quality of life. [17] • All pressure ulcers should be identified and described using standardized systems and language (e.g., National Pressure Ulcer Advisory Panel and European Pressure Ulcer Advisory Panel pressure ulcer classification system). [17] • All findings should be documented at the time of assessment and reassessment. [17] • Use assessment and reassessment data in combination with clinical judgement to identify risk factors and to recommend the plan of care, in alignment with client goals. [17] • An individualized plan of care should be developed in collaboration with the client, family/caregivers and an interdisciplinary team, including consulting additional health care providers as appropriate.
Fluid/Nutrition & Elimination	• Consider nutritional supplementation (high energy protein, vitamins, and minerals). [31] • A combination of vitamin D and calcium supplementation in elderly women will help reduce the risk of falls by more than 40%.[32]
Osteoporosis Management	All individuals with a fragility fracture of the hip should be considered as high risk for osteoporotic fractures.[21] ***Screening & Assessment*** • The Canadian WHO Fracture Risk Assessment Tool (FRAX) and the Canadian Association of Radiologist and Osteoporosis Canada (CAROC) risk assessment systems can be used in Canada at the present time, since they have been validated in a Canadian population. • Refer to Osteoporosis Canada guidelines for the recommended elements in the assessment of osteoporosis, and recommended fracture prediction tools.[20] • Include recommended elements in the history and physical examination of fracture risk/osteoporosis:[21] ○ Identify risk factors for low Order Bone Mineral Density (BMD), future fractures and falls ○ Inquire about gait, balance and falls in the previous 12 months ○ Get-Up-and-Go-Test ○ Additional biochemical testing to rule out secondary causes of osteoporosis in selected clients based on clinical assessment ○ Complete lateral thoracic and lumbar spine radiographs if clinical presentation is suggestive of a vertebral fracture ***Intervention & Management*** • Begin/continue muscle strengthening, balance and posture exercises for Osteoporosis management – PT as per BONEFIT principles. [1] • Provide Osteoporosis Client/Family Education (print/multimedia resources available at osteoporosis.ca)[1] • Provide other non-pharmacologic therapies: [21] ○ For those with or at risk for osteoporosis: Appropriate resistance training and/or weight-bearing aerobic exercise as per BoneFit principles. ○ For those with vertebral fractures: Directed core stability exercises. ○ For those at risk of falls: Exercises that focus on balance (e.g., Tai chi, balance and/or gait training).

	• Adequate vitamin D status, in addition to calcium from diet and supplements, is essential for the prevention and treatment of osteoporosis.[21] • Refer to Osteoporosis Canada as required.[20]

Falls Prevention/Fall Risk Mitigation	***Screening & Assessment***
	• Risk screening is an effective method for identifying fall-prone individuals. The tool used must be appropriate for the setting and for the specific client population. Therefore, it is essential to assess the client population in order to select a tool most appropriate for the setting. Examples of tools include: [22]
	  ○ STRATIFY Risk Assessment Tool
	  ○ Morse Fall Scale
	  ○ Tinetti Balance Scale
	  ○ Berg Balance Scale
	• A more comprehensive assessment should be completed for seniors at high risk, and are best conducted by an inter-disciplinary health care team including a physician, PT, OT, RN/RPN, pharmacist and other health care professionals as deemed necessary.[33]
	• Assess fall risk after a fall. Comprehensive risk assessments include all or some of the following: [34]
	  ○ Assessment of the home for any environmental hazards
	  ○ Thorough assessment of current medications
	  ○ A full medical assessment
	  ○ Assessment of gait and balance
	  ○ Assessment of equipment such as walkers and wheelchairs
	  ○ Assessment of underlying addictions or recreational use of non-prescription drugs and/or alcohol
	• The multifactorial fall risk assessment should be followed by direct interventions tailored to the identified risk factors, coupled with an appropriate exercise program.
	
	Intervention & Management
	• Key components of falls prevention interventions in the community include: [31]
	  ○ Education on safety and falls prevention for client, family, and caregivers.
	  ○ Therapies to improve independence in self-care, transfers, ambulation, and ADLs (e.g., dressing, washing, toileting) to allow clients to return to their pre-fracture living environment.
	  ○ Balance and gait training
	  ○ Provision of a progressive strengthening exercise program
	  ○ Environmental modification
	• High-quality evidence indicates that long-term exercise programs in mobile seniors and environmental modifications in the homes of frail elderly persons will effectively reduce falls and possibly fall-related injuries in Ontario's elderly population.
	• Components most commonly included in efficacious interventions are:[35]

- Adaptation or modification of the home environment
- Withdrawal or minimization of psychoactive and other medications
- Management of postural hypotension
- Management of foot problems and footwear
- Exercise, particularly balance, strength, and gait training

- All older adults, who are at risk of falling, should be offered an exercise program incorporating balance, gait, and strength training. Flexibility and endurance training should also be offered, but not as sole components of the program.[35]
  - Exercise programs should take into account the physical capabilities and health profile of the older person, (i.e., be tailored) and be prescribed by qualified health professionals or fitness instructors.
  - The exercise program should include regular review, progression and adjustment of the exercise prescription as appropriate.
- Therapists are encouraged to implement models of practice that evaluate individual's personal, environmental, and occupational factors relevant to their falls risk.[36]
  - Personal Factors
    - Ask client about recent falls as part of routine care with the 65+ population. Ensure understanding of the client's past falls experiences and any causal beliefs.
    - Engage and involve client and caregivers actively during assessment and intervention to ensure client-centeredness, shared responsibility and to maximize behavioural change. Encourage awareness-raising and active problem solving in client. Ensure client understanding of importance and relevance of any recommendations.
    - Understand what clients' roles, activities, and sense of control mean to them
    - Limit use of 'scare tactics' to encourage compliance. Address falls prevention in positive and empowering manner.
    - Consider each client's physical strength, dynamic balance, steadiness of gait, vision, bowel and bladder continence levels, impulsiveness, fear of falling, habits, attention, concentration, memory, comprehension, judgement, reasoning and medication use.
  - Environmental Factors
    - Identify the range of environments in which the client performs occupations and the client's ability to meet the functional demands in the environments evaluated.
    - Collaboratively assess client's surroundings both inside and outside the home, emphasizing client or family involvement.
    - Encourage client to minimize hazards and clutter in home and other environments used.
    - Note the absence of relevant assistive devices or equipment and prescribe as appropriate.
    - Consider cultural and social environments in addition to physical environments. Sensitivity to cultural routines, roles, and the importance placed on items or practices can influence client engagement in interventions and compliance with recommendations.
  - Occupation Factors
    - Assess performance and functional status of key occupations within the context of home or other relevant environments.
    - Consider physical, cognitive, and affective resources during functional task performance. Evaluate the client's ability to utilize these resources to

	meet occupational demands. ○ Ensure understanding of daily activities, routines, schedules and other activities important to the client. ○ Focus on the tasks requiring dynamic balance and mobility. • Interventions should include an education component complementing and addressing issues specific to the intervention being provided, and tailored to the individual's cognitive function and language.[35] • Education and information programs should be considered part of a multifactorial intervention (should not be provided as a single intervention) for older persons living in the community. [35] • Consider referral to community-based exercise and falls prevention classes, as appropriate.[18]
Mobility and Function	• Key components of Rehabilitation**:** [31] ○ Therapies to improve independence in self-care, transfers, ambulation, and ADLs (e.g., dressing, washing, toileting) to allow clients to return to their pre-fracture living environment. ○ Balance and gait training ○ Provision of a progressive strengthening exercise program ○ Environmental modification ○ Arrangement and reassessment of assistive devices • Adults aged 65 years and older should accumulate at least 150 minutes of moderate- to vigorous-intensity aerobic physical activity per week, in bouts of 10 minutes or more to achieve health benefits and improve functional abilities.[37] • Physical activity and exercise to strengthen muscles, and enhance stability and balance is one of the most recommended falls prevention interventions for seniors at all risk levels. [37] • Progress, as tolerated, to mobilize outside safely (e.g., uneven sidewalks, curbs, various weather conditions). • Arrange for assistive devices and transportation to allow participation in programs.[8] • Maintain hip precautions, if required, for 3 months or as otherwise instructed by surgeon.[3,8] • Clients should be encouraged and supported to be as independent as possible (i.e. not just getting around the home, but also re-integrating into their community). • Clients should perform prescribed home exercise and/or attend community exercise programs to optimize functional outcomes for a minimum of 3-6 months post-hip fracture.[38, 39] • As clients become more independent, it is important for clients and families to understand that changes in cognition, changes in medication, and reduced physical function can increase the risk of motor vehicle accidents, and injury, among older adult drivers. Any member of an interdisciplinary team might be the first to identify a driving safety issue. Currently, the Ministry of Transportation can only process reports regarding driving safety that are filled by a physician, optometrist or an occupational therapist who is specifically affiliated with a Driving Rehabilitation Fitness Centre. Interprofessional healthcare professionals who do not have a legal obligation to report do have an ethical obligation to inform the client's physician of their concerns.[24]

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	• Client/caregiver education materials should be developed using plain language as a key strategy for improving health literacy and be compliant with the Accessibility for Ontarians with Disabilities Act (AODA) requirements for accessibility. [26]
	• Multi-modal education should be provided to clients that can be tailored to their individual preferences and experiences. [25]
	• Educate all clients and their families regarding their falls risk status.[11]
	  ○ Review and promote client/family's role in safety and falls prevention.
	  ○ Validate falls awareness/prevention teaching with client and family.
	• Engage client/family through ongoing communication to review care and treatment program and discharge plan.[1,2]
	• Identify and address client/family concerns. [1,2]
	• Express confidence in progressing activity level and safe precautions. .[1]
	• Consider client and family's level of health literacy, and ability to understand written or verbal information relating to their health and health care needs. Include the person's level of health literacy in the care and discharge plan(s).
	• Information should be provided to the client/family regarding osteoporosis management, and falls prevention as outlined in the previous sections of the framework.

Transition Care Planning	• Client are discharged from an outpatient rehab program based on the achievement of goal(s) within the context of client's home environment and support systems, and evidence from standardized outcome measures (i.e., safe use of gait aid, safe use of stairs, improvement of or independence in functional activities of daily living, Timed Up and Go, Berg Balance Scale, etc.). [29] • Provide list of scheduled follow-up appointments and review with the client and their family/caregiver(s) at time of discharge. • Confirm client's (and/or their family and caregivers') comprehension of the information discussed. Document level of understanding in the client's chart.[27] • Schedule face-to-face and real time discharge conversations ("warm handoffs") with the person and their family or informal caregivers. [27] • Community services/consultations/medical follow-ups coordinated, and client/family/caregivers aware.[8]

Processes of Care	In-home Rehabilitative Care
***Consideration**	
Orientation: Family and Client	• Discuss the role of the in-home rehabilitative care program/service and outline the services that will be provided during "care transitions conferences" with client/family. • Establish goals with client to maximize function.[3] • Discuss expectations with client/family during episode of care.
Assessments/Monitoring	• Although needs and recommendations may change once a client is in the home, determination of client's in-home care needs should take into consideration the determination of comprehensive inpatient assessments. • A home-care assessment should be completed within 48 hours of discharge[8] • Provide ongoing functional and health assessments of services/equipment required.[1]
Delirium, Dementia & Depression	**<u>Delirium, Dementia & Depression</u>** • A high index of suspicion should be maintained for delirium, dementia and depression in the older adult.[4] • Use a structured assessment method to differentiate the clinical features of delirium, dementia, and depression.[4] • Factors such as sensory impairment and physical disability should be assessed and considered in the selection of mental status tests. [4] • Depression should not be diagnosed in the context of an acute delirium, but reassessment for depressive symptoms should be done after delirium has cleared significantly. [4] • Clinicians should avoid physical and chemical restraints as first line care strategies for older adults with delirium, depression, and dementia.[5] • All clinicians working with older persons should be aware that the symptoms of delirium may be superficially similar to those of a dementia and that the two conditions frequently co-exist. Clinicians should be aware of the features that can help differentiate delirium from dementia. [4] • Use assessment findings to inform the initiation of referral to geriatrician, geriatric psychiatry, social worker and other community resources/programs (e.g., falls prevention program, senior's mental health).[3, 4] • Provide family with standardized education materials on delirium, depression and dementia.[6] • Consider support for caregivers and provide community resources if available.[3] • All clinicians working with older persons should be aware that the symptoms of delirium may be superficially similar to those of a dementia and that the two conditions frequently co-exist. Clinicians should be aware of the features that can help differentiate delirium from dementia. [4] • Clients should be screened for changes in cognition, function, behaviour and/or mood, based on ongoing observations of the client and/or concerns expressed by the client, family and/or interdisciplinary team, including other specialty physicians. [4] • Clinicians should recognize their clients' retained abilities, and understand the impact of the environment when tailoring and implementing caregiving strategies.[4]

Delirium

- Delirium may be identified and interventions implemented in the hospital/rehabilitation setting, and will often still be present when the client is discharged to the community. Families and caregivers need to be aware of interventions that have been successful in starting to reverse the delirium and strategies to maintain the person's safety in the home.
- While in a delirious state, clients should not be driving a car or operating machinery, should not be responsible for the care of others, may not be able to be left alone, and will need supervision.
- Existing delirium should be monitored and interventions continued through the primary care provider and nursing services. Exacerbation in symptoms may be a new delirium and be a medical emergency and require urgent intervention.
- Strategies are needed to prevent any recurrence of delirium.

Provide information on community resources and supports, if available (e.g., day programs, Seniors Mental Health).[3]

Screening & Assessment

- Delirium is a medical emergency and requires urgent intervention. Treatment of all potentially correctable contributing causes of the delirium should be done in a timely, effective manner.[7]
- Delirium can be detected more easily when a structured and routine process to screen for delirium and cognitive function is established, using standardized instruments. This facilitates detection of delirium and also helps to differentiate its symptoms from chronic or slower onset syndromes like dementia or depression. Tools include:[4]
    - Confusion Assessment Method (CAM).
    - Delirium Observation Screening (DOS) Scale

- The evaluation of an older person for the possibility of delirium should include a review of their prior cognitive functioning

(e.g., over the previous six months).

Prevention & Management

- Consider the following 5 precipitating risk factors for the development of delirium: Immobility, malnutrition, more than three medications, use of bladder catheter, and any iatrogenic events during hospitalization. [7]
- Prevention efforts should be targeted to the older person's individual risk factors for delirium.[5]
- Multi-component interventions targeting multiple risk factors should be implemented in older persons who have intermediate to high risk for developing delirium.[7]
- Use evidence-based delirium prevention and treatment strategies, such as: [7]
    - Orientation, environmental adaptation and the use of structured activities[5]

- Ensuring older persons with visual impairments are provided with existing visual aids and/or other adaptive equipment.
- Monitoring of pain management and symptoms of UTI
- Ensuring older persons with hearing impairments are evaluated for reversible causes and provided with their existing hearing aids and/other needed amplifying devices [7]
- The use of non-pharmacological sleep enhancement.
- The use of proven effective communication strategies[5]
- Monitoring of pain management and symptoms of UTI[5]

Dementia

Screening & Assessment

- Screen for dementia using a standardized screening assessment tool (e.g., Mini-Cog or MMSE or MOCA)[1,2]
- Consideration should be given to the client's pre-morbid level of cognitive function.
- Use assessment findings to trigger referral to geriatrician, geriatric psychiatry, social worker and other community resources/programs (e.g., falls prevention program, senior's mental health).[1,3]
- Clinicians should contribute a comprehensive clinical assessment regarding the identification and monitoring of dementia, based on standardized assessments, their ongoing observations, and expressed concerns from the client, family, and interdisciplinary team.[8]

Intervention & Management

- Strong evidence supports use of an interdisciplinary care program in those clients with mild to moderate dementia who have sustained a hip fracture to improve functional outcomes.
- Clinicians caring for clients with dementia should be knowledgeable about pain assessment and management in this population to promote physical and emotional well-being.[8]
    - Clinicians caring for clients with dementia should be knowledgeable about non-pharmacological interventions for managing behaviour to promote physical and psychological well-being.[8]
    - Techniques employed should be client-sensitive and this individualized approach should maintain the "person" as the centre of care. Occupational activities, environmental modification, validation therapy, reminiscence and sensory stimulation are interventions that can be considered.
- Promote activity engagement for clients with dementia or depression (e.g., participate in group or individual exercise and social activities).[3]

	Depression ***Screening & Assessment*** • Staff should be familiar with the physical, psychological, and social risk factors for depressive disorders in older adults and include a screening for depression for clients who present with some of these risk factors.[9] • If depression is suspected – member of the clinical team to complete a valid and reliable assessment measure for depression (e.g., Geriatric Depression Scale or Cornell Depression Scale for those with dementia).[1] • Depression should not be diagnosed in the context of an acute delirium, but reassessment for depressive symptoms should be done after delirium has cleared significantly. [9] • Appropriate depression screening tools for elderly persons without significant cognitive impairment in general medical or geriatric settings include the self-rating Geriatric Depression Scale (GDS), and the SELFCARE self-rating scale.[9] • For clients with moderate to severe cognitive impairment, an observer-rated instrument, such as the Cornell Scale for Depression in Dementia is recommended instead of the GDS.[9] • Staff should always assess the risk of suicide in residents with suspected depression by directly asking residents (as well as their family) about suicidal ideation, intent and plan. Those at high risk for suicide should be referred to a specialized mental health professional and/or service as a priority for further assessment, treatment, and suicide prevention strategies.[9] ***Intervention & Management*** • If suicidal thoughts, psychosis, or comorbid substance abuse are present, a referral for a comprehensive psychiatric evaluation should be made.[10] • For severe depression (GDS score ≥11), refer for psychiatric evaluation. [9] • For less severe depression (GDS score ≥6), refer to mental health services for psychotherapy/counseling. Consider resources such as psychiatric liaison nurses, geropsychiatry advanced practice nurses, social workers, psychologists, and other community- and institution-specific mental health services[9] • A model of care should be implemented that addresses the physical/functional and psychosocial needs of older depressed adults. Interdisciplinary involvement is recommended, given the complex care needs of older adults.[9] • For clients with dementia or depression, promote activity (e.g., walk to meals, participate in group or individual exercise and social activities).[3]
Treatment Interventions	• Clients with hip fracture are typically elderly and living with a variety of other comorbidities. For these frail individuals, a hip fracture can be a catastrophic event that precipitates a steep decline in health and independence. Clients with hip fracture require postoperative and restorative care from an interdisciplinary team in accordance with principles of geriatric care. **Initiation** • Home-care service should be based on client's need and circumstances (risks, need for wound care, safety issues or other concerns). • The first in-home rehabilitative care visit could be needed as early as 48 hours and should be no later than 5 days.

	Duration • 6 weeks to 3 months, depending on client's clinical needs. • Moderate evidence supports clients be discharged from community rehab clinic with an ongoing 6-12 month in-home or group-based functional strengthening program[29] • Gains are often seen over longer periods of time and clients should be reassessed and extended for another 3 months where appropriate[40]. **Frequency** • Average 2-3 times/week depending on client's tolerance level and number of health professionals seen • Moderate evidence supports initiation of occupational therapy in hospital with continuation 1-3 in-home visits based on client's individual needs. [13,29] • Strong evidence supports intensive physiotherapy post discharge, with an emphasis on functional strength training to improve functional outcomes in clients with hip fracture. [13,29]
Pain	***Screening & Assessment*** • Use pain scales (e.g., Numeric Pain Rating Scale [NPRS]) to assess pain levels – need to consider pre-hospital pain conditions and pain medications.[12] • For those clients who cannot express themselves verbally, the use of non-verbal pain scales is recommended [12] • The following tools have established validity in assessing the intensity of pain [16] • Visual Analogue Scale (VAS) • Numeric Rating Scale (NRS) • Verbal Scale • Faces Scale • Behavioural Pain Scale • Additionally, the "Checklist of Non-Verbal Pain Indicators" can be used to assess pain in non-communicative adults.[12] ***Intervention & Management*** • Strong evidence supports multimodal pain management after hip fracture surgery.[13] • Educate clients/caregivers on pain management • Discuss pain management techniques and provide education regarding self-management of pain. • Create a pain management plan to ensure client's ability to carry out ADLs. [3] • Recommend client take pain medications, if needed, 30-45 min prior to ambulatory rehabilitative care visit/treatment. • Wean off narcotics as tolerated • Assess/monitor and communicate the effectiveness of pain medication.[2] • If pain score is >4 and determined to be unmanageable contact Physician/Pharmacist • Prophylactic prescription of a bowel routine including medications may be required for clients on opioids.[12]

Pressure Ulcer Prevention	• Clients who continue to have limited mobility in the community may continue to have issues with skin integrity.
	• The client's risk for pressure ulcer development is determined by the combination of clinical judgement and the use of a valid reliable risk assessment tool. Use a structured tool that has been tested for validity and reliability. Examples include:[17]
	  ○ Braden Scale for Predicting Pressure Sore Risk
	  ○ Norton Pressure Sore Risk Assessment Scale
	  ○ Waterlow Pressure Ulcer Risk Assessment Tool
	• Interventions should be based on identified intrinsic and extrinsic risk factors and those identified by a risk assessment tool such as Braden Scale's categories of sensory perception, mobility, activity, moisture, nutrition, friction and shear.[17]
	• Assess, document and effectively manage pain to enable implementation of the most appropriate plan of care for pressure ulcer prevention without compromising comfort and quality of life. [17]
	• All pressure ulcers should be identified and described using standardized systems and language (e.g., National Pressure Ulcer Advisory Panel and European Pressure Ulcer Advisory Panel pressure ulcer classification system). [17]
	• All findings should be documented at the time of assessment and reassessment. [17]
	An individualized plan of care should be developed in collaboration with the client, significant others and an interdisciplinary team, including consulting health care providers as appropriate. The team uses assessment and reassessment data in combination with clinical judgement to identify risk factors and to recommend the plan of care. Client centered care aligns with the recommendations and the client's choice of goals. [17]

Fluid/Nutrition & Elimination	• Encourage and promote high protein diets.[12] • Refer to Nutrition Counseling/dietitian if additional support is needed or if client is at nutritional risk. [3,8]

Osteoporosis Management	All individuals with a fragility fracture of the hip should be considered as high risk for osteoporotic fractures.[21]
	
	Screening & Assessment
	• The Canadian WHO Fracture Risk Assessment Tool (FRAX) and the Canadian Association of Radiologist and Osteoporosis Canada (CAROC) risk assessment systems can be used in Canada at the present time, since they have been validated in a Canadian population.
	• Refer to Osteoporosis Canada guidelines for the recommended elements in the assessment of osteoporosis, and recommended fracture prediction tools.[20]
	• Include recommended elements in the history and physical examination of fracture risk/osteoporosis: [21]
	  ○ Identify risk factors for low Order Bone Mineral Density (BMD), future fractures and falls
	  ○ Inquire about gait, balance and falls in the previous 12 months
	  ○ Get-Up-and-Go-Test
	  ○ Additional biochemical testing to rule out secondary causes of osteoporosis in selected clients based on clinical assessment
	  ○ Complete lateral thoracic and lumbar spine radiographs if clinical presentation is suggestive of a vertebral fracture

	Intervention & Management
	• Begin/continue muscle strengthening, balance and posture exercises for Osteoporosis management – PT as per BONEFIT principles. [1]
	• Provide Osteoporosis Client/Family Education (print/multimedia resources available at osteoporosis.ca)[1]
	• Provide other non-pharmacologic therapies: [21]
	  ○ For those with or at risk for osteoporosis: Appropriate resistance training and/or weight-bearing aerobic exercise as per BoneFit principles.
	  ○ For those with vertebral fractures: Directed core stability exercises.
	  ○ For those at risk of falls: Exercises that focus on balance (e.g., Tai chi, balance and/or gait training).
	• Adequate vitamin D status, in addition to calcium from diet and supplements, is essential for the prevention and treatment of osteoporosis.[21]
	• Refer to Osteoporosis Canada as required.[20]

Falls Prevention/Fall Risk Mitigation	***Screening & Assessment***
	• Risk screening is an effective method for identifying fall-prone individuals. The tool used must be appropriate for the setting and for the specific client population. Therefore, it is essential to assess the client population in order to select a tool most appropriate for the setting. Examples of tools include: [22]
	  ○ STRATIFY Risk Assessment Tool
	  ○ Morse Fall Scale
	  ○ Tinetti Balance Scale
	  ○ Berg Balance Scale
	• A more comprehensive assessment should be completed for seniors at high risk, and are best conducted by an inter-disciplinary health care team including a physician, PT, OT, RN/RPN, pharmacist and other health care professionals as deemed necessary.[33]
	• Assess fall risk after a fall. Comprehensive risk assessments include all or some of the following: [34]
	  ○ Assessment of the home for any environmental hazards
	  ○ Thorough assessment of current medications
	  ○ A full medical assessment
	  ○ Assessment of gait and balance
	  ○ Assessment of equipment such as walkers and wheelchairs
	  ○ Assessment of underlying addictions or recreational use of non-prescription drugs and/or alcohol
	• The multifactorial fall risk assessment should be followed by direct interventions tailored to the identified risk factors, coupled with an appropriate exercise program.
	
	Intervention & Management
	• Key component of falls prevention interventions include: [31]
	  ○ Education on safety and falls prevention for client, family, and caregivers.

- Therapies to improve independence in self-care, transfers, ambulation, and ADLs (e.g., dressing, washing, toileting)
- Balance and gait training
- Provision of a progressive strengthening exercise program
- Environmental modification

- High-quality evidence indicates that long-term exercise programs in mobile seniors and environmental modifications in the homes of frail elderly persons will effectively reduce falls and possibly fall-related injuries in Ontario's elderly population.
- Components most commonly included in efficacious interventions are:[35]
  - Adaptation or modification of the home environment
  - Withdrawal or minimization of psychoactive and other medications
  - Management of postural hypotension
  - Management of foot problems and footwear
  - Exercise, particularly balance, strength, and gait training
- All older adults, who are at risk of falling, should be offered an exercise program incorporating balance, gait, and strength training. Flexibility and endurance training should also be offered, but not as sole components of the program.[35]
  - Exercise programs should take into account the physical capabilities and health profile of the older person, (i.e., be tailored) and be prescribed by qualified health professionals or fitness instructors.
  - The exercise program should include regular review, progression and adjustment of the exercise prescription as appropriate.
- Therapists are encouraged to implement models of practice that evaluate individual's personal, environmental, and occupational factors relevant to their falls risk.[41]
  - Personal Factors
    - Ask client about recent falls as part of routine care with the 65+ population. Ensure understanding of the client's past falls experiences and any causal beliefs.
    - Engage and involve client and caregivers actively during assessment and intervention to ensure client-centeredness, shared responsibility and to maximize behavioural change. Encourage awareness-raising and active problem solving in client. Ensure client understanding of importance and relevance of any recommendations.
    - Understand what clients' roles, activities, and sense of control mean to them
    - Limit use of 'scare tactics' to encourage compliance.
    - Address falls prevention in positive and empowering manner.
    - Consider each client's physical strength, dynamic balance, steadiness of gait, vision, bowel and bladder continence levels, impulsiveness, fear of falling, habits, attention, concentration, memory, comprehension, judgement, reasoning and medication use.
  - Environmental Factors
    - Identify the range of environments in which the client performs occupations and the client's ability to meet the functional demands in the environments evaluated.

	○ Collaboratively assess client's surroundings both inside and outside the home, emphasizing client or family involvement. ○ Encourage client to minimize hazards and clutter in home and other environments used. ○ Note the absence of relevant assistive devices or equipment and prescribe as appropriate. ○ Consider cultural and social environments in addition to physical environments. Sensitivity to cultural routines, roles, and the importance placed on items or practices can influence client engagement in interventions and compliance with recommendations. ○ Occupation Factors ○ Assess performance and functional status of key occupations within the context of home or other relevant environments. ○ Consider physical, cognitive, and affective resources during functional task performance. Evaluate the client's ability to utilize these resources to meet occupational demands. ○ Ensure understanding of daily activities, routines, schedules and other activities important to the client. ○ Focus on the tasks requiring dynamic balance and mobility. • Interventions should include an education component complementing and addressing issues specific to the intervention being provided, and tailored to the individual's cognitive function and language.[35] • Education and information programs should be considered part of a multifactorial intervention (should not be provided as a single intervention) for older persons living in the community. [35] • Refer to community-based exercise and falls prevention classes. • Education and information programs should be considered part of a multifactorial intervention (should not be provided as a single intervention) for older persons living in the community.[35] • Refer to community-based exercise and falls prevention classes, as appropriate.[35]
Mobility and Function	• Arrange for assistive devices and transportation in place to allow participation in programs.[8] • Recommend OT assessment re: aids required and strategies for improving independence in ADLs. [3] • Maintain hip precautions if required for 3 months or as otherwise ordered.[3] • Clients should be encouraged and supported to be as independent as possible (i.e. not just getting around the home, but also re-integrating into their community). • Clients should perform prescribed home exercise and/or attend community exercise programs to optimize functional outcomes for a minimum of 3-6 months post-hip fracture. [,42,43] • Consider strengthening exercises and individually tailored treatment of balance to offset frailty. [3] • Progress as tolerated to mobilize outside safely (e.g., uneven sidewalks, curbs, various weather conditions) if required. • Adults aged 65 years and older should accumulate at least 150 minutes of moderate- to vigorous-intensity aerobic physical activity per week, in bouts of 10 minutes or more to achieve health benefits and improve functional abilities.[37] • Add muscle and bone strengthening activities using major muscle groups, at least 2 days per week.[37] • Those with poor mobility should perform physical activities to enhance balance and prevent falls.[37] • It is important for clients and families to understand that changes in cognition, changes in medication, and reduced physical function can increase the risk of

	motor vehicle accidents, and injury, among older adults. Any member of an interdisciplinary team might be the first to identify a driving safety issue. Currently, the Ministry of Transportation can only process reports regarding driving safety that are filled by a physician, optometrist or an occupational therapist who is specifically affiliated with a Driving Rehabilitation Fitness Centre. Interprofessional healthcare professionals who do not have a legal obligation to report do have an ethical obligation to inform the client's physician of their concerns.[24]

Client and Family Perspective/Education	• Client education is best accomplished using a combination of methods. When education materials are provided in addition to verbal communication, client education is more effective. [25]
	• Providing quality health information (accurate, accessible, and actionable) enables clients to better manage their health and wellbeing, and make fully informed decisions about their treatment and care. [25]
	• Client education materials should be developed using plain language as a key strategy for improving health literacy and be compliant with the Accessibility for Ontarians with Disabilities Act (AODA) requirements for accessibility. [26]
	• Multi-modal education should be provided to clients that can be tailored to their individual preferences and experiences. [25]
	• Educate all clients and their families regarding their falls risk status.[11]
	  ○ Review and promote client/family's role in safety and falls prevention.
	  ○ Validate falls awareness/prevention teaching with client and family.
	• Engage client/family through ongoing communication to review care and treatment program and discharge plan.[1,2]
	• Identify and address client/family concerns. [1,2]
	• Express confidence in activity level and safe precautions. .[1]
	• Consider client and family's level of health literacy, and ability to understand written or verbal information relating to their health and health care needs. Include the person's level of health literacy in the care and discharge plan(s).
	• Information should be provided to the client/family regarding osteoporosis management, and falls prevention as outlined in the previous sections of the framework.

Transition Care Planning	• Incorporate principles of health lifestyles into the rehabilitation program by providing resources and or referrals to external programs.[8] • Link to community supports and outpatient therapies as appropriate.[3,8] • Encourage client to talk to a Community Physiotherapy Clinic about an exercise program or use of a personal trainer who's knowledgeable of osteoporosis exercise precautions.[8] • Ensure client has date, time, and name of next health care provider.

Processes of Care	Long Term Care
Orientation: Family and Resident	• Discuss the role of the rehabilitative care program/service and outline the services that will be provided during the transition to (or back to) the long term care home with resident/family. • Establish goals with resident/family/providers. [3] • Discuss expectations with resident/family during episode of care.[1] • The promotion of resident/family self-care will reduce distress and build capacity for recovery and a successful transition to a long-term care facility. [12]
Assessments/Monitoring	• Complete functional assessment using standardized outcome measure (e.g., Berg, TUG). [8] • Consider completing a frailty assessment.[3] • If frailty found on assessment, consider interventions to minimize frailty. • Routine skin and wound assessments and consideration for pressure relieving surface/heel protection.[8]
Delirium, Dementia & Depression	**Delirium, Dementia & Depression** • A high index of suspicion should be maintained for delirium, dementia and depression in the older adult.[4] • Use a structured assessment method to differentiate the clinical features of delirium, dementia, and depression.[4] • Factors such as sensory impairment and physical disability should be assessed and considered in the selection of mental status tests. [4] • Depression should not be diagnosed in the context of an acute delirium, but reassessment for depressive symptoms should be done after delirium has cleared significantly. [4] • Clinicians should avoid physical and chemical restraints as first line care strategies for older adults with delirium, depression, and dementia.[5] • All clinicians working with older persons should be aware that the symptoms of delirium may be superficially similar to those of a dementia and that the two conditions frequently co-exist. Clinicians should be aware of the features that can help differentiate delirium from dementia. [4] • Use assessment findings to inform the initiation of referral to geriatrician, geriatric psychiatry, social worker and other community resources/programs (e.g., falls prevention program, senior's mental health).[3, 4] • Provide family with standardized education materials on delirium, depression and dementia.[6] • Consider support for caregivers and provide community resources if available.[3] • All clinicians working with older persons should be aware that the symptoms of delirium may be superficially similar to those of a dementia and that the two conditions frequently co-exist. Clinicians should be aware of the features that can help differentiate delirium from dementia. [4] • Residents should be screened for changes in cognition, function, behaviour and/or mood, based on ongoing observations of the resident and/or concerns expressed by the resident, family and/or interdisciplinary team, including other specialty physicians. [4] • Clinicians should recognize their resident's retained abilities, and understand the impact of the environment when tailoring and implementing caregiving strategies.[4]

Delirium

- Delirium may be identified and interventions implemented in the hospital/rehabilitation setting, and will often still be present when the resident is discharged to the LTC home. Families and staff need to be aware of interventions that have been successful in starting to reverse the delirium and strategies to maintain the person's safety.
- Existing delirium should be monitored and interventions continued through the primary care provider and services at the LTC home. Exacerbation in symptoms may be a new delirium and be a medical emergency and require urgent intervention.
- Teach resident/staff/family regarding identification and prevention of delirium.[6]
- Contact PCP with any acute changes in condition.[3]
- Promote social activities and consider community resources.[3]

Screening & Assessment

- Delirium is a medical emergency and requires urgent intervention. Treatment of all potentially correctable contributing causes of the delirium should be done in a timely, effective manner.[7]
- Delirium can be detected more easily when a structured and routine process to screen for delirium and cognitive function is established, using standardized instruments. This facilitates detection of delirium and also helps to differentiate its symptoms from chronic or slower onset syndromes like dementia or depression. Tools include:[4]
    - Confusion Assessment Method (CAM).
    - Delirium Observation Screening (DOS) Scale
- The evaluation of an older person for the possibility of delirium should include a review of their prior cognitive functioning

(e.g., over the previous six months).

Prevention & Management

- Consider the following 5 precipitating risk factors for the development of delirium: Immobility, malnutrition, more than three medications, use of bladder catheter, and any iatrogenic events during hospitalization. [7]
- Prevention efforts should be targeted to the older person's individual risk factors for delirium.[5]
- Multi-component interventions targeting multiple risk factors should be implemented in older persons who have intermediate to high risk for developing delirium.[7]
- Use evidence-based delirium prevention and treatment strategies, such as: [7]
    - Orientation, environmental adaptation and the use of structured activities[5]
    - Ensuring older persons with visual impairments are provided with existing visual aids and/or other adaptive equipment.
    - Monitoring of pain management and symptoms of UTI

- Ensuring older persons with hearing impairments are evaluated for reversible causes and provided with their existing hearing aids and/other needed amplifying devices [7]
- The use of non-pharmacological sleep enhancement.
- The use of proven effective communication strategies[5]
- Monitoring of pain management and symptoms of UTI[5]

Dementia

Screening & Assessment

- Screen for dementia using a standardized screening assessment tool (e.g., Mini-Cog or MMSE or MOCA)[1,2]
- Consideration should be given to the resident's pre-morbid level of cognitive function.
- Use assessment findings to trigger referral to geriatrician, geriatric psychiatry, social worker and other community resources/programs (e.g., falls prevention program, senior's mental health).[1,3]
- Clinicians should contribute a comprehensive clinical assessment regarding the identification and monitoring of dementia, based on standardized assessments, their ongoing observations, and expressed concerns from the resident, family, and interdisciplinary team.[8]

Intervention & Management

- Strong evidence supports use of an interdisciplinary care program in those residents with mild to moderate dementia who have sustained a hip fracture to improve functional outcomes.
- Clinicians caring for residents with dementia should be knowledgeable about pain assessment and management in this population to promote physical and emotional well-being.[8]
    - Clinicians caring for residents with dementia should be knowledgeable about non-pharmacological interventions for managing behaviour to promote physical and psychological well-being.[8]
    - Techniques employed should be individualized, maintaining the "person" as the centre of care. Occupational activities, environmental modification, validation therapy, reminiscence and sensory stimulation are interventions that can be considered.
- Promote activity engagement for residents with dementia or depression (e.g., participate in group or individual exercise and social activities).[3]

	Depression ***Screening & Assessment*** • Staff should be familiar with the physical, psychological, and social risk factors for depressive disorders in older adults and include a screening for depression for residents who present with some of these risk factors.[9] • If depression is suspected – member of the clinical team to complete a valid and reliable assessment measure for depression (e.g., Geriatric Depression Scale or Cornell Depression Scale for those with dementia).[1] • Depression should not be diagnosed in the context of an acute delirium, but reassessment for depressive symptoms should be done after delirium has cleared significantly. [9] • Appropriate depression screening tools for elderly persons without significant cognitive impairment in general medical or geriatric settings include the self-rating Geriatric Depression Scale (GDS), and the SELFCARE self-rating scale.[9] • For residents with moderate to severe cognitive impairment, an observer-rated instrument, such as the Cornell Scale for Depression in Dementia is recommended instead of the GDS.[9] • Staff should always assess the risk of suicide in residents with suspected depression by directly asking residents (as well as their family) about suicidal ideation, intent and plan. Those at high risk for suicide should be referred to a specialized mental health professional and/or service as a priority for further assessment, treatment, and suicide prevention strategies.[9] ***Intervention & Management*** • If suicidal thoughts, psychosis, or comorbid substance abuse are present, a referral for a comprehensive psychiatric evaluation should be made.[10] • For severe depression (GDS score ≥11), refer for psychiatric evaluation. [9] • For less severe depression (GDS score ≥6), refer to mental health services for psychotherapy/counseling. Consider resources such as psychiatric liaison nurses, geropsychiatry advanced practice nurses, social workers, psychologists, and other community- and institution-specific mental health services[9] • A model of care should be implemented that addresses the physical/functional and psychosocial needs of older depressed adults. Interdisciplinary involvement is recommended, given the complex care needs of older adults.[9] • For residents with dementia or depression, promote activity (e.g., walk to meals, participate in group or individual exercise and social activities).[3]
Treatment Interventions	• Residents with hip fracture are typically elderly and living with a variety of other comorbidities. For these frail individuals, a hip fracture can be a catastrophic event that precipitates a steep decline in health and independence. Residents with hip fracture require postoperative and restorative care from an interdisciplinary team in accordance with principles of geriatric care. **Initiation** In the absence of high quality evidence, RCA recommendations are based on expert consensus • Home-care service should be based on resident's need and circumstances (risks through wound care, safety issues or other concerns).

	• The first in-home rehabilitative care visit could be needed as early as 48 hours and should be no later than 5 days. **<u>Duration</u>** • 6 weeks to 3 months, depending on resident's clinical needs. • Moderate evidence supports ongoing 6-12 1:1 or individualized group-based functional strengthening program[29] • Gains are often seen over longer periods of time and resident should be reassessed and extended for another 3 months where appropriate[44]. **<u>Frequency</u>** • Average 2-3 times/week depending on resident's tolerance level and number of health professionals seen • Strong evidence supports intensive physiotherapy post discharge, with an emphasis on functional strength training to improve functional outcomes in residents with Hip Fractures.[29]
Pain	***Screening & Assessment*** • Use pain scales (e.g., Numeric Pain Rating Scale [NPRS]) to assess pain levels – need to consider pre-hospital pain conditions and pain medications.[12] • For those residents who cannot express themselves verbally, the use of non-verbal pain scales is recommended [12] • The following tools have established validity in assessing the intensity of pain [16] • Visual Analogue Scale (VAS) • Numeric Rating Scale (NRS) • Verbal Scale • Faces Scale • Behavioural Pain Scale • Additionally, the "Checklist of Non-Verbal Pain Indicators" can be used to assess pain in non-communicative adults.[12] ***Intervention & Management*** • Strong evidence supports multimodal pain management after hip fracture surgery.[13] • Educate resident/caregivers on pain management • Discuss pain management techniques and provide education regarding self-management of pain. • Create a pain management plan to ensure resident's ability to carry out ADLs, as per pre-injury level of functioning [3] • Recommend resident take pain medications, if needed, 30-45 min prior to ambulatory rehabilitative care visit/treatment. • Wean off narcotics as tolerated • Assess/monitor and communicate the effectiveness of pain medication.[2] • If pain score is >4 and determined to be unmanageable contact Physician/Pharmacist • Prophylactic prescription of a bowel routine including medications may be required for residents on opioids.[12]

Pressure Ulcer Prevention	• Residents who continue to have limited mobility may continue to have issues with skin integrity. [17]
	• The resident's risk for pressure ulcer development is determined by the combination of clinical judgement and the use of a valid reliable risk assessment tool. Use a structured tool that has been tested for validity and reliability. Examples include: [17]
	  ○ Braden Scale for Predicting Pressure Sore Risk
	  ○ Norton Pressure Sore Risk Assessment Scale
	  ○ Waterlow Pressure Ulcer Risk Assessment Tool
	• Interventions should be based on identified intrinsic and extrinsic risk factors and those identified by a risk assessment tool such as Braden's categories of sensory perception, mobility, activity, moisture, nutrition, friction and shear. [17]
	• Assess, document and effectively manage pain to enable implementation of the most appropriate plan of care for pressure ulcer prevention without compromising comfort and quality of life. [17]
	• All pressure ulcers should be identified and described using standardized systems and language (e.g., National Pressure Ulcer Advisory Panel and European Pressure Ulcer Advisory Panel pressure ulcer classification system). [17]
	• All findings should be documented at the time of assessment and reassessment. [17]
	• An individualized plan of care should be developed in collaboration with the resident, family and an interdisciplinary team, including consulting health care providers as appropriate. The team uses assessment and reassessment data in combination with clinical judgement to identify risk factors and to recommend the plan of care, in alignment with resident goals. [17]
	• Resident's assessed as at high risk of pressure ulcers should be provided with a pressure-relieving surface, in all settings (including LTC). [17]
	• Staff should be educated on the proper use of pressure-relieving surfaces and on positioning to prevent breakdown. [17]
	• Reduce shearing forces by maintaining the head of the bed at the lowest elevation consistent with medical conditions and restrictions (30 degrees or lower). [17]
	• Perform regular mattress audits to ensure surfaces are in good condition. [17]
	• Utilize devices to totally relieve pressure on the heels and bony prominences of the feet. [17]
	• Use protective barriers (i.e. Liquid barrier films, transparent films, hydrocolloids) or protective padding to reduce friction injuries. [17]
	• Protect skin from excessive moisture and incontinence to maintain skin integrity: [17]
	  ○ Monitor fluid intake to ensure adequate hydration;
	  ○ Use a pH balance, non-sensitizing skin cleanser with warm water for cleansing;
	  ○ Minimizing force and friction during care (e.g., use a soft wipe or spray cleanser);
	  ○ Maintain skin hydration by applying moisturizing agents that are non-sensitizing; pH balance fragrance free and/or alcohol free;
	  ○ Use topical protective barriers to protect skin from moisture. Avoid ingredients and excess application of products that may compromise the absorptive capacity of the incontinent brief;
	  ○ Use protective barriers (e.g., liquid barrier films, transparent films, hydrocolloids) or protective padding to reduce friction injuries
	  ○ If skin irritation persists due to moisture, consult with advanced practice nurses and/or with the appropriate interdisciplinary team for evaluation and topical treatment;
	  ○ Establish a bowel and bladder program

Fluid/Nutrition & Elimination	• Obtain weight and height on admission or re-admission[8] • Encourage and promote high protein/high calorie/high fibre diets.[3,9] • Encourage adequate hydration. • Ensure proper elimination (e.g. to avoid constipation or urinary retention). [3] • Encourage independence to self-set-up and feed.[8] Refer to nutrition counseling/dietitian if additional support is needed or if resident is at nutritional risk. [3,9]

Osteoporosis Management	• All individuals with a fragility fracture of the hip should be considered as high risk for osteoporotic fractures.[21]
	
	Screening & Assessment
	• The Canadian WHO Fracture Risk Assessment Tool (FRAX) and the Canadian Association of Radiologist and Osteoporosis Canada (CAROC) risk assessment systems can be used in Canada at the present time, since they have been validated in a Canadian population.
	• Refer to Osteoporosis Canada guidelines for the recommended elements in the assessment of osteoporosis, and recommended fracture prediction tools.[20]
	• Include recommended elements in the history and physical examination of fracture risk/osteoporosis: [21]
	  ○ Identify risk factors for low Order Bone Mineral Density (BMD), future fractures and falls
	  ○ Inquire about gait, balance and falls in the previous 12 months
	  ○ Get-Up-and-Go-Test
	
	Intervention & Management
	• Begin/continue muscle strengthening, balance and posture exercises for Osteoporosis management – PT as per BONEFIT principles. [1]
	• Provide Osteoporosis education to resident/Family (print/multimedia resources available at osteoporosis.ca)[1]
	• Provide other non-pharmacologic therapies: [21]
	  ○ For those with or at risk for osteoporosis: Appropriate resistance training and/or weight-bearing aerobic exercise as per BoneFit principles.
	  ○ For those with vertebral fractures: Directed core stability exercises.
	  ○ For those at risk of falls: Exercises that focus on balance (e.g., Tai chi, balance and/or gait training).
	
	• Adequate vitamin D status, in addition to calcium from diet and supplements, is essential for the prevention and treatment of osteoporosis.[21]
	• Refer to Osteoporosis Canada as required.[20]

Falls Prevention/Fall Risk Mitigation	***Screening & Assessment*** • Risk screening is an effective method for identifying fall-prone individuals. The tool used must be appropriate for the setting and for the specific population. Therefore, it is essential to select a tool most appropriate for the setting. Examples of tools include: [22] ○ STRATIFY Risk Assessment Tool

- Morse Fall Scale
- Tinetti Balance Scale
- Berg Balance Scale

- A more comprehensive assessment should be completed for residents at high risk, and are best conducted by an inter-disciplinary health care team including a physician, PT, OT, RN/RPN, pharmacist and other health care professionals as deemed necessary.[33]
- Assess fall risk after a fall. Comprehensive risk assessments include all or some of the following: [34]
  - Assessment of the home for any environmental hazards
  - Thorough assessment of current medications
  - A full medical assessment
  - Assessment of gait and balance
  - Assessment of equipment such as walkers and wheelchairs
  - Assessment of underlying addictions or recreational use of non-prescription drugs and/or alcohol
- The multifactorial fall risk assessment should be followed by direct interventions tailored to the identified risk factors, coupled with an appropriate exercise program.

Intervention & Management

- Key Components of Rehabilitation for falls prevention include:[31]
  - Education on safety and falls prevention for resident, family, and caregivers.
- High-quality evidence indicates that long-term exercise programs in mobile seniors and environmental modifications in the homes of frail elderly persons will effectively reduce falls and possibly fall-related injuries in Ontario's elderly population. [22]
- Components most commonly included in efficacious interventions are:[35]
  - Adaptation or modification of the home environment
  - Withdrawal or minimization of psychoactive and other medications
  - Management of postural hypotension
  - Management of foot problems and footwear
  - Exercise, particularly balance, strength, and gait training
- All older adults, who are at risk of falling, should be offered an exercise program incorporating balance, gait, and strength training. Flexibility and endurance training should also be offered, but not as sole components of the program.[35]
  - Exercise programs should take into account the physical capabilities and health profile of the older person, (i.e., be tailored) and be prescribed by qualified health professionals or fitness instructors.
  - The exercise program should include regular review, progression and adjustment of the exercise prescription as appropriate.
- Therapists are encouraged to implement models of practice that evaluate individual's personal, environmental, and occupational factors relevant to their falls risk.[45]

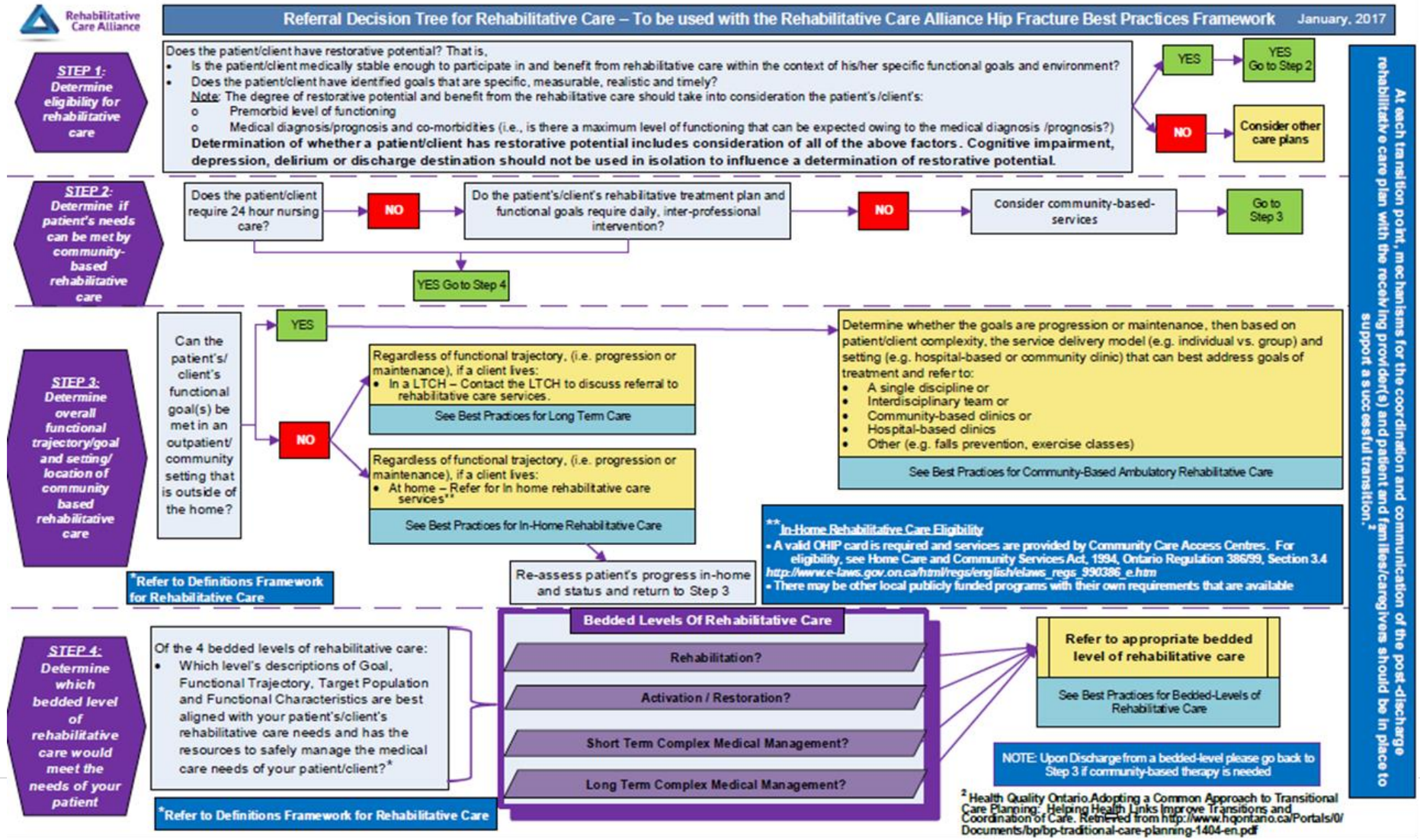
	• Education and information programs should be considered part of a multifactorial intervention (should not be provided as a single intervention). [35] • Assess mobility aids to be used in long term care environment for appropriateness and fit. [1] • Assess resident's fear of falling; provide support and education to promote safe mobility and independence. [1] • Refer to Outpatient/Community Falls Programs as appropriate.[21] • Hip protectors for those who are mobile as recommended. [3,21] • Balance, strength and functional training exercises to prevent falls and fractures.[21]

Mobility and Function	• Assessment and progression of functional abilities to promote maximum level of function in the long term care setting. [8]
	• Review skills taught in inpatient and acute setting to promote safe mobilization in the facility. [8]
	• Assess mobility aids and use in the long term care home. [8]
	• Key components of Rehabilitation: [31]
	  ○ Therapies to improve independence in self-care, transfers, ambulation, and ADLs (e.g., dressing, washing, toileting), as per pre-injury level of functioning
	  ○ Balance and gait training
	  ○ Provision of a progressive strengthening exercise program
	  ○ Environmental modification
	• Consideration should be given to having residents attend ongoing exercise programs to optimize their conditioning for a minimum of 3-6 months post-hip fracture.[8]
	• Assistive device in place to allow for participation in programs. [8]
	• OT assessment re: aids required and strategies for improving independence in ADLs, as per pre-morbid level of function. [3]
	• Adults aged 65 years and older should accumulate at least 150 minutes of moderate- to vigorous-intensity aerobic physical activity per week, in bouts of 10 minutes or more to achieve health benefits and improve functional abilities. [37]
	• Add muscle and bone strengthening activities using major muscle groups, at least 2 days per week. [37]
	• Those with poor mobility should perform physical activities to enhance balance and prevent falls. [37]
	• Residents should be encouraged and supported to be as independent as possible. [37]

Resident and Family Perspective/Education	• Resident/family education is best accomplished using a combination of methods. When education materials are provided in addition to verbal communication, education is more effective. [25] • Providing quality health information (accurate, accessible, and actionable) enables residents/caregivers to better manage their health and wellbeing, and make fully informed decisions about their treatment and care. [25] • Education materials should be developed using plain language as a key strategy for improving health literacy and be compliant with the Accessibility for Ontarians with Disabilities Act (AODA) requirements for accessibility. [26] • Multi-modal education should be provided to residents, which can be tailored to their individual preferences and experiences. [25] • Educate all residents and their families regarding their falls risk status.[11]

	○ Review and promote resident/family's role in safety and falls prevention. ○ Validate falls awareness/prevention teaching with resident and family. • Engage resident/family through ongoing communication to review care and treatment program and discharge plan.[1,2] • Identify and address resident/family concerns. [1,2] • Express confidence in activity level and safe precautions. .[1] • Consider resident and family's level of health literacy, and ability to understand written or verbal information relating to their health and health care needs. • Information should be provided to the resident/family regarding osteoporosis management, and falls prevention, as outlined in the previous sections of the framework.
Transition Care Planning	• Link to community supports as appropriate.[3,8] • Incorporate principles of health lifestyles into the rehabilitation program by providing resources and or referrals to external programs. [8] • Encourage residents to participate in ongoing exercise programs as appropriate. [8] • Re-assess residents and their space upon admission.[3] • Remove catheter as soon as possible. [3] • Provide wound care as required.[3] • Medication reconciliation should be completed upon admission ensuring to address polypharmacy [3]
Medication	• Medication reconciliation should take place once the resident is returned to the long-term care facility.

4.0 Referral Decision Tree for Rehabilitative Care - For use with Hip Fracture Best Practice Framework



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