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# Long-Term Care, Continuing Care, Assisted Living and Residential Care Homes

# Faculty/Presenter Disclosure

- **Faculty: Mikale Robitaille**
- **Relationships with commercial interests:**
  - Grants/Research Support: none
  - Speakers Bureau/Honoraria: none
  - Consulting Fees: none
- **Faculty: Julie Hepworth**
- **Relationships with commercial interests:**
  - Grants/Research Support: none
  - Speakers Bureau/Honoraria: none
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# Disclosure of Financial Support

- This program has **NOT** received financial support other than the support of the MOHLTC
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- Potential for conflict(s) of interest: **None to be disclosed**



# Mitigating Potential Bias

The information presented in this CME program is based on recent information that is explicitly “evidence-based”.

This CME Program and its material is peer reviewed and all the recommendations involving clinical medicine are based on evidence that is accepted within the profession; and all scientific research referred to, reported, or used in the CME/CPD activity in support or justification of patient care recommendations conforms to the generally accepted standards



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**Osteoporosis Canada**

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Toronto, Ontario M3C 3R6

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# Learning Objectives

**By the end of the session, you will:**

1. Understand how to discuss with the care team what osteoporosis is, how its connected to fractures, and its seriousness and impact on residents.
2. Better identify residents at higher risk for fracturing.
3. Implement appropriate treatments and interventions to reduce residents' risk for fracturing (review available tools).

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# What is osteoporosis?

## Normal Bone



**STRONG  
and  
COMPACT**



- Structure inside the bone is DENSE and more solid
- Better able to withstand minor falls



**It is a  
deterioration  
and loss of  
bone structure**

## Bone with osteoporosis



**WEAK  
and  
BRITTLE**



- \* Structure inside the bone is more OPEN like a HONEYCOMB
- \* Less likely to withstand minor falls

Unfortunately, many people don't know they have osteoporosis.

It's a ***"silent thief"***, gradually robbing bone structure over decades of time, hidden from sight inside the body.

Often the first time people find out they have osteoporosis is **AFTER** they break a bone.

**Help the care team/staff understand the connection  
between osteoporosis – fractures and the impact to residents**



# Impact of Osteoporosis: **Fractures** are a big problem

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- Prevalence of all fractures is 2-4 times that of similarly aged adults living in the community<sup>1</sup>
- Hip fracture rate is twice as high in LTC compared with the community<sup>2,3</sup>
- Between 2-6% of residents sustain a hip fracture each year<sup>2,3</sup>
- Up to 30% of residents have vertebral fractures<sup>4</sup>
- 39% of those with hip fracture will die within 12 months<sup>5</sup>
- Multiple vertebral fractures can cause significant pain, anxiety, depression, reduced pulmonary function and agitation<sup>6</sup>

1. Crilly, Tanner, Kloseck, & Chesworth (2010)
2. Ronald, McGregor, McGrail, Tate, & Broemling (2008)
3. Papaïouannou et al. (2016)
4. Rodondi, Chevalley, & Rizzoli (2012)
5. Papaïouannou et al. (2000)
6. Papaïouannou et al. (2002)

# Its more than *JUST* a broken bone



- **Frightening.**

The initial fall and resulting fracture along with the trip to the hospital is a frightening experience for resident. It causes a lot of distress and increased confusion.

- **Painful.**

Breaking a bone is painful, even for elderly residents. They may have ongoing pain as they heal or continue to have microfractures (e.g, spine).

- **Delirium.**

Falls with resulting fractures can trigger delirium. For some residents, it is a short experience and for other its more prolonged.

- **Behaviours.**

Residents with responsive behaviours may become more agitated from the pain.

# Its more than *JUST* a broken bone



- **Dependence.**

Residents may lose their independence and require more assistance than before the fracture while some residents become fully dependent and never regain any degree of independence. They may not be able to walk (hip, spine fractures), dress (wrist, shoulder fractures)

- **Isolation.**

Loss of independence can lead to social isolation, even depression as residents are more bedridden or chair bound.

- **Afraid/refusal to participate.**

Residents may experience new fears, fear of doing things that may cause them to fall and fracture again. They may refuse to participate in activities, stay in their rooms

# Learning Objectives

**By the end of the session, you will:**

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- 2. Better identify residents at higher risk for fracturing.**
3. Implement appropriate treatments and interventions to reduce residents' risk for fracturing (review available tools).

# We already know: Some general risk factors for fractures

- **Age** as you get older you are at more risk, especially in your 80s and 90s
  - **Gender** both are at risk. Women are at greater risk than men, and this gap narrows somewhat in your 80s and 90s. Don't forget that men are at risk too.
- **Weight** lightweight people are at more risk, especially if under about 130lbs or 58kg
  - **Height** if you notice your rib cage is touching your hip bone, your posture is changing to more of a hunch in your back or you can't stand up straight like you did in your 20s; these are signs of changes in your spine due to osteoporosis
- **Prior fracture** every time you break a bone, you are at greater risk of breaking another bone, especially as you age into your 50s, 60s and beyond, and for women entering or beyond their menopause years

# What we know about LTC residents' risk factors for fracture

## Known risk factors for fractures for LTC residents

- Have a diagnosis of osteoporosis
- Taking osteoporosis medications

We know these are **additional** risk factors for fractures for LTC residents

- able to walk in their room, halls, and/or general areas
- spend time wandering in their neighbourhoods/home areas
- can self-transfer or will self-initiate their transfers
- have fallen in the home, have a history of falling in their home for new residents
- poor or declining cognitive function (dementia)



# LTC Fracture Risk Scale

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We can now determine who is at higher risk for fracture in LTC homes from the RAI-MDS. Community-based tools such as CAROC and FRAX are ineffective for LTC.

Starting in 2019, developed in Ontario  
“**The Fracture Risk Scale (FRS)**” an evidence-based tool within RAI-MDS 2.0 / LTCF will automatically tell us if a resident is at high risk for a fracture.



# Learning Objectives

**By the end of the session, you will:**

1. Understand how to explain to staff what osteoporosis is, how its connected to fractures, and its seriousness and impact on residents.
2. Better identify residents at higher risk for fracturing.
- 3. Implement appropriate treatments and interventions to reduce residents' risk for fracturing (review available tools)**



**It takes a **team** to  
minimize the  
risk for fractures**

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**Tools and resources  
to guide your  
treatments and  
interventions**

# All the tools and resources are available on the web



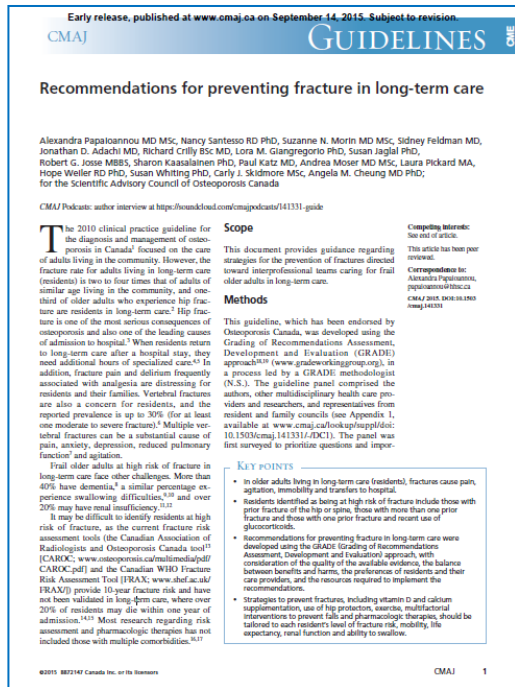
[www.gerascentre.ca/fracture-prevention-toolkit](http://www.gerascentre.ca/fracture-prevention-toolkit)



|   |  |  |
|---|--|--|
| <br><b>Tools &amp; Resources</b><br>Check out our list of comprehensive resources  | <br><b>Residents &amp; Families</b><br>Osteoporosis information for seniors and their loved ones. | <br><b>Videos</b><br>Videos for health professionals on falls prevention and long term care resident stories on their journey with osteoporosis and fractures.                          |
| <br><b>Guidelines</b><br>The guideline, <u><a href="#">Recommendations for Preventing Fracture in Long-Term Care</a></u> , is the first guideline in Canada focused on preventing fractures among the frail and elderly in long-term care. | <br><b>Fracture Risk Scale</b><br>Coming Soon!  | <br><b>Presentations</b><br>Listen to Opinion Leaders in the area of osteoporosis and care of the elderly walk you through the recommendations and how to implement them into practice. |
| <br><b>Research</b><br>A glimpse into current research on osteoporosis being conducted by the GERAS Centre.  | <br><b>About Us</b><br>Learn more about the Osteoporosis Strategy for Long Term Care team.      | <br><b>Contact Us</b><br>Questions or clarifications? Contact us!   |

# Recommendations for the Health Care Team

## Guideline: 2015 Recommendations for preventing fractures in long-term care



developed in Ontario by a diverse group of stakeholders (health care professionals, academics, residents and families). It is for interprofessional teams caring for residents with osteoporosis who are at high risk for fractures and falls.

**It provides evidence-based guidance on the appropriate interventions and treatments for residents in residential care settings, specifically . . .**

- Medication therapies
- Calcium and vitamin D
- Hip protectors
- Exercise
- Other multifactorial interventions

Minimizing the risk for fracture *care* must be person-centred  
Tailored to support the resident' quality of living  
Used to reduce their risk for fracture

# Goals of the Fracture Prevention Recommendations (Guideline)

Early release, published at [www.cmaj.ca](http://www.cmaj.ca) on September 14, 2015. Subject to revision.

CMAJ

## GUIDELINES

Recommendations for preventing fracture in long-term care

Alexandra Papaioannou MD MSc, Nancy Santesso RD PhD, Suzanne N. Morin MD MSc, Sidney Feldman MD, Jonathan D. Adachi MD, Richard Crilly BSc MD, Lora M. Giangregorio PhD, Susan Jaglal PhD, Robert G. Josse MBBs, Sharon Kaasalainen PhD, Paul Katz MD, Andrea Moser MD MSc, Laura Pickard MA, Hope Weller RD PhD, Susan Whitting PhD, Carly J. Skidmore MSc, Angela M. Cheung MD PhD; for the Scientific Advisory Council of Osteoporosis Canada

CMAJ Podcast: author interview at <http://soundcloud.com/cmajpodcasts/141331-guide>

**Scope**

This document provides guidance regarding strategies for the prevention of fractures directed toward interprofessional teams caring for frail older adults in long-term care.

**Methods**

This guideline, which has been endorsed by Osteoporosis Canada, was developed using the Grading of Recommendations Assessment, Development and Evaluation (GRADE) approach<sup>3,9</sup> ([www.gradeworkinggroup.org](http://www.gradeworkinggroup.org)), in a process led by a GRADE methodologist (N.S.). The guideline panel comprised the authors, other multidisciplinary health care providers and researchers, and representatives from resident and family councils (see Appendix 1, available at [www.cmaj.ca/lookup/suppl/doi:10.1503/cmaj.141331/-DC1](http://www.cmaj.ca/lookup/suppl/doi:10.1503/cmaj.141331/-DC1)). The panel was first surveyed to prioritize questions and imper-

**KEY POINTS**

- In older adults living in long-term care (residents), fractures cause pain, agitation, immobility and transfers to hospital.
- Residents identified as being at high risk of fracture include those with prior fracture of the hip or spine, those with more than one prior fracture and those with low prior fracture and recent use of glucocorticoids.
- Recommendations for preventing fracture in long-term care were developed using the GRADE Grading of Recommendations Assessment, Development and Evaluation approach, with consideration of the quality of the available evidence, the balance between benefits and harms, the preferences of residents and their care providers, and the resources required to implement the recommendations.
- Strategies to prevent fractures, including vitamin D and calcium supplementation, use of hip protectors, exercise, multifactorial interventions to prevent falls and pharmacologic therapies, should be tailored to each resident's level of fracture risk, mobility, life expectancy, renal function and ability to swallow.

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Reduce: immobility, pain and transfers

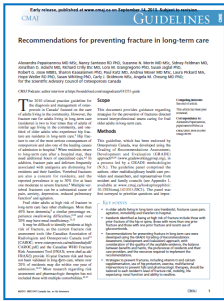
Improve: quality of life for residents in long-term care



# Potential Benefits of Recommendations (Guideline) Implementation

Reduce: immobility, pain and transfers

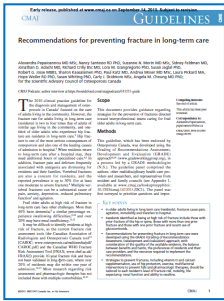
- **Injury:** Cuts fracture rates in half; 5-6/100 residents to 2-3/100 residents
- **Disruptive emergency transfers:** Substantially reduces emergency and disruptive transfers to hospital for fracture treatment
- **Costs:** reduced costly hospital admissions
- **Suffering:** reduced losses and suffering for residents and families (immobility, pain, abrupt change of residence, social isolation, delirium, accelerated health decline, premature death)



# Potential Benefits of Recommendations (Guideline) Implementation

Improve: quality of life for residents in long-term care

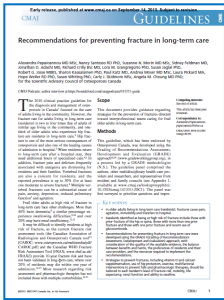
- **FRS:** Fracture Risk Scale identifies residents “at high risk” for fractures to assist LTC to target interventions
- **Pharmacological treatments:** Safe pharmacological treatments can be prescribed to improve residents’ bone health
- **Diets and supplementation:** Diets/meals are enhanced with foods rich in calcium and Vitamin D. For residents with low dietary intake, supplementation is available to support the benefits of Vitamin D and calcium on bone health.



# Potential Benefits of Recommendations (Guideline) Implementation

Improve: quality of life for residents in long-term care

- **Exercise:** promote muscle strength and balance with exercise and activity. It helps mobile residents maintain their ability to get-up-and-go more safely from a sitting or resting position to walking.
- **Safe transfers:** assist and guide high risk residents during transfers to safely move and reposition so as to not cause spontaneous fractures (e.g, spine, arms).



# Potential Benefits of Recommendations (Guideline) Implementation

Improve: quality of life for residents in long-term care

- **Other multifactorial interventions:** use other multifactorial interventions for high risk residents to minimize fracture injury. Tailor these interventions to the residents as hip protectors, falls reduction interventions, medication reviews, environmental assessments, managing other health issues such as urinary incontinence, staff education, resident and family education.



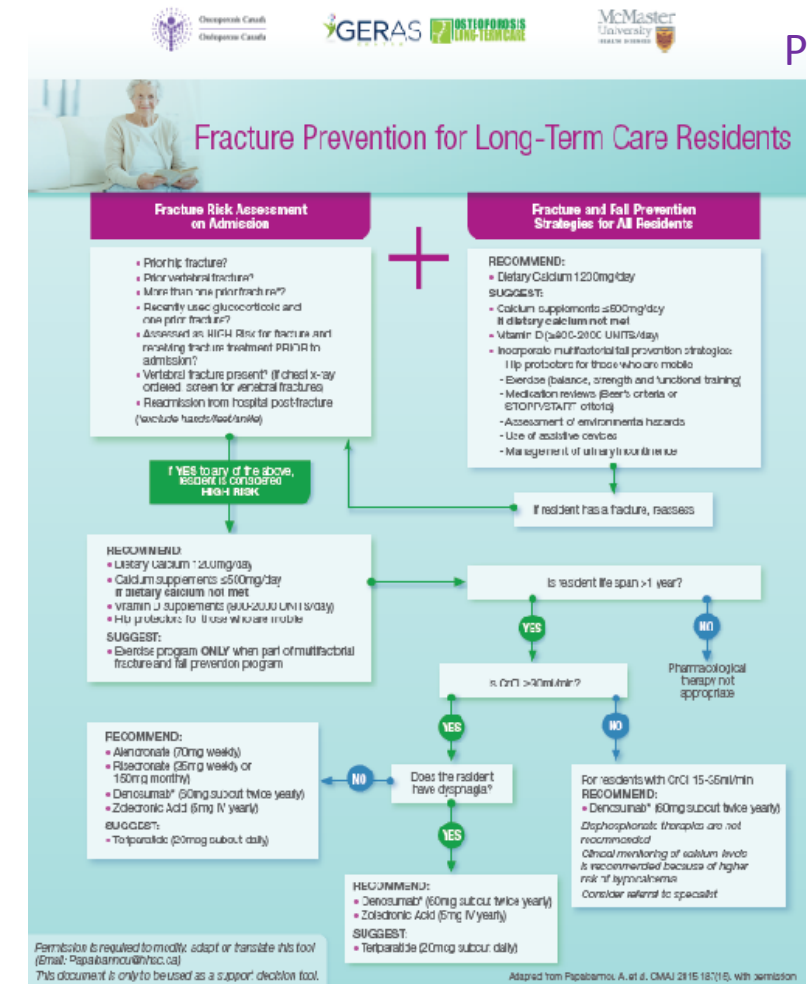
**Physicians, nurses and  
pharmacists**

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**Tools and resources  
to guide your  
treatments and interventions**

# Tools for Physicians/Nurses and Pharmacists Interventions

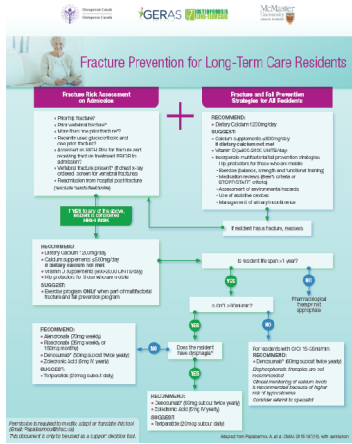
- **Fracture Prevention for Long-Term Care Residents Algorithm Tool**
  - Based on the *2015 Recommendations for Preventing Fractures in Long-Term Care* (Guidelines)
  - Quick reference tool that guides the health care professionals through the key decision-making steps to
    - Reviews fracture risk assessment
    - Fracture and fall prevention strategies
    - For high risk residents, recommended medications, calcium, vitamin D, hip protectors, exercise and multifactorial interventions
      - CrCl 15-35ml/m: Denosumab, no bisphosphonates, monitor for hypocalcemia



## Tools for Physicians/Nurses and Pharmacists Interventions

Page 2

## Summary of Recommendations



**For ALL Elderly Residents In LTC**

**STRONG RECOMMENDATIONS**

- Dietary interventions to increase food intake of calcium
- The Recommended Daily Allowance for calcium is 1200mg

### CONDITIONAL RECOMMENDATIONS

Multifactorial interventions that are individually tailored to reduce the risk of falls and fractures

**For Elderly LTC Residents at HIGH RISK of FRACTURE**

### STRONG RECOMMENDATIONS

- Calcium supplementation up to 500mg daily if they cannot consume 1200mg of calcium through diet
- Vitamin D supplements of at least 800 UNITS daily
- Hip protectors for those who are mobile

### CONDITIONAL RECOMMENDATIONS

Multifactorial interventions that are individually tailored to reduce the risk of falls and fractures.

**BALANCE, STRENGTH AND FUNCTIONAL TRAINING EXERCISES** be provided only when part of a multifactorial intervention to prevent falls and fractures

USE ONE OF THE FOLLOWING:

- Alendronate (weekly)
- Risedronate (weekly or monthly)
- Denosumab for those who have difficulty taking oral medications
- Zoledronic acid for those who have difficulty taking oral medications

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- Terbutaline

- Ethionate and Hexachlore NOT de Used

These measurements apply to the elderly with the exception of gender. For men use Andriol and for women use Flomax. It is not recommended for elderly with severe renal insufficiency (GCr <35ml/min or <35ml/min respectively).

**Caution:** As a result of the administration of papaverine severe hypotension (GCr <35ml/min).

**Exercise caution** for people who receive other medications that could affect renal function. Caution should be monitored before and periodically after treatment.

For Elderly LTC Residents NOT at High Risk of FRACTURE:

### CONDITIONAL RECOMMENDATIONS

Fracture prevention strategies depending upon resources and residents (or their care's) values and preferences

- Calcium supplementation up to 1,000 mg/day for those who cannot meet Recommended Dietary Allowance for calcium through food
- vitamin D supplementation to meet the Recommended Dietary Allowance, 800-2,000 units/day
- Balance, strength and functional training exercises to prevent falls
- Hip protectors for those who are mobile

### Interpretation of Strong and Conditional Fracture Prevention Recommendations

| IMPLICATIONS   | STRONG RECOMMENDATION ("RECOMMEND")  | CONDITIONAL RECOMMENDATION ("SUGGEST")   |
|----------------|--|--|
| FOR PATIENTS   | Most individuals in this situation would want the recommended course of action, and only a small proportion would not. | The majority of individuals in this situation would want the suggested course of action, but many would not.   |
| FOR CLINICIANS | Most individuals should receive the intervention.  | Clinicians recognize that different choices will be appropriate for each individual and that clinicians must help each individual arrive at a management decision consistent with his or her values and preferences. |

Adapted from Papadogiannu A, et al. CMAJ 2016;127(15):E1, with permission.

- **Summary of Recommendations Tool –**  
*continued on page 2, backside*
  - Further details *the 2015 Recommendations for Preventing Fractures in Long-Term Care* (Guidelines), for high risk and not high risk residents
    - Calcium dietary intake 1200mg/d and supplementation  $\leq$  500mg/d
    - Vitamin D supplements 800-2000u/d
    - Hip protectors
    - Medications (Alendronate, Risedronate, Denosumab, Zoledronic Acid)
    - Balance, strength and functional training exercises
    - Multifactorial interventions to reduce risk of fractures and falls

# Tools for Physicians/Nurses and Pharmacists Interventions

## • LTC Fracture Prevention Order Set Tool

- Based on the *2015 Recommendations for Preventing Fractures in Long-Term Care* (Guidelines)
- A ready-to-use fracture prevention order set
- Assists health care professionals to review/order
  - Resident's health history especially for prior fractures, falls, dementia, medications, osteoporosis, glucocorticoids
  - Diagnostics and investigations (no BMD needed)
  - Osteoporosis medications, calcium and vitamin D supplementation
  - Dietary consultation
  - Other interventions for fall and fracture prevention

**LTC Fracture Prevention Order Set** The LTC Fracture Prevention Order Set is to be used for all new residents on admission.

Resident Name: \_\_\_\_\_

| HISTORY  | INITIALS |
|--|----------|
| <input type="checkbox"/> Prior fracture: Vertebrae Hip   |          |
| <input type="checkbox"/> More than one prior fracture (excluding hand, wrist, ankle)   |          |
| <input type="checkbox"/> Recently used systemic glucocorticoids and/or fracture prior fracture (excluding hand, foot, ankle)   |          |
| <input type="checkbox"/> Previously identified as high risk for fractures and has received osteoporosis treatment (prior to admission)   |          |
| <input type="checkbox"/> Dementia  |          |
| <input type="checkbox"/> Resident is at risk of falling  |          |
| <input type="checkbox"/> Medication review (Beers' criteria or STOPP/START criteria - psychotropics, selective serotonin reuptake inhibitors (SSRIs), serotonin-norepinephrine reuptake inhibitors (SNRIs), proton pump inhibitors (PPIs)) |          |

| DIAGNOSTICS & INVESTIGATIONS  | INITIALS |
|---|----------|
| <input type="checkbox"/> Chest X-Ray screen for vertebral fracture                              |          |
| <input type="checkbox"/> Thoracic + Lumbar Spine X-Ray (lateral) - rule out vertebral fracture  |          |
| <input type="checkbox"/> CBC, Calcium, Creatinine, Albumin, Alkaline Phosphatase, TSH           |          |
| <input type="checkbox"/> Serum protein electrophoresis (for residents with vertebral fractures) |          |
| <input type="checkbox"/> 25-hydroxy-vitamin D   |          |

| OSTEOPOROSIS MEDICATIONS   | INITIALS |
|--|----------|
| <input type="checkbox"/> Calcium _____ mg once daily   |          |
| <input type="checkbox"/> Vitamin D3 _____ UNITS oral once daily (recommended 800-2000 UNITS) |          |
| <input type="checkbox"/> Alendronate 70mg once weekly  |          |
| <input type="checkbox"/> Udenafil (PDE5i) 100mg sublingual every 6 months                    |          |
| <input type="checkbox"/> Risedronate (Actonel®) 35mg oral once weekly                        |          |
| <input type="checkbox"/> Teriparatide (Forteo®) 20mcg subcut daily                           |          |
| <input type="checkbox"/> Zoledronic Acid (Zometa®) 5mg IV once per year                      |          |

| DIETARY   | INITIALS |
|---|----------|
| <input type="checkbox"/> Dietitian consultation for calcium enrichment diet |          |

| OTHER INTERVENTIONS FOR FALL & FRACTURE PREVENTION  | INITIALS |
|---|----------|
| <input type="checkbox"/> Balance, strength and functional training exercises if at high risk of fractures. Consider other elements of multifactorial intervention to prevent falls and fractures: <ul style="list-style-type: none"><li>___ Hip protectors</li><li>___ Assessment of environmental hazards</li><li>___ Minimization of physical or chemical restraints (no restraint if at all possible)</li><li>___ Bed mobility devices</li><li>___ Bed transferring devices and techniques</li></ul> |          |
| <input type="checkbox"/> Occupational therapy consultation  |          |
| <input type="checkbox"/> Physiotherapy or kinesiology consultation  |          |

Date: \_\_\_\_\_ M/N/P Name: \_\_\_\_\_ Verbal Order Name/Signature: \_\_\_\_\_  
Time: \_\_\_\_\_ M/N/P Signature: \_\_\_\_\_

Per protocol is required to modify, adapt or translate this tool (Email: Papaiouannou@unbc.ca)  
This document is only to be used as a support decision tool  
This tool should be used in conjunction with the "Fracture Prevention for LTC Residents" tool

Adapted from Papaiouannou A. et al. CMAJ 2015;187(15):1611-1616

# Tools for Physicians/Nurses and Pharmacists Interventions

| SAFE ADMINISTRATION THERAPY TOOL FOR OSTEOPOROSIS   |   |  |  |
|---|---|--|--|
| For residents who are at HIGH RISK of fractures, these medications are recommended as FIRST LINE therapy, strong recommendation:  |   |  |  |
| Therapies   | Frequency                                   | Safe Administration Guidance<br>Life Expectancy > 1year  | Key Cautions*  |
| Alendronate<br>70 mg  | Weekly<br>Oral                              | <ul style="list-style-type: none"> <li>Take tablet with 240ml water 30 min PRIOR to eat/drink/medication and in the morning before breakfast.</li> <li><b>Except</b> Risedronate Delayed Release (DR): can be taken immediately after breakfast and is not required to be taken first thing in the morning on an empty stomach.</li> <li>Do NOT crush or chew.</li> <li>Stay upright. Do not lie down for 30 min after taking the tablet.</li> </ul> | <b>For All Oral Bisphosphonates</b> <ul style="list-style-type: none"> <li>✓ Calcium, antacids, and some other oral medications may interfere with bisphosphonate absorption so should be administered at a different time of day.</li> <li>✓ Bisphosphonates are NOT recommended for those with renal insufficiency. Obtain Creatinine Clearance, avoid Alendronate if CrCl&lt;35mL/min; avoid Risedronate if CrCl&lt;30mL/min.</li> <li>✓ For residents who cannot either swallow or have swallowing difficulties, intravenous infusion and injectable therapies are recommended.</li> </ul> |
| Risedronate Sodium<br>35 mg<br>Risedronate DR<br>35 mg  | Weekly<br>Oral                              |  |  |
| Risedronate Sodium<br>150 mg  | Monthly<br>Oral                             |  |  |
| For residents who are at HIGH RISK of fractures and who have difficulty taking oral medications, these medications are recommended as FIRST LINE therapy, strong recommendation:                |   |  |  |
| Therapies   | Frequency                                   | Safe Administration Guidance<br>Life Expectancy > 1year  | Key Cautions   |
| Denosumab<br>60 mg/ml   | Every 6 months<br>subcutaneous<br>Injection | <ul style="list-style-type: none"> <li>Subcutaneous (under the skin) injection.</li> <li>Consider use for residents who cannot sit for 30 minutes post IV treatment.</li> <li>Consider use for residents with difficulty swallowing or intolerance to oral bisphosphonates.</li> </ul>   | <b>Renal Impairment</b> <ul style="list-style-type: none"> <li>✓ Residents with severe renal impairment creatinine clearance &lt;30 mL/min or receiving dialysis may be at greater risk of developing hypocalcemia. Clinical monitoring of calcium levels is recommended.</li> <li>✓ Consider referral to specialist.</li> </ul>   |
| Zoledronic Acid<br>5 mg/100 ml  | Once yearly<br>Intravenous<br>Infusion (IV) | <ul style="list-style-type: none"> <li>MUST drink 2 glasses of fluid / water before &amp; after IV infusion.</li> <li>MUST keep the intravenous infusion intact.</li> <li>Sit during the entire IV infusion.</li> <li>Infusion Rate: a minimum of 15 min. Consider 45 min for improved tolerance.</li> </ul>   | <b>For zoledronic acid post-IV therapy: there may be flu-like, fever and myalgia symptoms:</b> <ul style="list-style-type: none"> <li>✓ Flu-like, fever, myalgia symptoms can occur within 3 days post-IV and can last 7-14 days.</li> <li>✓ Acetaminophen or ibuprofen can reduce the likelihood of post dose symptoms.</li> <li>✓ IV Bisphosphonates are NOT recommended for residents with severe renal impairment and creatinine clearance &lt;30mL/min.</li> </ul>  |
| For residents who are at HIGH RISK of fractures, this medication is suggested, conditional recommendation:  |   |  |  |
| Therapies   | Frequency                                   | Safe Administration Guidance<br>Life Expectancy > 1year  | Key Cautions*  |
| Teriparatide<br>20 mcg subcut   | Daily<br>subcutaneous<br>injection          | <ul style="list-style-type: none"> <li>Injection</li> </ul>  | <ul style="list-style-type: none"> <li>✓ REFER to product monograph or CPS* for information.</li> <li>✓ Cost may restrict access to this medication.</li> </ul>  |
| For residents who are at HIGH RISK of fractures, it is suggested that Raloxifene and Etidronate NOT be used, conditional recommendation.  |   |  |  |
| Always check cautions listed in product monographs provided in *eCPS (Compendium of Pharmaceuticals and Specialties).   |   |  |  |
| Adequate calcium and vitamin D intake is necessary to maintain normal blood calcium levels in residents prescribed these medications (see recommendations for calcium and vitamin D on page 2). |   |  |  |

Permission is required to modify, adapt or translate this tool (Email: [Papaioannou@hsc.ca](mailto:Papaioannou@hsc.ca)). This document is only to be used as a support decision tool. May 2018, ON

- **Safe Administration Therapy Tool for Osteoporosis**
  - Based on the 2015 Recommendations for Preventing Fractures in Long-Term Care (Guidelines)
  - 2-sided summary tool on the recommended pharmaceutical treatments for osteoporosis that are safe for LTC residents, their administration and key cautions
  - High risk residents, recommended first line treatments
    - no dysphagia (Alendronate, Risedronate, RisedronateDR- all oral)
    - with dysphagia (Denosumab (SQ), Zoledronic Acid (IV) )
  - High risk residents, suggested treatment
    - Teriparatide (SQ)
  - Do not prescribe Raloxifene and Etidronate



**PT's, OT's, Kinesiologists,  
PSW's, HCA's, CCA's,  
Dietary/PT/OT Aides,  
Residents, Families**

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**Tools and resources  
to guide your  
treatments and interventions**



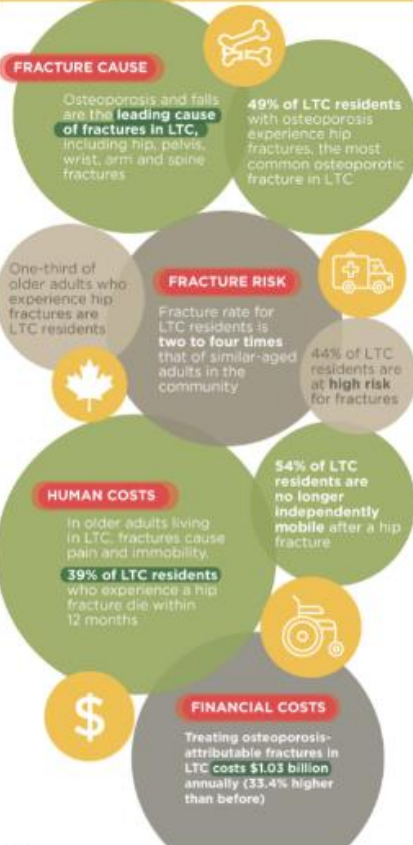
# Multifactorial Interventions

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**More tools and resources**

## OSTEOPOROSIS IN LONG TERM CARE

Older adults living in Long Term Care (LTC) are at high risk of fragility fractures (broken bones from a fall from standing height or less).



Older adults represent Ontario's fastest growing population.

Without preventative action, financial and human costs associated with osteoporotic fractures increase dramatically. As will the risk of re-fracture!

### WHAT IS BEING DONE:

The Ontario Osteoporosis Strategy for Long Term Care is actively developing fracture risk assessment and management tools to prevent fractures among older adults residing in LTC.

For more information, visit  
[www.ostestrategy.on.ca](http://www.ostestrategy.on.ca)



# Conclusion

## • The Guideline and Tools

- Provide multidisciplinary recommendations and related tools and resources for long-term care health care professionals and care teams to improve osteoporosis care and fracture prevention with and for residents and families

## • Overall Goals

- maximize bone health for quality living, prevent pain, maintain mobility, function and socializing, reduce fractures and serious fracture injuries from falls, and minimize transfers to acute care

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## Developed by and special thanks to:

### Osteoporosis Strategy for Long-Term Care Hamilton, ON:

- Mary-Lou van der Horst
- Brittany Graham
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- Pilar Henderson RN - Administrator
- Paula White RN - Director of Care
- Dr. Irene Tuttle - Medical Director
- Perpetua Balibalos - Social Worker
- Roxanne Grevers RPN - RAI Coordinator
- Cindy Wong, RD – Dietitian

#### Falls Committee :

- Mary Ann Santos RPN – Falls Team Lead/WCN
- Brenda Murchison RN – Clinical Coordinator
- Steven MacDonald – Physiotherapy Assistant
- Tara Spencer - RPN
- Jojie Grisola – Personal Support Worker