

# Welcome!

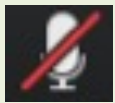
The webinar will begin at 1:30 pm EDT

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N  
A  
O

The screenshot shows a Zoom meeting interface. At the top, a green status bar reads "You are viewing LTC BPP's screen". Below it, a "View Options" dropdown menu is open, showing "Zoom Ratio", "Fit to Window", and "Exit Full Screen". The "Fit to Window" option is selected, with a sub-menu showing zoom levels: 50%, 100%(Original Size), 150%, 200%, and 300%. An orange arrow points to the "View Options" menu with the text "Adjust your screen". At the bottom, a "Control Panel (auto-hide)" is visible, containing icons for Unmute, Start Video, Invite, Participants (with a '2' next to it), Share Screen, Chat, Record, and Leave Meeting.

## Housekeeping

- All lines will be **muted** to ensure sound quality
- This webinar will be **recorded**. Slides will be shared.
- Use the **Chat** box to ask questions along the way.
- Questions will be addressed at the end.



Please stay muted

Click to open the **Participants** box to give *nonverbal* feedback.



raise hand



yes



no



go slower



go faster

# Introduce yourself

Your name (and the names of any others that are with you today)

Name of your LTC home





# PARTNERS IN FALL INJURY PREVENTION: FRACTURE RISK SCALE AND RNAO BEST PRACTICE GUIDELINE ON FALLS

**RNAO LTC Best Practice Program and  
the Ontario Osteoporosis Strategy**

**June 23rd, 2021**

**1:30 – 2:30 PM**

 **OSTEOPOROSIS**



# Introduction



**Freda Poirier and Bev Faubert**  
RNAO LTC Best Practice  
Co-ordinators



**Kate Harvey and Judy Porteous**  
OOS Regional Integration Leads



**Dr. Caitlin McArthur**  
Registered Physiotherapist,  
PhD.



# Overview

- RNAO Best Practice Guideline Program
- Ontario Osteoporosis Strategy
- Dr. Caitlin McArthur
- Linking interventions with the BPG related to falls.
- Fracture prevention resources
- Falls prevention resources



# RNAO Best Practice Guidelines Program

Funded by the Government of Ontario  
since 1999 to:

Develop

Disseminate

Actively support the uptake

of evidence-based clinical

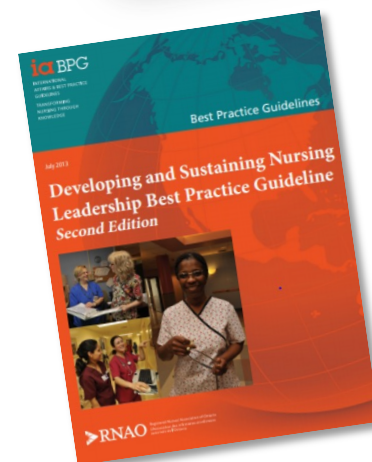
and healthy work environment

best practice guidelines

and to **evaluate** their impact on

patients and residents, as well as

organizational and health system outcomes.



# Program Goal

To improve resident care and resident outcomes, in Ontario long-term care homes, through systematic approaches to the implementation and sustainability of evidence-based practices.



Funded by the Government of Ontario

**RNAO Home Office**



**Heather McConnell**



**Ibo MacDonald**



**Citlali Singh**



**Freda Poirier**

12



**Connie Wood**

9



**Lee Mantini**

10



**Stephanie Kim**

11



**Ruthanne Lobb**

5

8



**Shaila Aranha**

3



**Susan McRae**

7

6



**Sue Sweeney**

2



**Saima Shaikh**

4



**Beverly Faubert**

1



**Deirdre Boyle**



**Heather Woodbeck**

14

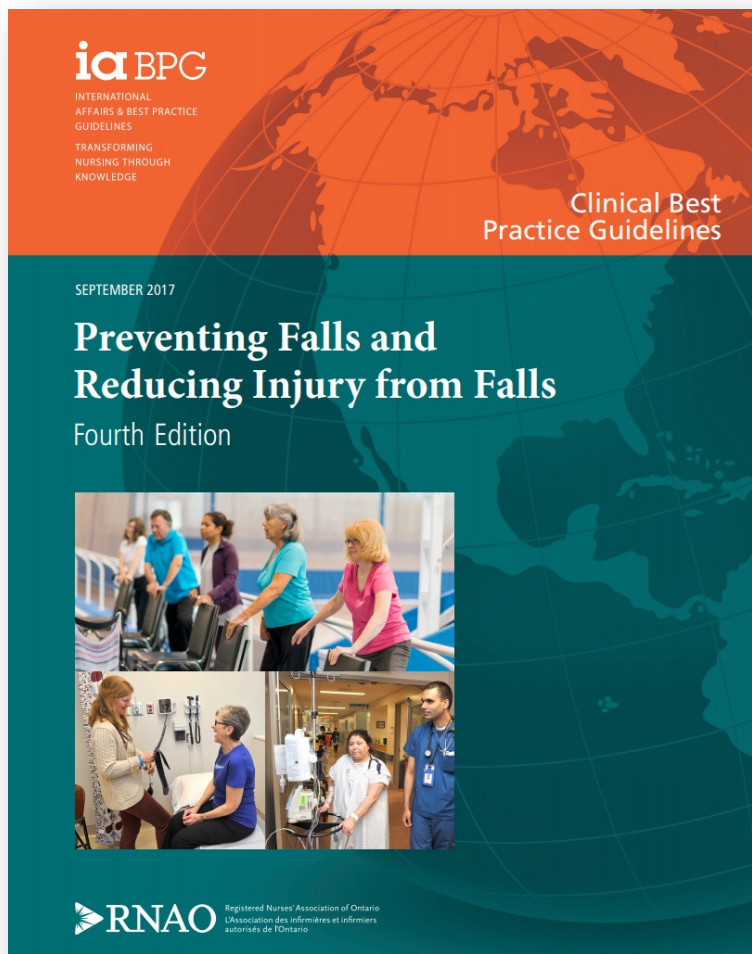


**Amy Reid**

13



# RNAO Best Practice Guidelines



# Kate Harvey

Regional Integration Lead,  
Osteoporosis Canada,  
The Ontario Osteoporosis  
Strategy





**Regional Integration Leads (RIL) for the Ontario Osteoporosis Strategy by region**

**Monica Menecola**



**Marq Nelson**



**Judy Porteous**



**Julian Rawlins**



**Elizabeth Stanton**



**Kate Harvey**



**Jennifer Weldon**



**Lisa Campbell**



The Ontario Osteoporosis Strategy (OOS) is a population-based initiative to improve quality of care for people living with osteoporosis in Ontario.

# The Ontario Osteoporosis Strategy

Working to reduce morbidity, mortality and cost of osteoporotic fractures using a patient-centered, multi-disciplinary approach that is integrated across healthcare sectors.

Three priorities:

- Fracture Prevention
- Health Professional Education and Outreach
- Patient Education and Self Management

with the **goal of reducing osteoporotic hip fractures**



# Osteoporosis Clinical Guidelines

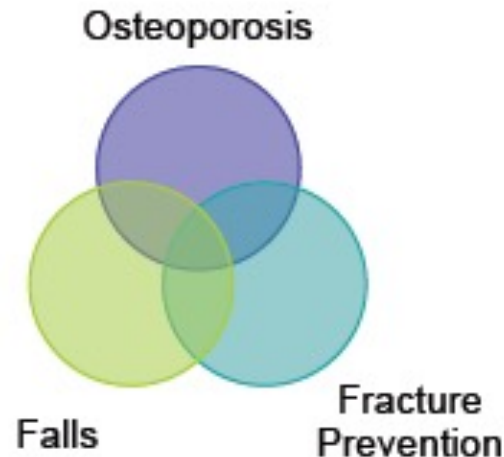
## Recommendations for Preventing Fractures in LTC

The goal of fracture prevention in LTC is to prevent loss of mobility, serious injury, pain, transfers to acute care and ultimately to maximize opportunities for quality living among long-term care residents.



# Fractures and Falls

It's important that osteoporosis, fracture prevention and falls are recognized as **a trio of interrelated health issues** and any intervention targeting one of these three health issues should acknowledge the other two.

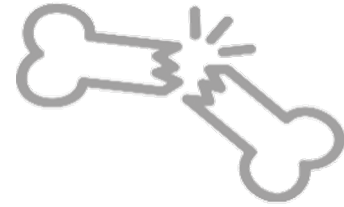


In the chat box tell us:

Is your home using the  
**FRS?**  
(tell us how in the chat box)

# Dr. Caitlin McArthur





# Assessing Fracture Risk in Long-term Care: The Fracture Risk Scale

Dr. Caitlin McArthur


Registered Physiotherapist, PhD

Assistant Professor | School of Physiotherapy | Dalhousie University

**ONTARIO  
OSTEOPOROSIS  
STRATEGY**

**PREVENTING HIP FRACTURES.  
SAVING LIVES.**

[osteostategy.on.ca](http://osteostategy.on.ca)

 **OsteoStrategyON**

# Acknowledgements

## Fracture Risk Scale

**George Ioannidis**, PhD

**Michaela Jantzi**,

**Jenn Bucek**

**Jonathan Adachi**, MD FRCPC

**Lora Giangregorio**, PhD

**John Hirdes**, PhD

**Laura Pickard**, MA

**Alexandra Papaioannou**, MD MSc FRCP(C) FACP

## GERAS Centre – Osteoporosis Strategy Team

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**George Ioannidis**, PhD

**Caitlin McArthur**, PhD

**Loretta M. Hillier**, MA

**Mary Lou Van der Horst**, RN, MBA

**Erin Young**, BA

## LTC Fracture Prevention Recommendations

**Alexandra Papaioannou**, MD MSc FRCP(C) FACP

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**Sid Feldman**, MD CCFP FCFP

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**Laura Pickard**, MA

**Hope Weiler**, RD PhD

**Susan Whiting**, PhD

**Carly J. Skidmore**, MSc

**Angela M. Cheung**, MD PhD

**Scientific Advisory Committee of Osteoporosis Canada**

# Osteoporosis

## Normal Bone



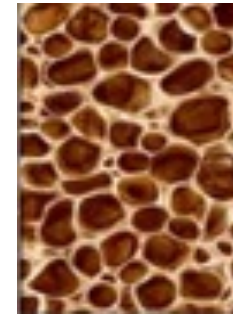
**STRONG  
and  
COMPACT**

- 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



# 2 Kinds of Fractures

Generally, there are **2 kinds of fractures** that residents may sustain.

## 1. Caused by trauma (usually the impact from a fall)

Residents with osteoporosis are more likely to experience a broken bone or “**fragility fracture**” when they fall from



- Standing height
- Beds
- Chairs
- Wheelchairs
- Wheeled walkers
- Walkers



# 2 Kinds of Fractures

## 2. Spontaneous

Residents with osteoporosis are more likely to experience a “**spontaneous fracture**” without any known cause and no known trauma. It happens “*out of the blue*”.

### Examples

- A resident may suddenly complain of severe back pain
- A resident may unexpectedly have increased responsive behaviours.

# Most common fracture sites

- **Spine** - Compression fractures are a diagnosis that many residents with osteoporosis have when they move in to LTC/CC (residential care)
- **Wrist** - Wrists can break as a result of residents trying to stop their fall
- **Shoulder** – Residents tend to fall sideways from poor balance and weakened leg muscles; and may land on their shoulder
- **Hip** - Residents tend to fall sideways from poor balance and weakened leg muscles; and may land directly on their hip





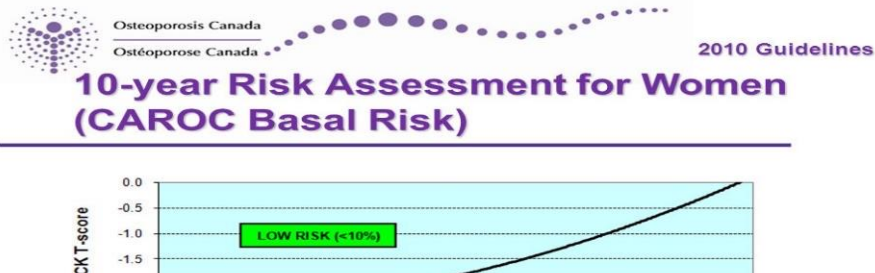
# Fractures can be devastating for LTC residents



Papaioannou A, et al. *Osteoporos Int* 2001; 12(10):870-874.  
Ioannidis G, et al. *CMAJ* 2009; 181(5):265-271.  
Papaioannou A, et al. *CMAJ*; 2015. 187 (15): 1135-44.  
Tosteson AN, et al. *Osteoporos Int* 2007; 18(11):1463-1472.  
Neuman MD, et al. *JAMA*, 2014; 174(8):1273-1280.

# Current Fracture Risk Assessments

## CARO



## FRAX

Country : US (Caucasian) Name / ID : Jane Doe About the risk factors ⓘ

Questionnaire:

1. Age (between 40-90 years) or Date of birth  
Age: 74 Date of birth: Y: 1935 M: 4 D: 20

2. Sex  Male  Female

3. Weight (kg) 65

10. Secondary osteoporosis  No  Yes

11. Alcohol 3 or more units per day  No  Yes

12. Femoral neck BMD (g/cm<sup>2</sup>)  
Hologic .7 T-score: -1.3

Clear Calculate

Not tailored for use in LTC

Greenspan S et al. JAGS, 2012;60(4): 689-90.

# Fracture Risk



## Scale (FRS)

*Assessing fracture risk for LTC residents  
to put strategies into place to prevent fractures*

Ioannidis G, et al. *BMJ Open*, 2017;7.



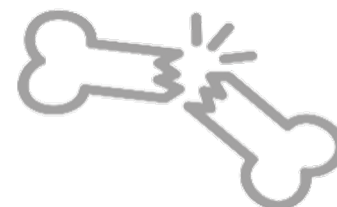
- ✓ Prevent fractures
- ✓ Improve quality of life for residents
- ✓ Improve care

# The FRS:

- ✓ Predicts hip fractures for LTC residents
- ✓ Requires no additional documentation or resources
- ✓ Does not require BMD testing
- ✓ Validated across Canada

Ioannidis G, et al. *BMJ Open*, 2017;7.  
Negm A, et al. *BMC Geriatrics*, 2018; 18(320).





Open Access

Research

**BMJ Open** Development and validation of the Fracture Risk Scale (FRS) that predicts fracture over a 1-year time period in institutionalised frail older people living in Canada: an electronic record-linked longitudinal cohort study

George Ioannidis,<sup>1,2</sup> Micaela Jantzi,<sup>3</sup> Jenn Bucek,<sup>3</sup> Jonathan D Adachi,<sup>1,2</sup> Lora Giangregorio,<sup>4</sup> John Hirdes,<sup>2</sup> Laura Pickard,<sup>1,2</sup> Alexandra Papaioannou<sup>1,2</sup>

Negm et al. BMC Geriatrics (2018) 18:220  
http://dx.doi.org/10.1186/s12877-018-1010-1

BMC Geriatrics

RESEARCH ARTICLE

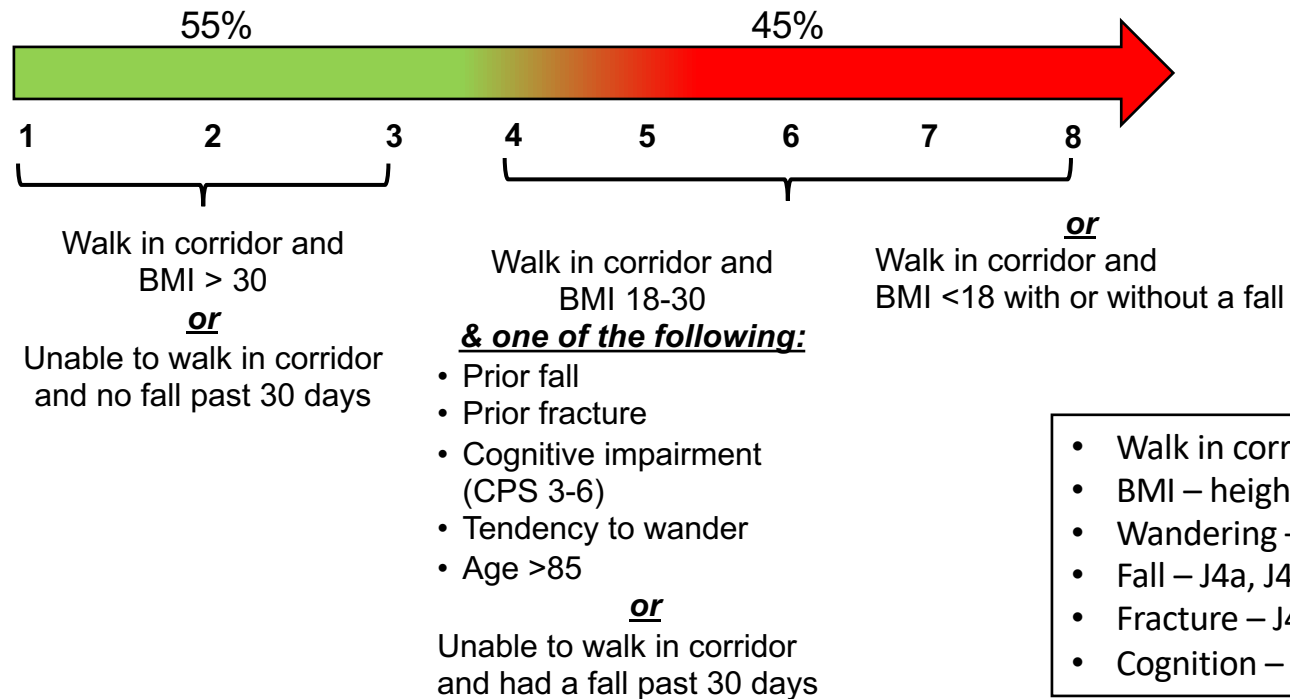
Open Access

Validation of a one year fracture prediction tool for absolute hip fracture risk in long term care residents



Ahmed M. Negm<sup>1,2\*</sup>, George Ioannidis<sup>1,3</sup>, Micaela Jantzi<sup>4</sup>, Jenn Bucek<sup>4</sup>, Lora Giangregorio<sup>1,5</sup>, Laura Pickard<sup>1,2</sup>, John P. Hirdes<sup>4</sup>, Jonathan D. Adachi<sup>3</sup>, Julie Richardson<sup>1,6</sup>, Lehana Thabane<sup>6</sup> and Alexandra Papaioannou<sup>1,3\*</sup>

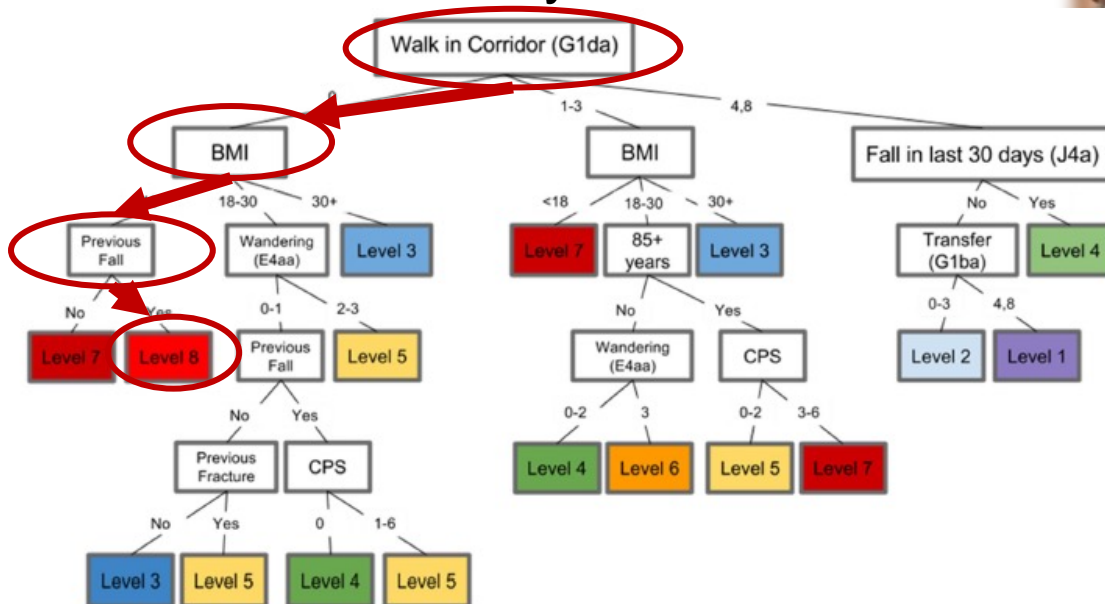
# How to interpret FRS Scores:



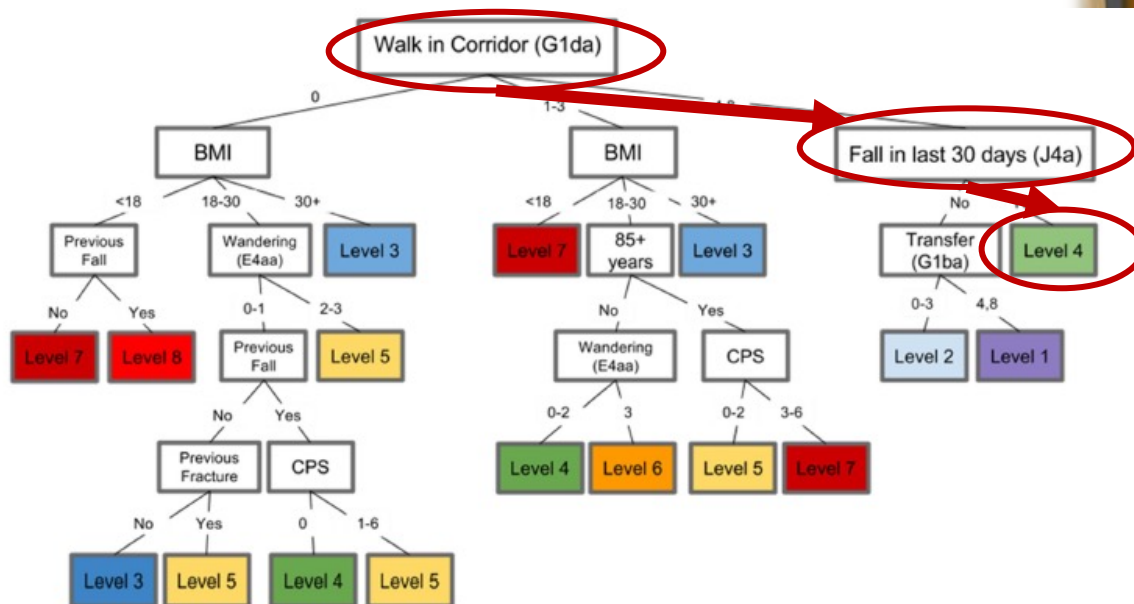
Ioannidis G, et al. *BMJ Open*, 2017;7.



- walks independently in corridor
- BMI of <18
- had a fall in last 180 days

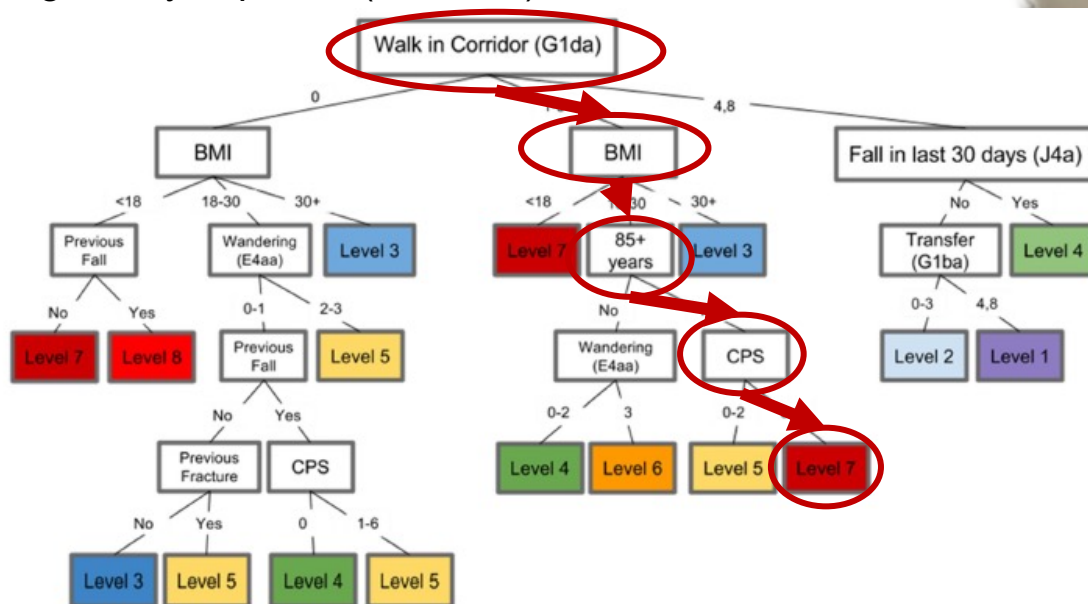


- Unable to walk
- Has fallen in the past 30 days

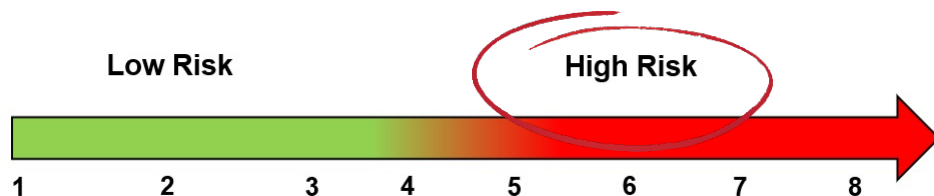




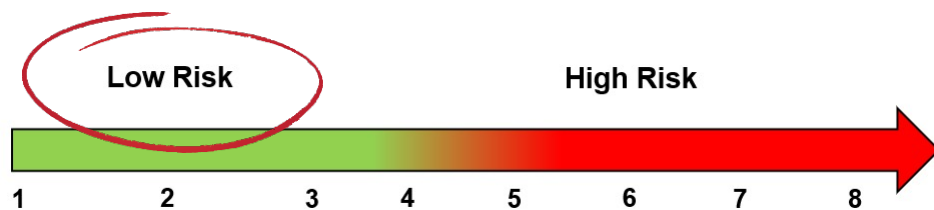
- walks in the corridor with assistance
- BMI between 18 and 30
- is > 85 years of age
- is cognitively impaired (CPS > 3)



- walks independently in corridor
- BMI of <18
- had a fall in last 180 days

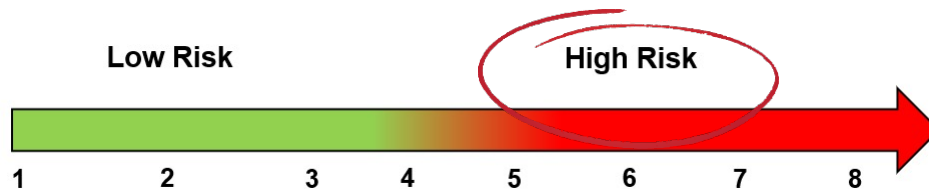


- Unable to walk
- Has not fallen in the past 30 days





- walks in the corridor with assistance
- BMI between 18 and 30
- is > 85 years of age
- is cognitively impaired (CPS > 3)



# Some Cautions

- FRS assesses risk for hip fracture but may underestimate the risk for vertebral fractures
- FRS calculates risk based on variables available in the RAI-MDS 2.0 – other risk factors may exist that are not included



Ioannidis G, et al. *BMJ Open*, 2017;7.



PREVENTING HIP FRACTURES.  
SAVING LIVES.



# Where do I find the FRS score for my resident?

## PointClickCare®

RAI-MDS (MDS 2.0) / LTCF



Outcomes Summary Report

# Viewing a Resident's FRS

**PointClickCare**

Home Admin Clinical QIA GLAP Reports

**Sinatra, Barbara (00006) IPC**

Status: Current Location: Rainy Meadows 101-A  
Gender: Female DOB: 3/10/1927 Age: 93  
Physician: Johnny BeGood

Care Profile Edit Print

Allergies: No Known Allergies

Dash Profile Census Med Diag Allergy Immun Orders Wts/Vitals Results **MDS** Assmnts Prog Note Care Plan Support Actions Misc

Canadian CCRS MDS 2.0 New

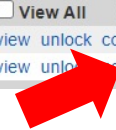
Next Full: ARD: 4/2/2021 - 123 days Next Qtrly: ARD (Q1): 7/2/2020 - 151 days overdue

Date	Description
4/1/2020	Admission assessment (required by day 14) Full
4/1/2020	Admission assessment (required by day 14) Face Sheet

1. Navigate to the Resident's MDS tab



2. Click Print



3. Check the Outcome Summary Report box



Print Options - Google Chrome

www1.pointclickcare.com/care/reports/printpopup.j...

**Printing options**

Select print options

- MDS Assessments
- Section V
- RAPS Worksheets
- RAPS T...
- Outcome Summary Report
- Note Report
- Warnings Report
- Audit Report

Print Cancel

4. Click on print



# Viewing a Resident's FRS Score

Outcomes	
RUG	SSC
CMI	1.4
CPS	0
DRS	10
COMM	0
PAIN	1
ISE	5
ADL Short	16
ADL Long	28
ADL Self	6
CHESS	0
ABS	8
PSI	9
PURS	3
FRS	4


The Outcome Scores Report will be generated.

This will give the FRS Score for that MDS Assessment.

# Viewing a Resident's FRS Score

Home Admin Clinical QIA GLAP Reports Search

---



**Sinatra, Barbara (00006) IPC**

Status: Current Location: Rainy Meadows 101-A  
 Gender: Female DOB: 3/10/1927 Age: 93  
 Physician: Johnny BeGood

Care Profile Edit Print

Allergies: No Known Allergies

10 of 11 Prev Next

Current Vitals			
BP:	Temp:	Pulse:	Weight:
Resp:	BS:	O2:	Pain:

**Dash** Profile Census Med Diag Allergy Immun Orders Wts/Vitals Results MDS Assmnts Prog Note Care Plan Support Actions Misc

Resident Dashboard

Edit Layout Printable View

Views: Main

UDA Scores in the Last 6 Months			
ARD	Type	Category	Score
No Records Found.			
		DRS	10
		COMM	0
		PAIN	1
		ISE	5
		ADL Short	16
		ADL Long	28
		ADL Self	6
		CHESS	0
		ABS	8
		PSI	9
		PHPS	2
		FRS	4

An individual FRS can also be viewed by navigating to the resident *Dash* and viewing the MDS Scores



# Assessment Scoring Report

2. Select date range
- single residents over time
  - multiple residents at one time point

3. Use the magnifying glass to open the assessment score types

4. Select FRS

5. Click Update

6. Run Report

Assessment Scoring Report Setup

Report Options

Resident Number:  Leave blank for all residents  
Resident:

Unit:

Floor:

Current Residents Only:

Date Range:  to

Report on most recent assessments only:

Exclude assessment when Outcome Measure could not be calculated for all selected scores:

Assessment Type:

Scoring:

Assessment Status:

Reason for Assessment:

Scoring Types

- RUG
- CMI
- CPS (Cognitive Performance Scale)
- DRS (Depression Rating Scale)
- Communication Scale
- Pain Scale
- CHESS (Changes in Health, End-stage disease and Signs and Symptoms)
- Index of Social Engagement
- ADL Short Form
- ADL Long Form
- ADL Self-Performance Hierarchy
- ABS (Agressive Behaviour Scale)
- PSI (Personal Severity Index)
- FRS (Fracture Risk Scale)

# Clinical Pearls

- ✓ **Regular risk assessment is important** – use FRS on admission, quarterly, or when the resident's status changes
- ✓ **Provide patient-centred care** – involve the resident and family in goals of care and treatment options

# Now I know their FRS score...

What can I do to prevent fractures for high risk residents?



# Fracture Prevention Guidelines

- Directed at interprofessional teams caring for frail older adults in LTC
- Integration of osteoporosis and falls assessment and management to reduce fractures

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

CMAJ

GUIDELINES

CME

## 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 MBBCh, Sharon Kaasalainen PhD, Paul Katz MD, Andrea Moser MD MSc, Laura Pickard MA, Hope Weiler 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://onlinelibrary.wiley.com/doi/10.1111/cma.12131>

**T**he 2010 clinical practice guideline for the diagnosis and management of osteoporosis in Canada<sup>1</sup> focused on the care of adults living in the community. However, the fracture rate for adults living in long-term care (residents) is two to four times that of adults of similar age living in the community, and one-third of older adults who experience hip fracture are residents in long-term care.<sup>2</sup> Hip fracture is one of the most serious consequences of osteoporosis and also one of the leading causes of admission to hospital.<sup>3</sup> When residents return to long-term care after a hospital stay, they need additional hours of specialized care.<sup>4</sup> In addition, fracture pain and delirium frequently associated with analgesia are distressing for residents and their families. Vertebral fractures are also a concern for residents, and the reported prevalence is up to 30% (for at least one moderate to severe fracture).<sup>5</sup> Multiple vertebral fractures can be a substantial cause of pain, anxiety, depression, reduced pulmonary function<sup>6</sup> and agitation.

Frail older adults at high risk of fracture in long-term care face other challenges. More than 40% have dementia,<sup>7</sup> a similar percentage experience swallowing difficulties,<sup>8,9</sup> and over 20% may have renal insufficiency.<sup>10,11</sup>

It may be difficult to identify residents at high risk of fracture, as the current fracture risk assessment tools (the Canadian Association of Radiologists and Osteoporosis Canada tool<sup>12</sup> [CAROC], [www.osteoporosis.ca/multimedia/pdf/CAROC.pdf](http://www.osteoporosis.ca/multimedia/pdf/CAROC.pdf)) and the Canadian WHO Fracture Risk Assessment Tool [FRAX; [www.shef.ac.uk/FRAX/](http://www.shef.ac.uk/FRAX/)]) provide 10-year fracture risk and have not been validated in long-term care, where over 20% of residents may die within one year of admission.<sup>13,14</sup> Most research regarding risk assessment and pharmacologic therapies has not included those with multiple comorbidities.<sup>15,17</sup>

### 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>18</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-

### Competing interests:

None declared.

This article has been peer reviewed.  
Correspondence to: Alexandra Papaioannou, [papaioannou@luc.cmc](mailto:papaioannou@luc.cmc)  
CMAJ 2015, 187(15):1135-1144

### KEY POINTS

- In older adults living in long-term care (residents), fractures cause pain, agitation, immobility and transfer 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 one prior fracture and recent use of glucocorticoids.
- Recommendations for preventing fractures 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.

Papaioannou A, et al. *CMAJ*; 2015. 187 (15): 1135-44.

# For residents at high risk (scores 4-8)



Recommend calcium 1200mg/d preferably dietary, or supplemental, and vitamin D 800-2000IU



Consider medications to treat osteoporosis and prevent fracture



Promote exercise for improving balance, strength and function



Implement fall prevention strategies  
Consider hip protectors



Work as a team with residents and families  
combining interdisciplinary care strategies to meet  
their care needs

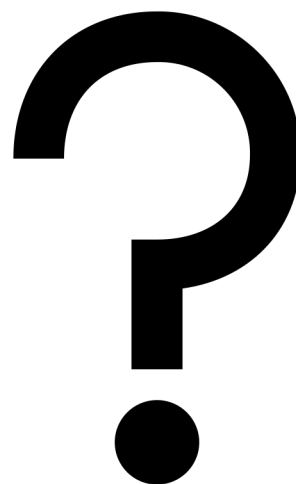
Papaioannou A, et al. *CMAJ*; 2015. 187 (15).

# Chat box feedback:

How your homes are using the FRS...



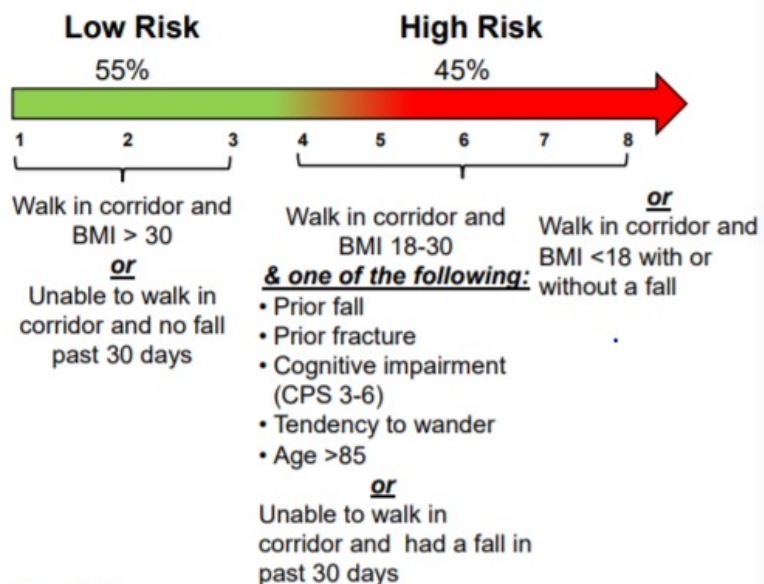
 @McArthurCaitlin



[caitlin.mcarthur@dal.ca](mailto:caitlin.mcarthur@dal.ca)

# What's the Connection?

## Fracture Risk Scale Scores – Hip Fracture Risk



Ioannidis G, et al. *BMJ Open*, 2017;7.

**iaBPG**  
INTERNATIONAL AFFAIRS & BEST PRACTICE GUIDELINES  
TRANSFORMING NURSING THROUGH KNOWLEDGE

Clinical Best Practice Guidelines

SEPTEMBER 2017

### Preventing Falls and Reducing Injury from Falls

Fourth Edition

**RNAO** Registered Nurses' Association of Ontario  
L'Association des infirmières et infirmiers autorisés de l'Ontario

# Comprehensive Assessment

## RECOMMENDATION 1.2a:

For adults at risk for falls, conduct a comprehensive assessment to identify factors contributing to risk and determine appropriate interventions. Use an approach and/or validated tool appropriate to the person and the health-care setting.

Level of Evidence: III

Quality of Evidence: Reviews = strong and moderate; guidelines = strong

## Fracture Risk Scale (FRS)

- Validated tool for assessing fracture risk for LTC residents
- First tool developed and validated to predict hip fracture for LTC residents over a 1-year time period
- Supports clinical decisions in care-planning by identifying who is at risk
- Available in PointClickCare (auto-generated from MDS 2.0 data)

# Exercise and Physical Training

## RECOMMENDATION 2.5:

Recommend exercise interventions and physical training for adults at risk for falls to improve their strength and balance. Encourage an individualized, multicomponent program/activity that corresponds to the person's current abilities and functioning.

**Level of Evidence: Ia**

**Quality of Evidence: Reviews= strong, moderate, and low; guidelines = strong**

## Discussion of Evidence:

Exercise interventions and physical training<sup>G</sup> improve strength and balance, and reduce falls and fall injuries, particularly fractures (El-Khoury, Cassou, Charles, & Dargent-Molina, 2013; Gillespie et al., 2012; NICE, 2013; Stubbs, Brefka, et al., 2015; U.S. Preventive Services Task Force, 2012). The majority of evidence focused on exercise interventions among older adults (or known high-risk populations, such as individuals with Parkinson's disease) in community settings. In order to determine potential interventions, health-care providers should be aware of the various types of exercise interventions found to benefit people at risk for falls. [Appendix H](#) summarizes a range of exercise and physical training interventions, including core strength, stepping, interactive cognitive-motor, and perturbation-based balance training, Pilates, exergaming, falls prevention exercise programs, foot and ankle exercises, individualized exercise, tai chi, and yoga.



# Vitamin D

## RECOMMENDATION 2.7:

Refer adults at risk for falls or fall injuries to the appropriate health-care provider for advice about vitamin D supplementation.

**Level of Evidence: V**

**Quality of Evidence: Reviews = strong and moderate; guidelines = strong and moderate**

## RECOMMENDATION 2.8:

Encourage dietary interventions and other strategies to optimize bone health in adults at risk for falls or fall injuries, particularly those at risk for fracture. Refer to the appropriate health-care provider for advice and individualized interventions.

**Level of Evidence: V**

**Quality of Evidence: Guideline = strong and moderate; expert panel**

# Gap Analysis

A process used to determine how close your current practices are to best practices

Completing a gap analysis will help you to identify:

- Areas for evidence-based practice change
- Infrastructure changes
- Educational needs for staff

A gap analysis is:

- One form of evaluation for your mandatory programs
- Helpful for developing quality improvement plans

Gap Analysis - Preventing Falls and Reducing Injury from Falls

Date Completed: \_\_\_\_\_

Team Members participating in the Gap Analysis:

• _____	• _____
• _____	• _____
• _____	• _____

Completion of this gap analysis allows for the annual comparison of your current practice to evidence-based practices as regulated by the MOHLTC. See Appendix A for this and other regulations that apply to a falls program in your home.

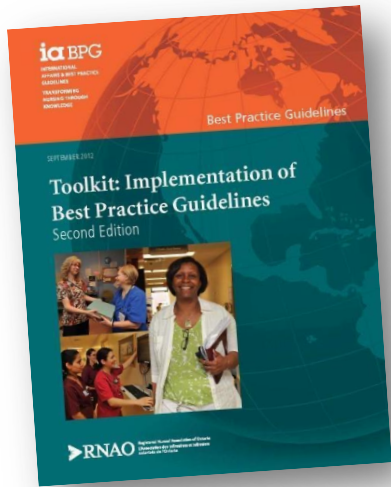
RNAO Best Practice Guideline Recommendations	Met	Partly Met	Not Met	Notes (Examples of what to include: is this a priority to our home, information on current practice, possible overlap with other programs or partners)
<b>Practice Recommendations: 1.0</b>				
1.1 Screen all adults to identify those who are at risk for falls. Conduct screening as part of admission processes, after any significant change in health status, or at least annually. Screening should include the following approaches: <ul style="list-style-type: none"> <li>• identifying a history of previous falls;</li> <li>• identifying gait, balance, or mobility difficulties; and</li> <li>• using clinical judgment. <small>(Level of Evidence - U, B, V)</small></li> </ul>			Current:  Opportunity:	
1.2a For adults at risk for falls, conduct a comprehensive assessment to identify factors contributing to risk and determine appropriate interventions. Use an approach and/or validated tool appropriate for the person and health-care setting. <small>(Level of Evidence - III)</small>				Current:  Opportunity:
1.2b Refer adults with recurrent falls, multiple risk factors or complex needs to the appropriate clinician(s) or interprofessional team for further assessment and to identify appropriate interventions. <small>(Level of Evidence - V)</small>				Current:  Opportunity:
<b>Practice Recommendations: 2.0</b>				
2.1 Engage adults at risk for falls and fall injuries using the following actions: <ul style="list-style-type: none"> <li>• explore their knowledge and perceptions of risk, and level of motivation to address risk;</li> <li>• communicate sensitively about risk and use positive messaging;</li> <li>• discuss options for interventions and support self-management;</li> <li>• develop an individualized plan of care in collaboration with the persons;</li> <li>• engage family (as appropriate) and promote social support for interventions; and</li> <li>• evaluate the plan of care together with the person (and family) and revise as needed. <small>(Level of Evidence - U, III, B, V)</small></li> </ul>			Current:  Opportunity:	



# Where Do We Begin?

- Identify an area for quality improvement eg: falls, restraint use, pain management etc.
- Talk to your DOC & contact your LTC Best Practice Coordinator
- Pull together a small inter-disciplinary group to participate and form a team: DOC, PSW, RPN, RN, PT...
- Complete gap analysis with LTC BPC
- Determine priority recommendations
- Review resources provided by LTC BPC
- Develop action plan getting team input
- Implement, monitor, evaluate and sustain practice changes
- Celebrate Successes
- Yearly gap analysis review and ongoing action planning

# Step-by-Step BPG Implementation Toolkit



The toolkit helps you:

- Plan, implement, monitor, evaluate, and sustain evidence based practice changes

The toolkit is based on Knowledge to Action Framework which helps you to identify:

- Problems and gaps in practice
- Key stakeholders and resources needed
- Infrastructure and process changes needed
- Facilitators and barriers to success

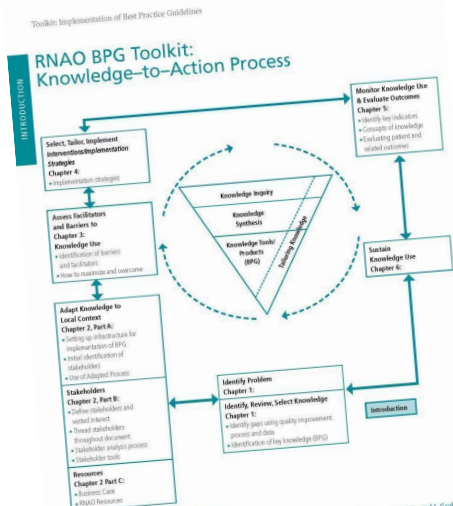
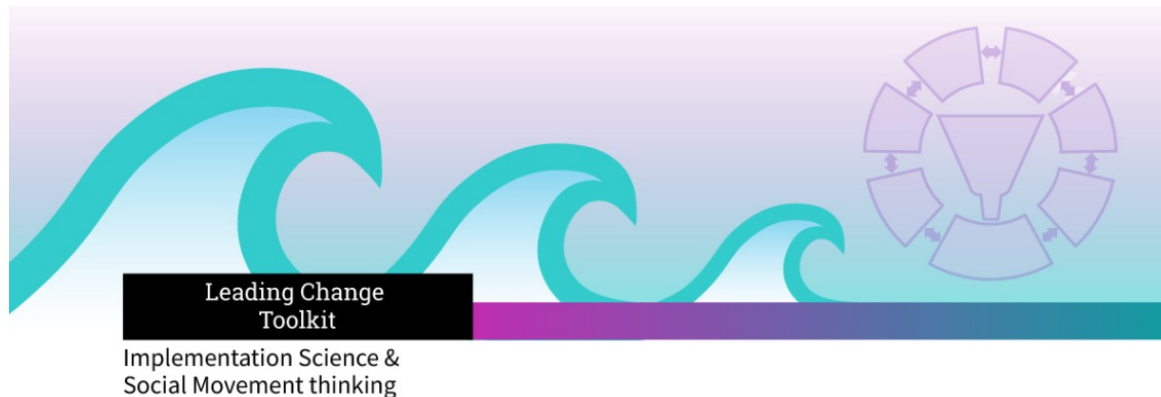


Figure 1: Revised Knowledge-to-Action Framework  
Adapted from "Knowledge Translation in Health Care: Moving from Evidence to Practice", S. Straus, J. Tetroe, and L. Graham.  
Copyright 2009 by the Blackwell Publishing Ltd. Adapted with permission.

*Remember...*

*Making a plan without the right tools is like making a cake without a recipe. It can be done but you may not get your desired outcome.*

# Leading Change Toolkit Coming Soon



- Late spring 2021 roll out
- Replaces implementation toolkit
- Online resource
- Includes structured processes that are guided by the Knowledge to Action Framework and Social Movement approaches



More information about osteoporosis and the fracture prevention recommendations is available at:

- <https://www.gerascentre.ca/osteoporosis-strategy-for-long-term-care>
- <https://ostestrategy.on.ca/toolbox/ltc-toolbox/ltcresources>
- <https://osteoporosis.ca>

# Go To:



Fracture Prevention Toolkit

<https://ostestrategy.on.ca/>



## Osteoporosis Long-Term Care



### Fracture Prevention TOOLKIT



**Tools & Resources**  
Check out our list of comprehensive resources



**Fracture Risk Scale**  
Learn more about the FRS, a validated tool for assessing fracture risk in LTC residents



**Residents**  
Osteoporosis seniors and



**Guidelines**  
The guideline, [Recommendations for Preventing Fracture in Long-Term Care](#) is the first guideline in Canada focused on preventing fractures among the frail and elderly in long-term care.



**Videos**  
Videos for health professionals on falls prevention and long term care resident stories on their journey with osteoporosis and fractures.



**Presentations**  
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.





# For healthcare providers

www.gerascentre.ca/osteoporosis-ltc-resources-for-health-professionals-2/

ONTARIO  
OSTEOPOROSIS  
STRATEGY

## 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 Life Expectancy > 1 year	Key Cautions*
Alendronate 70 mg	Weekly Oral	• Take tablet with 240ml water 30 min PRIOR to eat/drink/medication and in the morning before breakfast.	For All Oral Bisphosphonates ✓ Calcium, antacids, and some other oral medications may interfere with bisphosphonate absorption so should be administered at a different time of day. ✓ Bisphosphonates are NOT recommended for those with renal insufficiency. Obtain creatinine clearance, avoid Alendronate if CrCl<30ml/min, avoid Risedronate if CrCl<30ml/min. ✓ For residents who cannot either swallow or have swallowing difficulties, intravenous infusion and injectable therapies are recommended.
Risedronate Sodium 35 mg Risedronate DR 35 mg	Weekly Oral	• Except 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. • Do NOT crush or chew.	
Risedronate Sodium 150 mg	Monthly Oral	• Stay upright. Do not lie down for 30 min after taking the tablet.	

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 Life Expectancy > 1 year	Key Cautions
Denosumab 60 mg/mg	Every 6 months subcutaneous injection	• Subcutaneous (under the skin) injection. • Consider use for residents who cannot sit for 30 minutes post IV treatment. • Consider use for residents with difficulty swallowing or intolerance to oral bisphosphonates.	Renal Impairment ✓ Residents with severe renal impairment (creatinine clearance <30 ml/min or receiving dialysis) may be at greater risk of developing hypocalcemia. Clinical monitoring of calcium levels is recommended. ✓ Consider referral to specialist.
Zoledronic Acid 5 mg/100 ml	Once yearly intravenous infusion (IV)	• MUST drink 2 glasses of fluid / water before & after IV infusion. • MUST keep the intravenous infusion intact. • Sit during the entire IV infusion. • Infusion Rate: a minimum of 15 min. Consider 45 min for improved tolerance.	For zoledronic acid post-IV therapy, there may be flu-like, fever and myalgia symptoms: ✓ Flu-like, fever, myalgia symptoms can occur within 3 days post-IV and can last 7-14 days. ✓ Acetaminophen or Ibuprofen can reduce the likelihood of post dose symptoms. ✓ IV Bisphosphonates are NOT recommended for residents with severe renal impairment and creatinine clearance <30ml/min.

For residents who are at HIGH RISK of fractures, this medication is suggested, conditional recommendation.

Therapies	Frequency	Safe Administration Guidance Life Expectancy > 1 year	Key Cautions*
Teriparatide 20 mg subcut	Daily subcutaneous injection	• Injection	✓ REFER to product monograph or CPS* for information. ✓ Cost may restrict access to this medication.

For residents who are at HIGH RISK of fractures, it is suggested that Raloxifene and Estrogens NOT be used, conditional recommendation.

Always check cautions listed in product monographs provided in \*CPS (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: Papapanagos@ttsc.ca). This document is only to be used as a support decision tool. May 2016, ON

Fracture Prevention for Long-Term Care Residents

Permission is required to modify, adapt or translate this tool (Email: Papapanagos@ttsc.ca). This document is only to be used as a support decision tool.

Adapted from Papapanagos, A et al. CMAJ 2015 187(16), with permission

### LTC Fracture Prevention Order Set

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

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

**HISTORY** INITIALS

Prior fracture: Vertebrae Hip  
 More than one prior fracture (excluding hance, toe, ankle)  
 Recently used systemic glucocorticoids and were taken prior to fracture (including boric, oral, IV)  
 Previously identified high risk for fractures and has received osteoporosis treatments (prior to admission)  
 Demands  
 Resident is at risk of falling  
 Medication review (use of lithium or STOP/START criteria - psychotropics, anticholinergics, respiratory inhibitors (S2S), serotonin reuptake inhibitors, proton pump inhibitors (PPIs))

**DIAGNOSTICS & INVESTIGATIONS** INITIALS

Chest X-Ray screen for vertebral fractures  
 Thyroid - Lateral Spine (4-6 views) - rule out vertebral fracture  
 CBC, Calcium, Creatinine, Albumin, Alkaline Phosphatase, TSH  
 Serum parathyroid hormone (for residents with vertebral fractures)  
 25-Hydroxyvitamin D

**OSTEOPOROSIS MEDICATIONS** INITIALS

Calcium \_\_\_\_\_ mg once daily  
 Vitamin D \_\_\_\_\_ UNITS oral once daily (recommended 800-2000 UNITS)  
 Alendronate 70mg once weekly  
 L Lacey Calcium (oral) 10mg tablet every 6 months  
 Risedronate (Actonel) 35mg oral once weekly  
 Denosumab (Actonel) 60mg oral once weekly  
 L Risedronate (Actonel) 150mg oral once monthly  
 L Zoledronic Acid (Zometa) 5mg IV once per year

**OTHERS** INITIALS

Medication reconciliation for resident medication list

**OTHER INTERVENTIONS: FALL RISK & FRACTURE PREVENTION** INITIALS

Assess strength and functional/transfer assistance if at high risk of fractures. Consider other elements of multifactorial intervention to prevent falls and fractures:  
 - gait belt  
 - assessment of environmental hazards  
 - Minimization of physical or chemical restraints (restraint if at all possible)  
 - Safe mobility devices  
 - Safe transferring devices and techniques  
 Occupational therapy consultation  
 Physical therapy or kinesiologic consultation

Date: \_\_\_\_\_ M.D./P. Name: \_\_\_\_\_ M.D./P. Name: \_\_\_\_\_  
 Time: \_\_\_\_\_ M.D./P. Signature \_\_\_\_\_

Per resident & caregiver to identify, adapt or translate this tool (Email: Papapanagos@ttsc.ca). This document is only to be used as a support decision tool. May 2016, ON  
 THE ALTA HEALTH SERVICES (ALTA) THE HEALTH PROFESSIONS ACT (R.S.A. 2000, c. 42) Applied: The Health Professions Act, c. 42, R.S.A. 2000, c. 42, with permission



PREVENTING HIP FRACTURES.  
SAVING LIVES.





# Educational Videos

<https://www.gerascentre.ca/osteoporosis-long-term-care-video-gallery/>



## Meeting the Challenges of Osteoporosis – English Version

Learn about the challenges of osteoporosis as well strategies to prevent falls and fractures in LTC.

[Learn More](#)



## Combatting Fear with Knowledge About Osteoporosis

Mark shares his experience of caring for his mother who has osteoporosis.

[Learn More](#)



## The Presence of Pain and Undiagnosed Osteoporosis

Devora shares her experience living with osteoporosis.

[Learn More](#)

## Four topics:

- Personal Support Workers
- Physiotherapists & Physiotherapy Assistants
- Group Exercise Trainers & Exercise Professionals
- Restorative Care

# For residents and family members

<https://www.gerascentre.ca/resources-for-residents-families/>

## KEEPING IT TOGETHER!

Osteoporosis is a condition that causes bones to become thin, decreasing bone strength and leading to increased risk of breaking a bone. Osteoporosis is often called the 'silent thief' because bone loss occurs without symptoms. Surprisingly often, people find out they have osteoporosis after they have fractured a bone. The most common fractures are in the hip, spine, wrist and shoulder.



**WHY?** Fractures in Long-Term Care are very common. They can cause severe pain, disability and be fatal. If we can reduce serious falls and fractures, we can achieve reduced hospital transfers, immobility, pain and most importantly improve quality of life!

**HOW?** Start the conversation on how to reduce fractures! Know your risk, become aware of your treatment options and work together.

## STARTING THE CONVERSATION ON OSTEOPOROSIS

### ASK YOURSELF

- Have I ever broken a hip or bone since age 55?
- Has anyone in my family broken a bone or had osteoporosis?
- Has my back posture changed so I am more hunched over?
- Am I shorter than in my early adulthood?
- Do I take medications for osteoporosis?
- Have I been asked my goal of care?

### ASK YOUR LEADERSHIP/ ADMINISTRATION

- How can we make sure residents have diets rich in calcium and vitamin D?
- How can we make sure residents benefit from vitamin D supplements?
- Are our staff trained to identify residents at risk for fractures?
- Do we have osteoporosis and fracture prevention as part of our falls program?
- What interventions do we have to prevent fractures and fractures from falls?

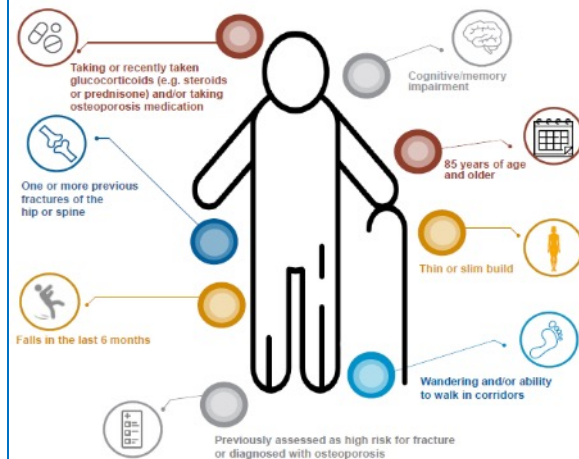
### ASK YOUR PHYSICIAN/ CARE TEAM LEADS

- Am I on or should I be on osteoporosis medications?
- Am I on the appropriate Calcium and Vitamin D therapy?(older adults)
- Am I doing the right resistance and balance exercises to strengthen my muscles and improve my balance?
- Am I doing safe transfers to protect my spine and other bones?

## Fracture Risk Factors for LTC Residents

44% of long-term care (LTC) residents are at high to very high risk for fracturing a bone (up to an 18% chance of fracturing per year), especially when a fall or sudden movement happens. Some residents may spontaneously have a fracture without having a fall due to the fragility of their bones, especially their back.

The following risk factors make a resident high to very high risk for a fracture in LTC. The more of these a resident has, it may move them from high to very high risk.



Produced by Family Councils of Ontario in partnership with OARC and Osteoporosis Canada



Source: Ontario Osteoporosis Strategy for Long-Term Care, GERAS Centre, Toronto

These risk factors are based on the Fracture Risk Scale for LTC and the 2016 Recommendations for Fracture Prevention in Long-Term Care.

Version: 1.1 October 2016

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## Recommendations for Preventing Fracture in Long-Term Care

- ### Fracture Risk Assessment

  - All residents on admission should be assessed for fractures
  - All residents with osteoporosis should maintain treatments and interventions for their osteoporosis to help minimize the risk for future fractures
  - Always assess for fracture when residents fall
  - Always assess residents' fracture risk when they return to long-term care from a hospital following an admission for a fracture
  - Always assess for fracture when there is sudden change in health or function that causes increased pain and loss of mobility
- ### Calcium & Vitamin D

All residents can benefit from diets high in calcium and vitamin D and supplemental Vitamin D3.

Calcium Intake (mg per day)	Calcium Intake (mg per day)	Calcium Intake (mg per day)
Low risk	Medium risk	High risk
- ### Exercise

Residents should be encouraged to participate in exercise programs that include balance training, muscle strengthening and a focus on good posture. Residents should be as active as possible practicing these exercises 2-3 times per week.

High Risk	Low Risk
Balance, strength and endurance training exercises only when part of a multifactorial intervention to prevent falls.	Balance, strength and endurance training exercises to prevent falls.
- ### Multifactorial Interventions

All residents can benefit from multifactorial interventions that are individually tailored to reduce their risk for falls and fractures. Multifactorial interventions are any combination of interventions that are tailored to an individual's risk to reduce falls, such as: Medication Reviews | Assessment of Environmental Hazards | Assistive Devices | Exercise Management of Urinary Incontinence | Educational Interventions Directed to Staff
- ### Hip Protectors

  - For residents who are mobile and at high risk for fractures, hip protectors are recommended.
  - For residents who are not at high risk for fracture but are mobile, hip protectors are recommended depending on resources available and the residents' values and preferences.
- ### Pharmacological Therapy

Pharmacological interventions for those at high risk for fracture are most important. There are a number of effective therapies available to reduce the incidence of fractures in frail older adults. Talk to your doctor about osteoporosis medications, and whether these medications might be helpful to reduce your risk for fractures.

First-line therapy recommended for individuals at high risk and individuals at high risk	For individuals at high risk and individuals at high risk		
Alendronate	75 mg weekly	Teriparatide	40 mg subcutaneous daily
Risedronate	35 mg weekly or 120 mg every 2 weeks	Zoledronic acid	5 mg IV yearly

Produced by Family Councils of Ontario in partnership with OARC and Osteoporosis Canada

The guideline and recommendations were developed by the Scientific Advisory Council of Osteoporosis Canada, led by Dr. Annette Papadimitriou, in consultation with the Ontario Health Sciences and Research Department of University of Toronto in conjunction with a team of researchers and health care providers.

Source: <http://www.gerascentre.ca/info-to-recommendations-overview>



## Long-Term Care Best Practices Toolkit, 2nd edition

Implementing and sustaining evidence-based practices in long-term care.

### Welcome

The Registered Nurses' Association of Ontario (RNAO) welcomes you to the second edition of the Long-Term Care Best Practices Toolkit. RNAO is delighted to provide this key resource to you, developed by the Long-Term Care Best Practices Program. We invite you to explore the resources and share the Toolkit with colleagues in your organization and others in the long-term care sector.

#### Purpose of the LTC Toolkit

The LTC Toolkit is designed to offer point-of-care staff, nurses, educators and leaders access to the best available evidence-based resources and tools. It supports the use of best practice guidelines (BPG), program development, implementation and evaluation to enhance the quality of resident care and create a healthy work environment (HWE). It is intended to promote the integration of BPGs with relevant provincial legislation, performance improvement and other health-care initiatives.

#### Structure of the LTC Toolkit

The LTC Toolkit is organized into the following sections:

- **Clinical BPGs** – RNAO clinical BPGs and related resources that support the direct care of residents and long-term care (LTC) programs
- **HWE BPGs** – RNAO HWE BPGs and related resources that support long-term care homes (LTCH) in creating a positive work environment for leaders and staff
- **Program Planning & Evaluation** – program planning, monitoring and evaluation resources and tools
- **French Resources** – RNAO clinical and HWE BPGs and other resources available in the French language
- **LTCH Implementation Stories** – experiences of LTCHs that have implemented clinical and HWE BPGs. This section is under development and will be available in 2016.

#### RNAO - Resources and Links

[Long-Term Care Best Practices Program](#)

[Nursing Orientation e-Resource for Long-Term Care](#)

[Long-Term Care - Best Practice Spotlight Organization \(LTC-BPSO\)](#)

[Best Practice Spotlight Organizations \(BPSO\)](#)

[Best Practice Champions Network](#)

[RNAO Online Courses](#)

[RNAO Projects and Initiatives](#)

<http://ltctoolkit.rnao.ca>



# Poll Question



# Next Steps

Review OOS Fracture Prevention Toolkit Resources and Plan FRS integration

- Trial and Evaluate FRS roll out

Connect with your RNAO LTC Best Practice Coordinator:

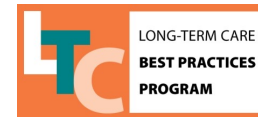
- Complete a Gap Analysis for your Falls prevention program
- Join the Falls Community of Practices Knowledge Exchange to learn and share with other LTCHs implementing and sustaining Falls Prevention Programs

*Let's work together to reduce falls and injuries from falls*

# Questions

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# Thank You!

