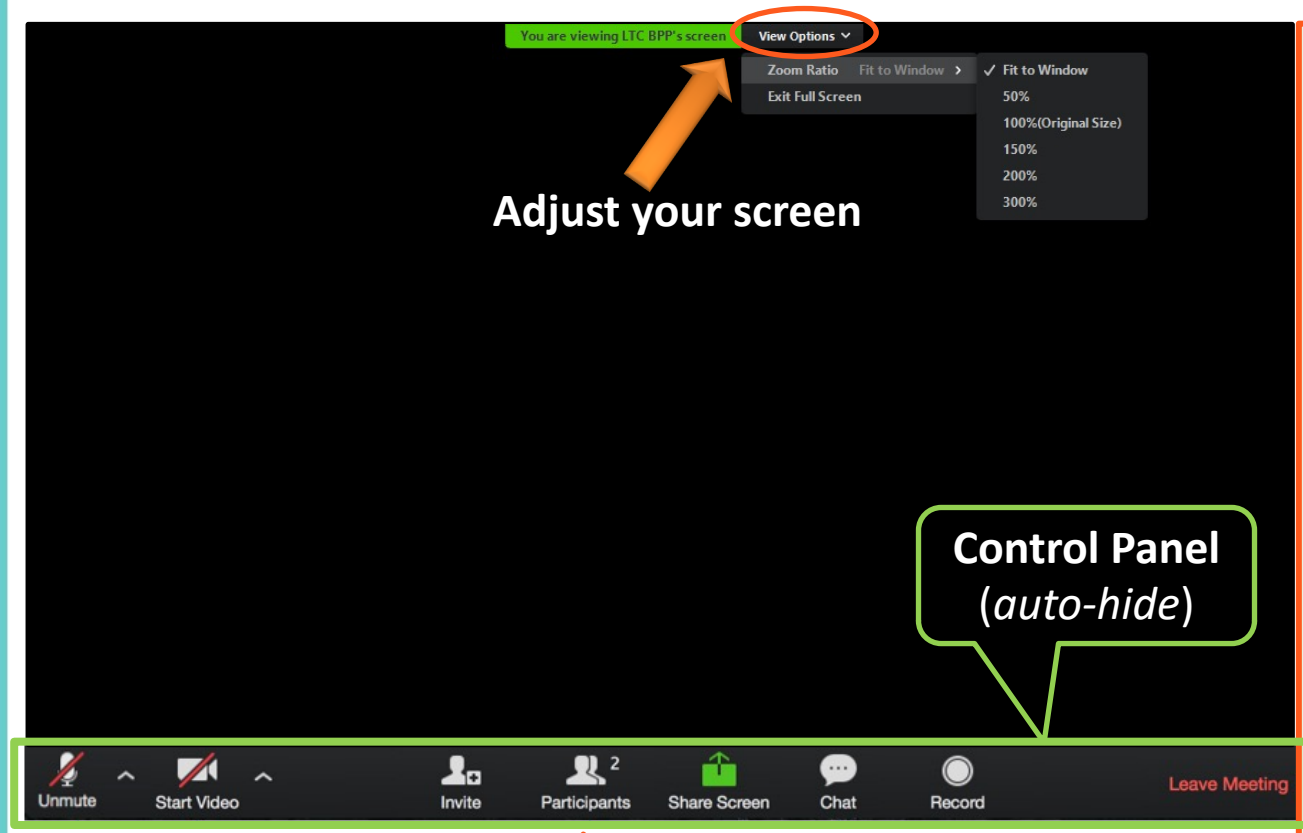
Welcome!

The webinar will begin at 1:30 pm EDT

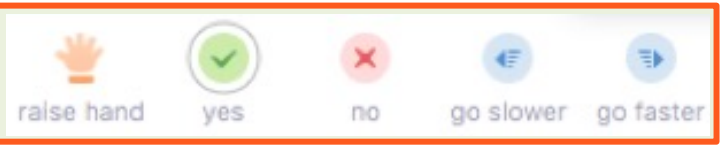


Housekeeping

- 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.



RNAO

RNAO.CA

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

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

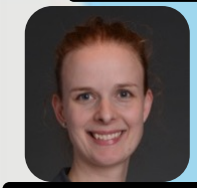
To improve resident care and resident outcomes,
in Ontario long-term care homes,
through systematic approaches to the
implementation and sustainability
of evidence-based practices.

LONG-TERM CARE
BEST PRACTICES
PROGRAM

Funded by the Government of Ontario

RNAO Home Office

Heather McConnell



Ibo MacDonald

Citlali Singh

Freda Poirier

12

Connie Wood

9

Ruthanne Lobb

8

5

Shaila Aranha

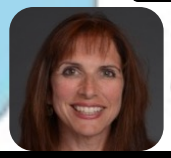
3

Susan McRae

7

6

Saima Shaikh



Sue Sweeney

2

4

Beverly Faubert

1

Deirdre Boyle

Lee Mantini

10

Stephanie Kim

11

LONG-TERM CARE
BEST PRACTICES
PROGRAM

Heather Woodbeck

14

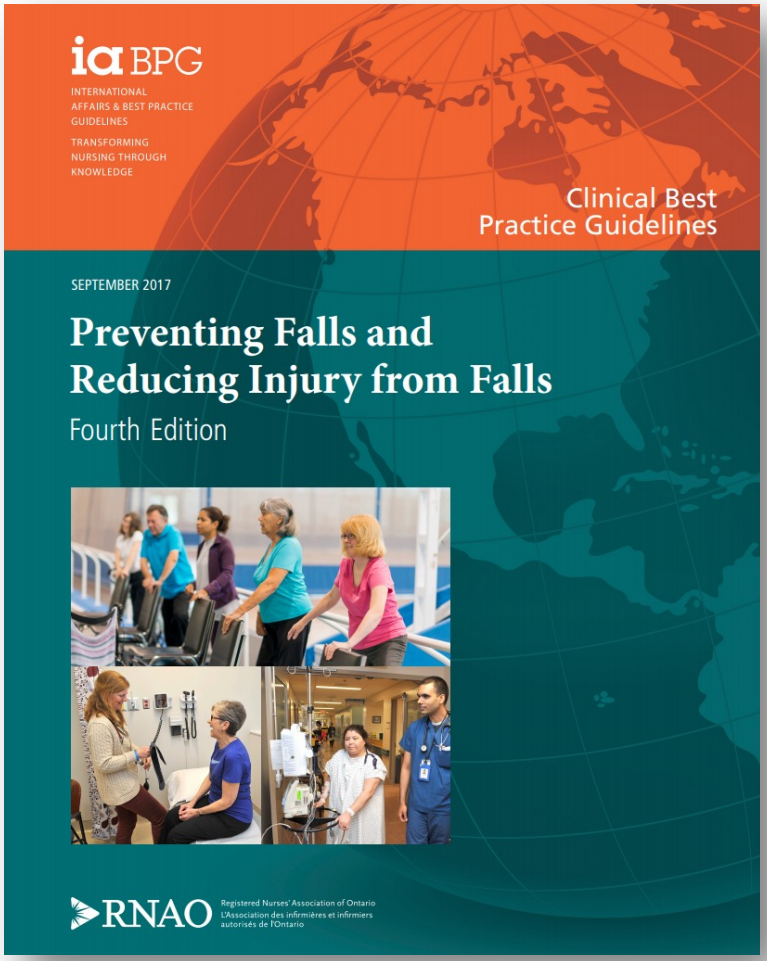
Amy Reid

13

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

RNAO Long-Term Care Best Practices Program Team

RNAO Best Practice Guidelines



ONTARIO OSTEOPOROSIS STRATEGY

Kate Harvey

Regional Integration Lead,

Osteoporosis Canada,

The Ontario Osteoporosis Strategy

GERAS Centre for Aging Research

PREVENTING HIP FRACTURES. SAVING LIVES.

RNAO

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

Stronger bones. Better lives.

ONTARIO OSTEOPOROSIS STRATEGY

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

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**

GERAS Centre for Aging Research

PREVENTING HIP FRACTURES. SAVING LIVES.

RNAO

Osteoporosis Clinical Guidelines

ONTARIO OSTEOPOROSIS STRATEGY

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.


GUIDELINE

commendations for preventing fracture in long-term c

Scope

Methods

GERAS Centre for Aging Research

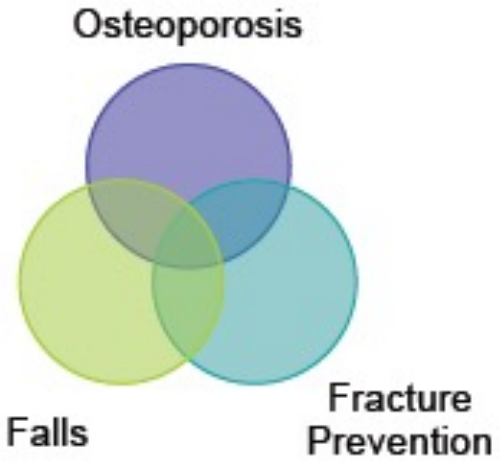
PREVENTING HIP FRACTURES. SAVING LIVES.

RNAO

Fractures and Falls

ONTARIO OSTEOPOROSIS STRATEGY

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.



GERAS Centre for Aging Research

PREVENTING HIP FRACTURES. SAVING LIVES.

RNAO

In the chat box tell us:

ONTARIO OSTEOPOROSIS STRATEGY

Is your home using the FRS?

(tell us how in the chat box)

GERAS Centre for Aging Research

PREVENTING HIP FRACTURES. SAVING LIVES.

RNAO

Dr. Caitlin McArthur

ONTARIO OSTEOPOROSIS STRATEGY

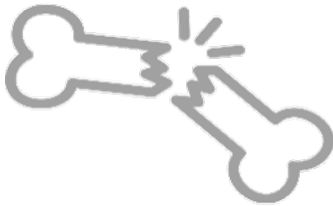
GERAS Centre for Aging Research

PREVENTING HIP FRACTURES.
SAVING LIVES.

RNAO

GERAS Centre for Aging Research

RNAO



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.

osteostrategy.on.ca

OsteoStrategyON

Acknowledgements

ONTARIO OSTEOPOROSIS STRATEGY

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

Alexandra Papaioannou, MD MSc FRCP(C) FACP
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
Nancy Santesso, PhD MLIS BASc RD
Suzanne Morin, MD MSc FRCP FACP
Sid Feldman, MD CCFP FCFP
Jonathan Adachi, MD FRCPC
Richard Crilly, MD MRCP(UK) FRCPC
Lora Giangregorio, PhD
Susan Jaglal, BSc MSc PhD
Robert Josse, MD BS BSc
Sharon Kaasalainen, BScN MSc PhD
Paul Katz, MD CMD
Andrea Moser, MD MSc CCFP FCFP
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

GERAS Centre for Aging Research

PREVENTING HIP FRACTURES. SAVING LIVES.

RNAO

Osteoporosis

ONTARIO OSTEOPOROSIS STRATEGY

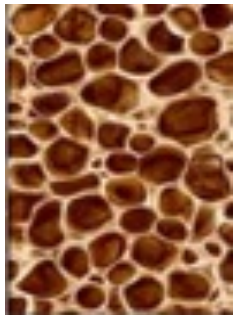
Normal Bone

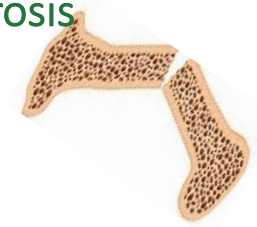
STRONG and COMPACT

- Structure inside the bone is DENSE and more soli.
- 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

.

GERAS Centre for Aging Research

PREVENTING HIP FRACTURES. SAVING LIVES.

RNAO

2 Kinds of Fractures

ONTARIO OSTEOPOROSIS STRATEGY

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

ONTARIO OSTEOPOROSIS STRATEGY

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

ONTARIO OSTEOPOROSIS STRATEGY

- **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

GERAS Centre for Aging Research

PREVENTING HIP FRACTURES. SAVING LIVES.

RNAO

Fractures are a serious problem

ONTARIO OSTEOPOROSIS STRATEGY

- 2-6% of residents sustain a hip fracture each year
- Hip fracture is the most common fracture type in LTC (49%)
- >72% of older adults at high risk for fractures are not investigated or treated for osteoporosis

Ronald LA et al. *Can J Aging*. 2008;27:109-115.
Papaioannou A. et al. Osteoporos Int. 2016;27:887-97.
Jaglal, S. Ontario Osteoporosis Strategy– Provincial Performance Data for Osteoporosis Management Technical Report, 2017.

GERAS Centre for Aging Research

PREVENTING HIP FRACTURES. SAVING LIVES.

RNAO

Fractures can be devastating for LTC residents

ONTARIO OSTEOPOROSIS STRATEGY

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.

GERAS Centre for Aging Research

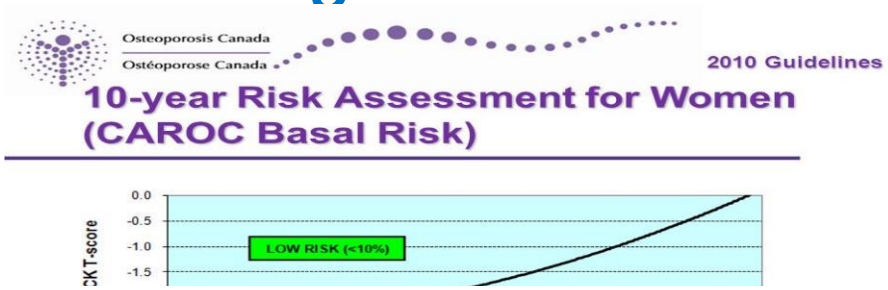
PREVENTING HIP FRACTURES. SAVING LIVES.

RNAO

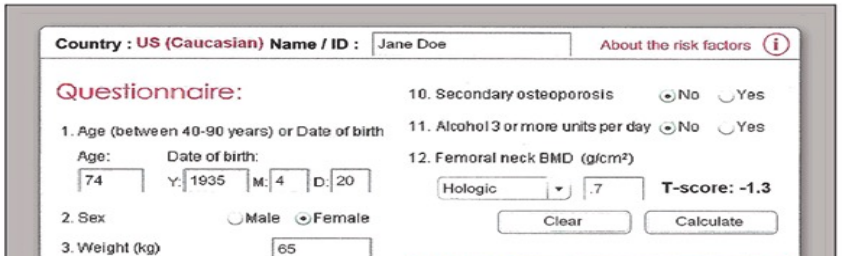
Current Fracture Risk Assessments

ONTARIO OSTEOPOROSIS STRATEGY

CAROC



FRAX



Not tailored for use in LTC

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

GERAS Centre for Aging Research

PREVENTING HIP FRACTURES. SAVING LIVES.

RNAO

ONTARIO OSTEOPOROSIS STRATEGY

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.

GERAS Centre for Aging Research

PREVENTING HIP FRACTURES. SAVING LIVES.

RNAO

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

The FRS:

ONTARIO OSTEOPOROSIS STRATEGY

- ✓ 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).

GERAS Centre for Aging Research

PREVENTING HIP FRACTURES. SAVING LIVES.

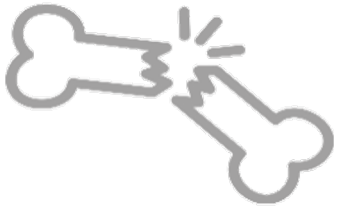
RNAO

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,[1,2] Micaela Jantzi,[3] Jenn Bucek,[3] Jonathan D Adachi,[1,2] Lora Giangregorio,[4] John Hirdes,[3] Laura Pickard,[1,2] Alexandra Papaioannou[1,2]



Negm et al. BMC Geriatrics (2018) 18:320
https://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[1,2*], George Ioannidis[1,3], Micaela Jantzi[4], Jenn Bucek[4], Lora Giangregorio[1,5], Laura Pickard[1,3], John P. Hirdes[4], Jonathan D. Adachi[3], Julie Richardson[2,6], Lehana Thabane[6] and Alexandra Papaioannou[1,3,7]

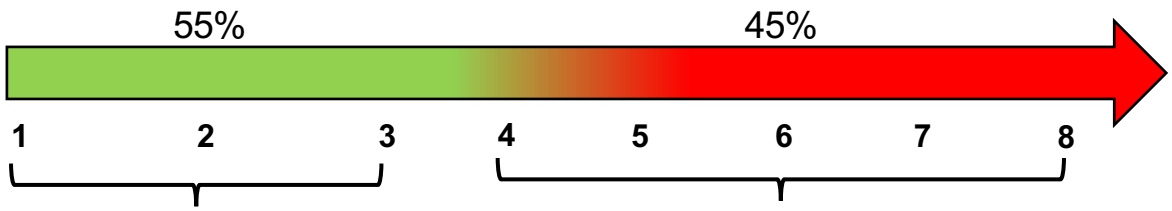
GERAS
Centre for Aging Research

PREVENTING HIP FRACTURES.
SAVING LIVES.

RNAO

How to interpret FRS Scores:

ONTARIO OSTEOPOROSIS STRATEGY



Walk in corridor and
BMI > 30

or

Unable to walk in corridor and no fall past 30 days

Walk in corridor and
BMI 18-30

& one of the following:

- Prior fall
- Prior fracture
- Cognitive impairment (CPS 3-6)
- Tendency to wander
- Age >85

or

Unable to walk in corridor and had a fall past 30 days

or

Walk in corridor and
BMI <18 with or without a fall

- Walk in corridor – G1da
- BMI – height and weight
- Wandering – E4aa
- Fall – J4a, J4b
- Fracture – J4d
- Cognition – CPS Score

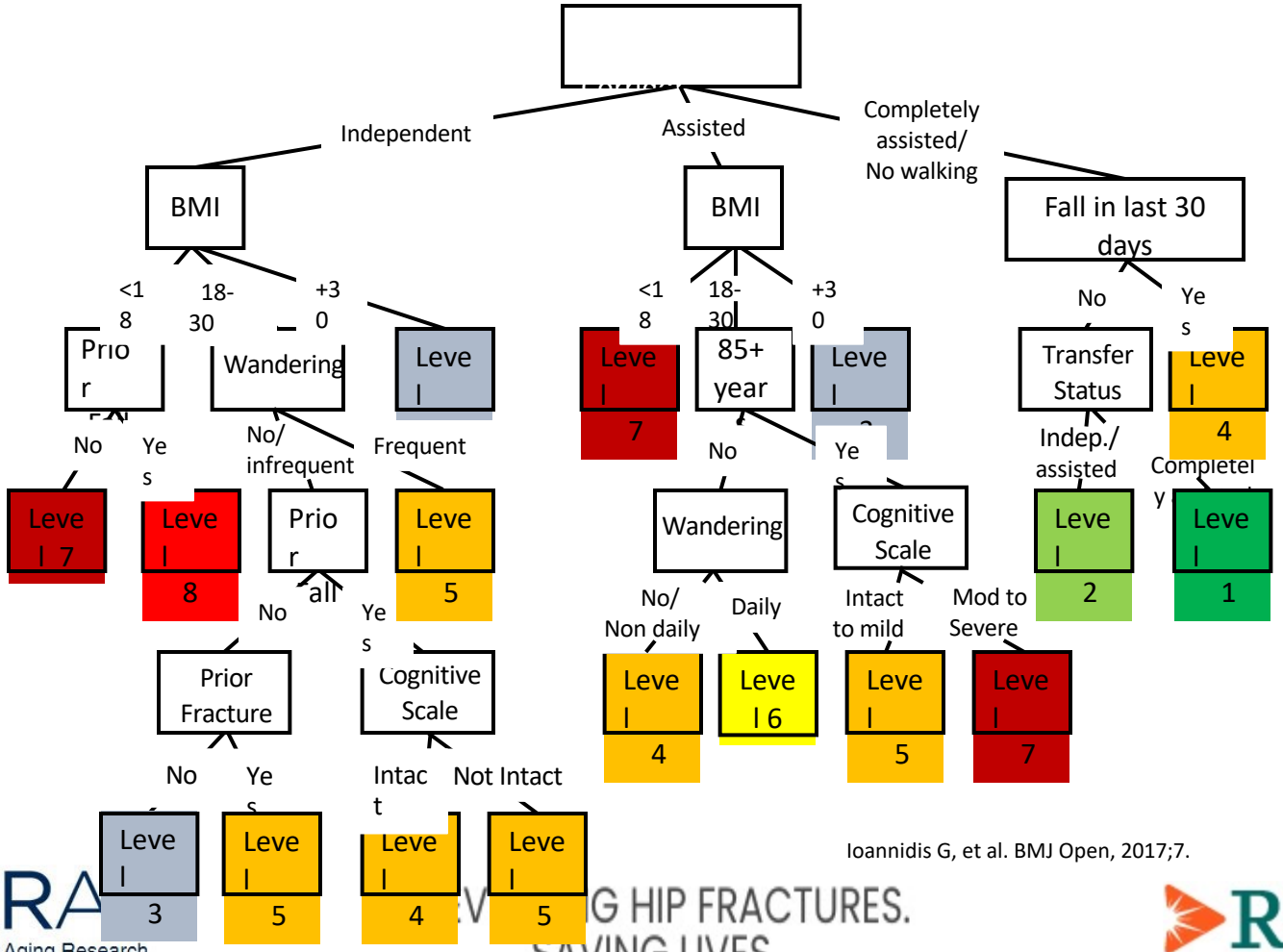
Ioannidis G, et al. *BMJ Open*, 2017;7.

GERAS Centre for Aging Research

PREVENTING HIP FRACTURES. SAVING LIVES.

RNAO

FRS Prediction Outcome Algorithm



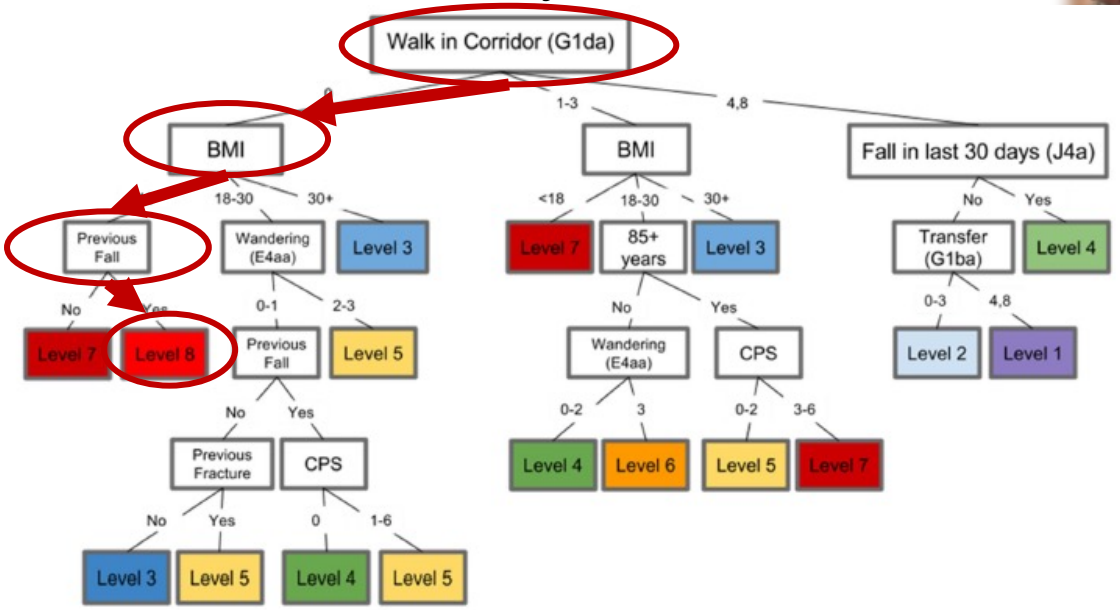
Ioannidis G, et al. BMJ Open, 2017;7.

GERA Centre for Aging Research

...G HIP FRACTURES. SAVING LIVES.

RNAO

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

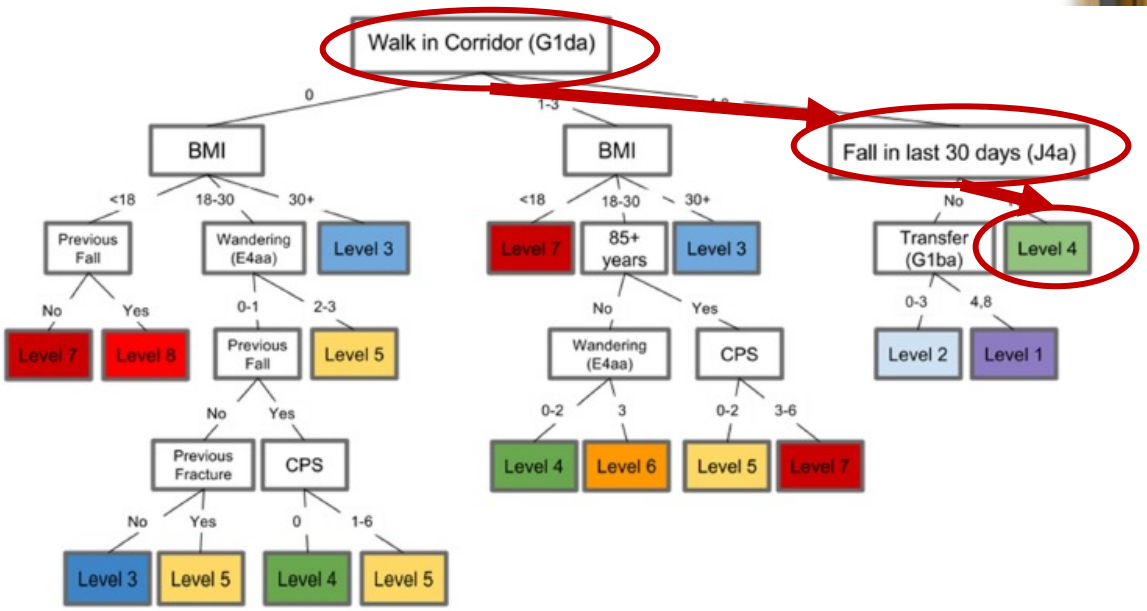


GERAS
Centre for Aging Research

PREVENTING HIP FRACTURES.
SAVING LIVES.

RNAO

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

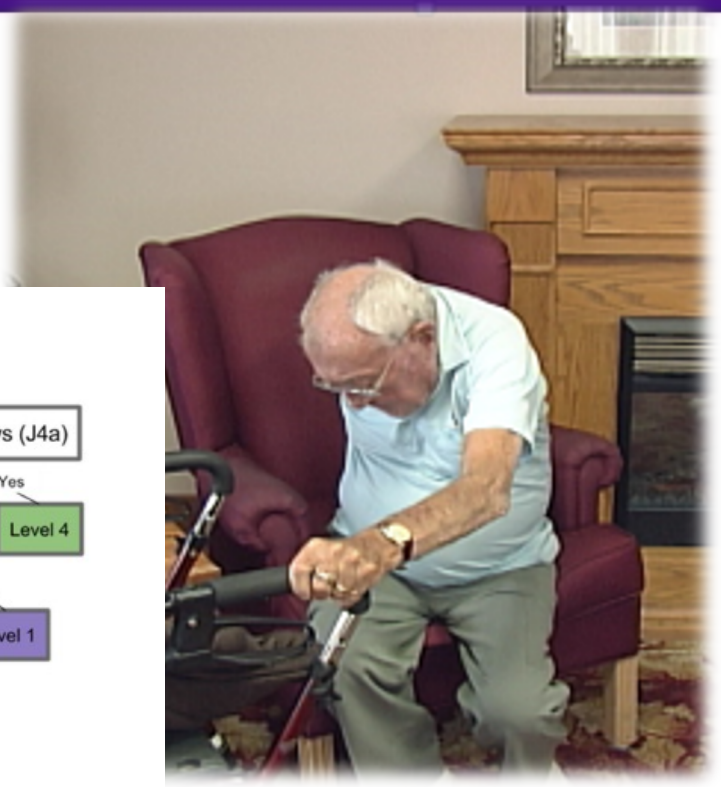


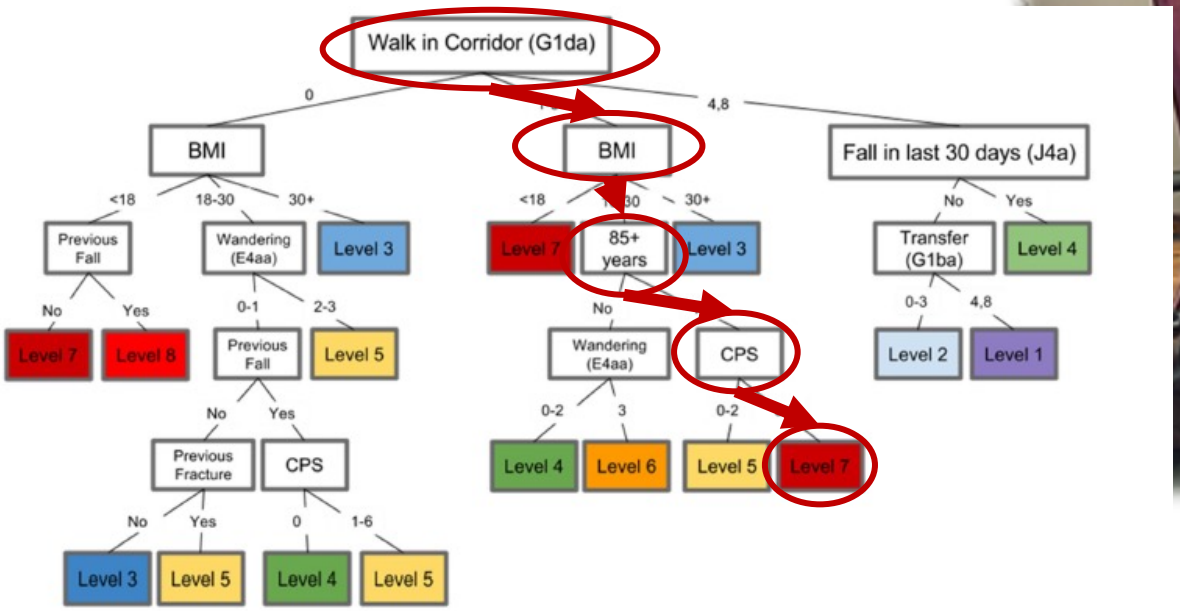
GERAS
Centre for Aging Research

PREVENTING HIP FRACTURES.
SAVING LIVES.

RNAO

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



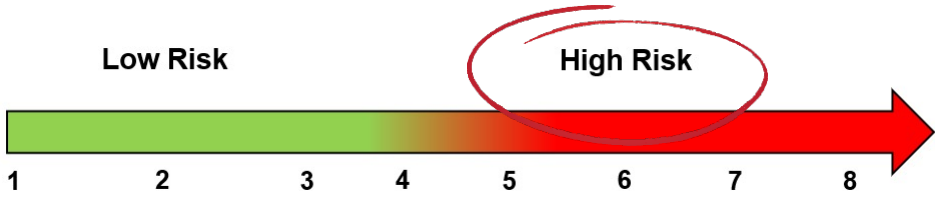


GERAS
Centre for Aging Research

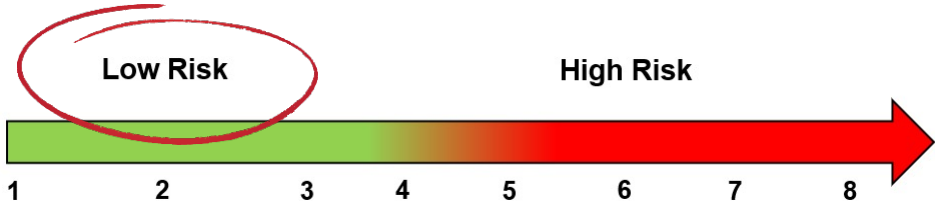
PREVENTING HIP FRACTURES.
SAVING LIVES.

RNAO

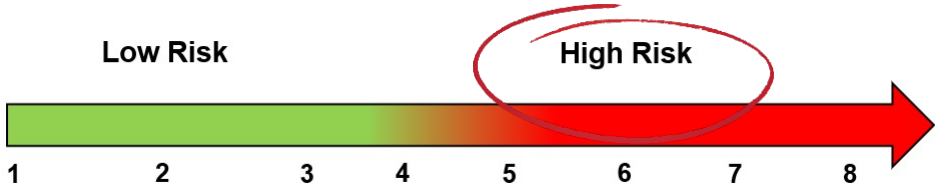
- walks independently in corridor
- BMI of <18
- had a fall in last 180 days



- 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)



GERAS
Centre for Aging Research

RNAO

GERAS
Centre for Aging Research

PREVENTING HIP FRACTURES.
SAVING LIVES.

RNAO

Some Cautions

ONTARIO OSTEOPOROSIS STRATEGY

- 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.

GERAS Centre for Aging Research

GERAS Centre for Aging Research

PREVENTING HIP FRACTURES. SAVING LIVES.

RNAO

RNAO

Where do I find the FRS score for my resident?

ONTARIO OSTEOPOROSIS STRATEGY

PointClickCare®

RAI-MDS (MDS 2.0) / LTCF

Outcomes Summary Report

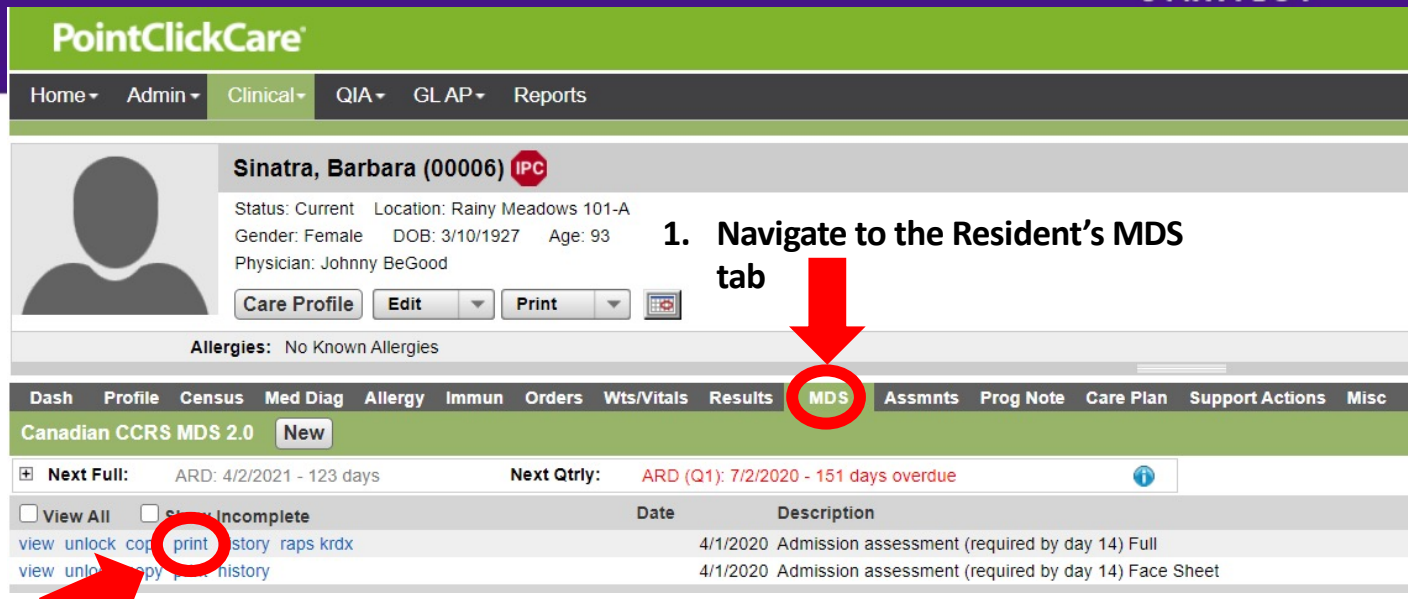
GERAS Centre for Aging Research

PREVENTING HIP FRACTURES. SAVING LIVES.

RNAO

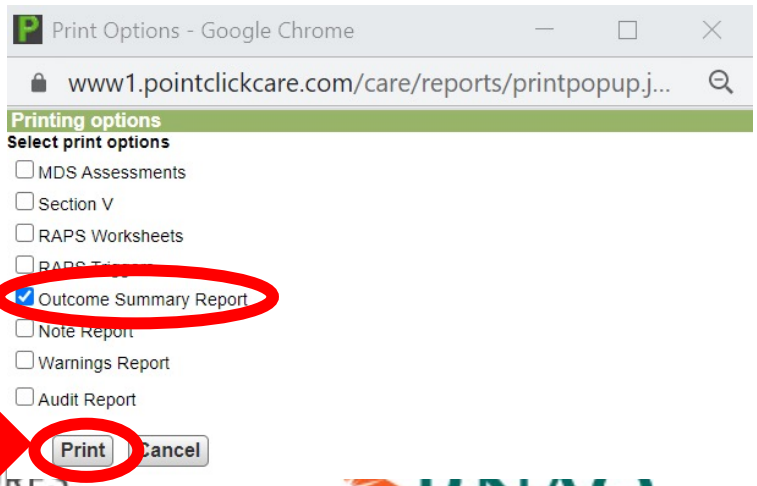
Viewing a Resident's FRS

ONTARIO OSTEOPOROSIS STRATEGY



1. **Navigate to the Resident's MDS tab**

2. **Click *Print***



3. **Check the *Outcome Summary Report* box**

4. **Click on *print***

GERAS Centre for Aging Research

PREVENTING HIP FRACTURES. SAVING LIVES.

RNAO

Viewing a Resident's FRS Score

ONTARIO OSTEOPOROSIS STRATEGY

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.

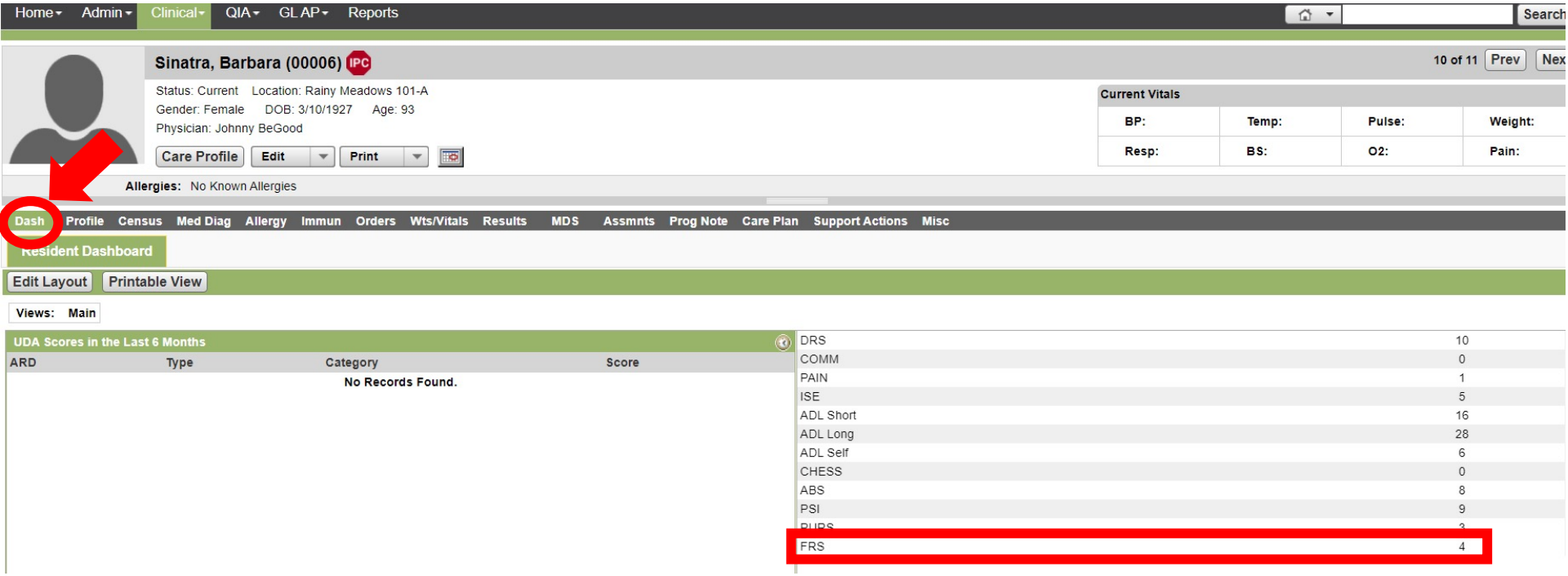
GERAS Centre for Aging Research

PREVENTING HIP FRACTURES. SAVING LIVES.

RNAO

Viewing a Resident's FRS Score

ONTARIO OSTEOPOROSIS STRATEGY



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

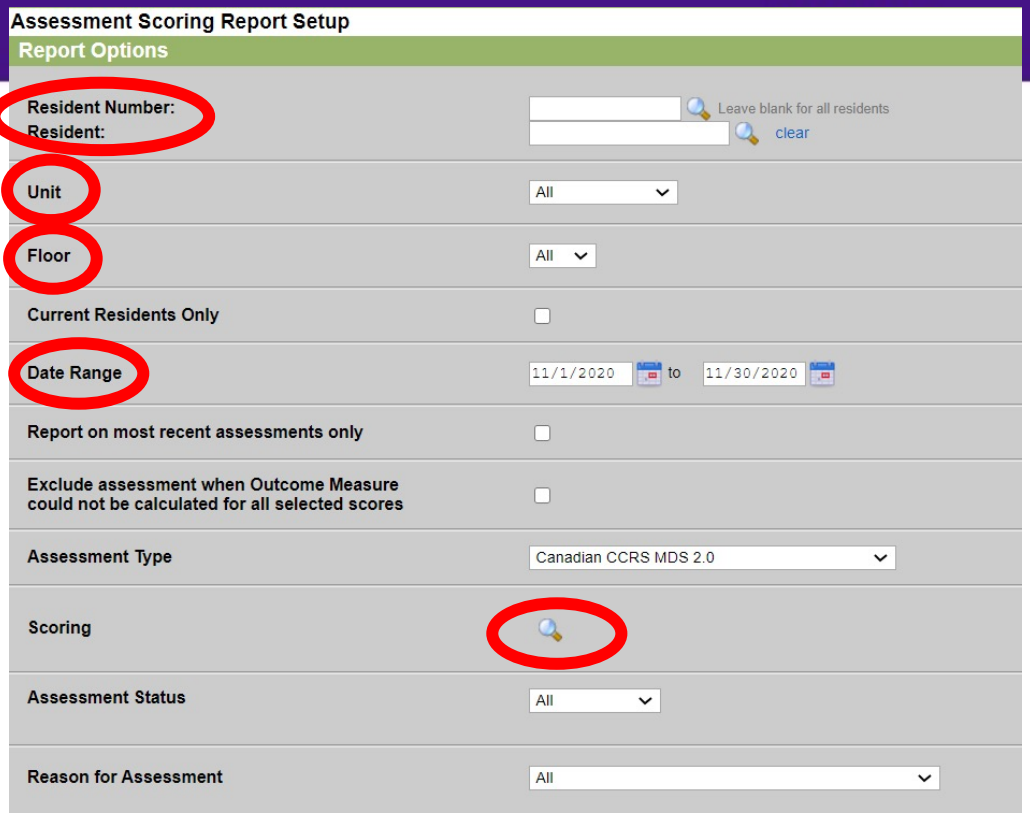
GERAS Centre for Aging Research

PREVENTING HIP FRACTURES. SAVING LIVES.

RNAO

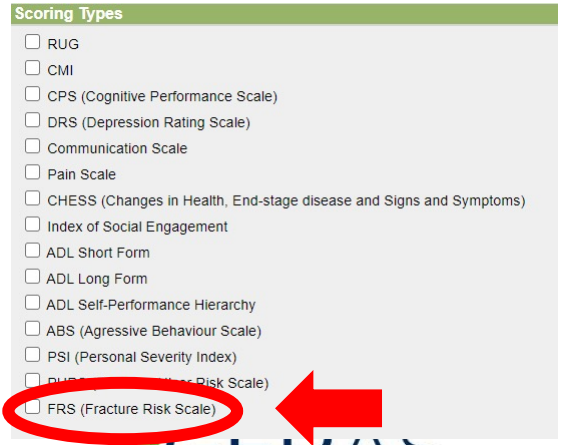
Assessment Scoring Report

ONTARIO OSTEOPOROSIS STRATEGY



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

GERAS Centre for Aging Research

PREVENTING HIP FRACTURES. SAVING LIVES.

RNAO

Clinical Pearls

ONTARIO OSTEOPOROSIS STRATEGY

- ✓ **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

GERAS Centre for Aging Research

PREVENTING HIP FRACTURES. SAVING LIVES.

RNAO

Now I know their FRS score…

ONTARIO OSTEOPOROSIS STRATEGY

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

GERAS Centre for Aging Research

PREVENTING HIP FRACTURES. SAVING LIVES.

RNAO

Fracture Prevention Guidelines

ONTARIO OSTEOPOROSIS STRATEGY

- 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 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 Weiler RD PhD, Susan Whiting PhD, Carly J. Skidmore MSc, Angela M. Cheung MD PhD; for the Scientific Advisory Council of Osteoporosis Canada

CMAJ Podcasts: author interview at https://soundcloud.com/cmajpodcasts/141331-guide

The 2010 clinical practice guideline for the diagnosis and management of osteoporosis in Canada[1] 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.[2] Hip fracture is one of the most serious consequences of osteoporosis and also one of the leading causes of admission to hospital.[3] When residents return to long-term care after a hospital stay, they need additional hours of specialized care.[4,5] 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).[6] Multiple vertebral fractures can be a substantial cause of pain, anxiety, depression, reduced pulmonary function[7] and agitation.

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

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[12] [CAROC; www.osteoporosis.ca/multimedia/pdf/CAROC.pdf] and the Canadian WHO Fracture Risk Assessment Tool [FRAX; 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.[14,15] Most research regarding risk assessment and pharmacologic therapies has not included those with multiple comorbidities.[16,17]

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[18,19] (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). The panel was first surveyed to prioritize questions and impor-

Competing interests: See end of article.

This article has been peer reviewed.

Correspondence to: Alexandra Papaioannou, papaioannou@mhsc.ca

CMAJ 2015. DOI:10.1503/cmaj.141331

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 one 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.

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

GERAS Centre for Aging Research

PREVENTING HIP FRACTURES. SAVING LIVES.

RNAO

For residents at high risk (scores 4-8)

ONTARIO OSTEOPOROSIS STRATEGY

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).

GERAS Centre for Aging Research

PREVENTING HIP FRACTURES. SAVING LIVES.

RNAO

Chat box feedback:

ONTARIO OSTEOPOROSIS STRATEGY

How your homes are using the FRS…

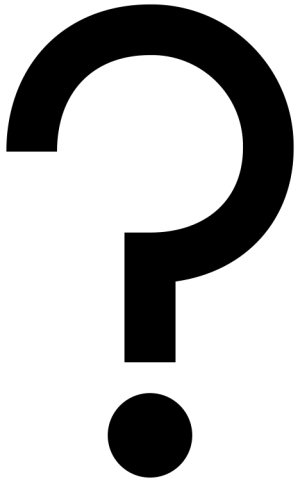
GERAS Centre for Aging Research

PREVENTING HIP FRACTURES. SAVING LIVES.

RNAO

ONTARIO OSTEOPOROSIS STRATEGY

@McArthurCaitlin



caitlin.mcarthur@dal.ca

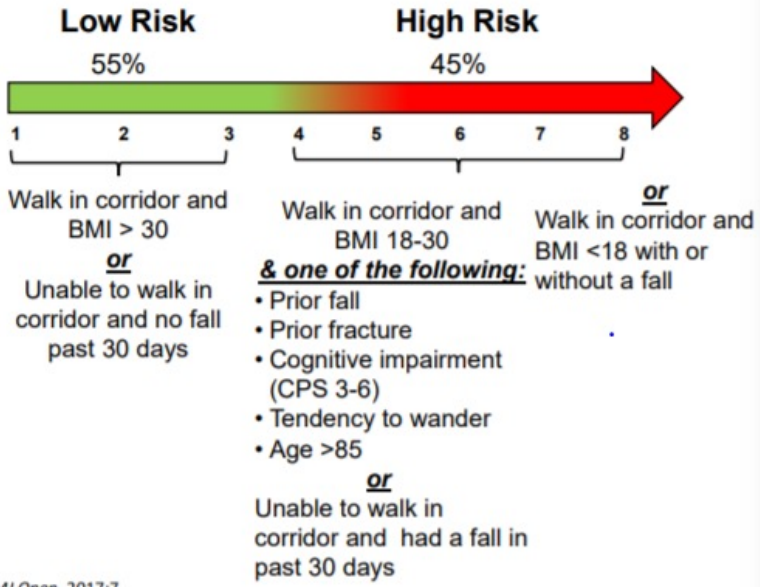
GERAS Centre for Aging Research

PREVENTING HIP FRACTURES. SAVING LIVES.

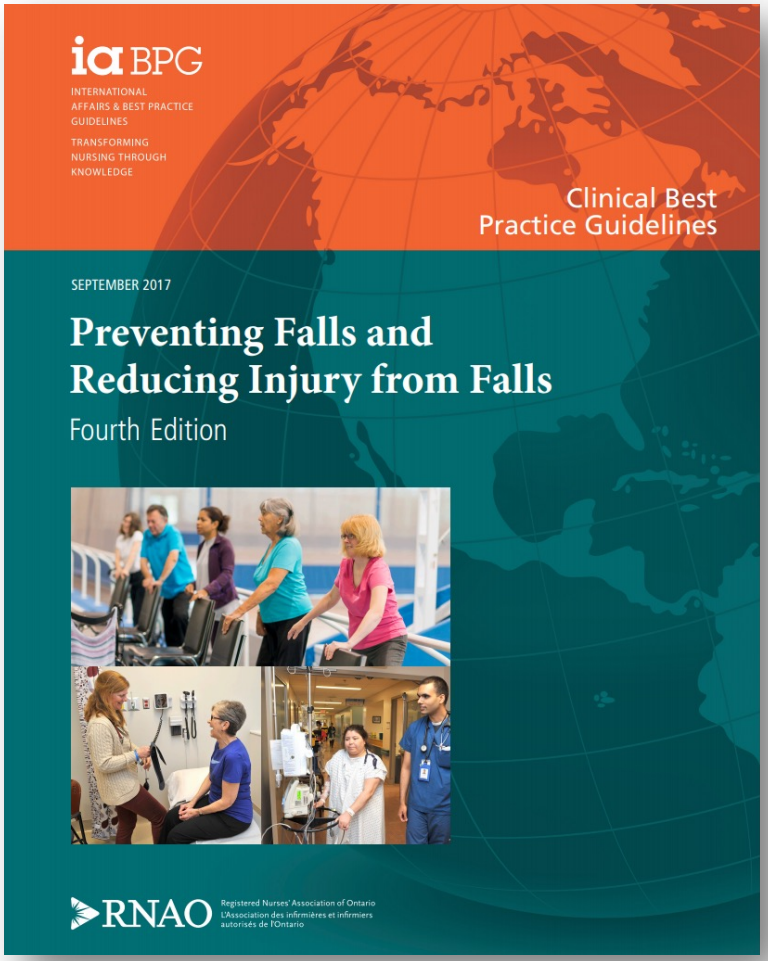
RNAO

What's the Connection?

Fracture Risk Scale Scores – Hip Fracture Risk



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



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[G] 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

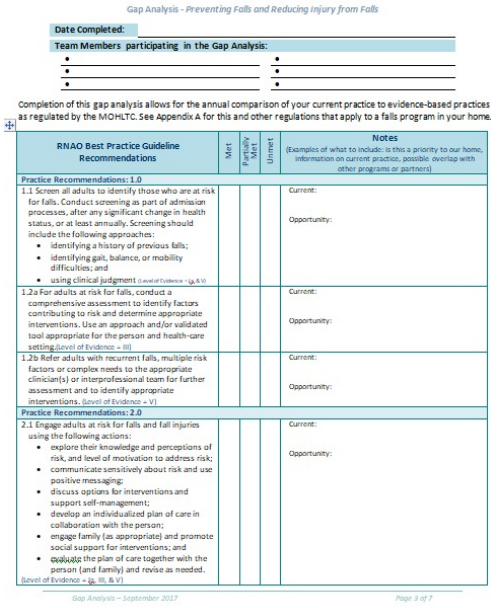
A process used to determine how close your current practices are to best practices

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.

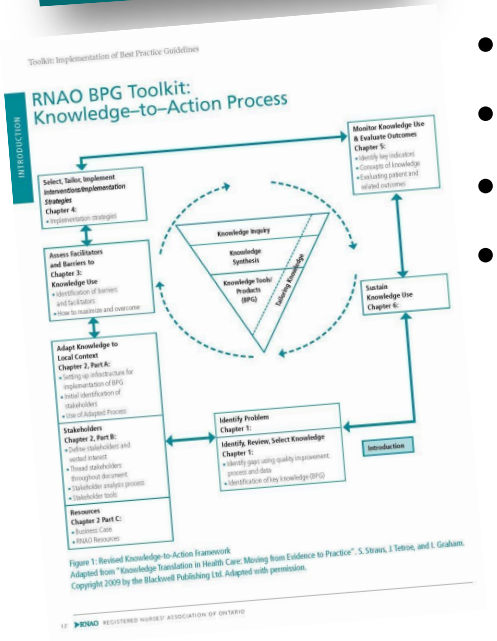
RNAO Best Practice Guideline Recommendations	Met	Partially Met	Unmet	Notes (Examples of what to include: is this a priority to our home, information on current practice, possible overlap with other programs or partners)
Practice Recommendations: 1.0				
1.1 Screen all adults to identify those who are 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: • identifying a history of previous falls; • identifying gait, balance, or mobility difficulties; and • using clinical judgment (Level of Evidence = III, & V)				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.(Level of Evidence = III)				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. (Level of Evidence = V)				Current: Opportunity:
Practice Recommendations: 2.0				
2.1 Engage adults at risk for falls and fall injuries using the following actions: • explore their knowledge and perceptions of risk, and level of motivation to address risk; • communicate sensitively about risk and use positive messaging; • discuss options for interventions and support self-management; • develop an individualized plan of care in collaboration with the person; • engage family (as appropriate) and promote social support for interventions; and • evaluate the plan of care together with the person (and family) and revise as needed. (Level of Evidence = III, III, & V)				Current: Opportunity:

Gap Analysis – September 2017 Page 3 of 7

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

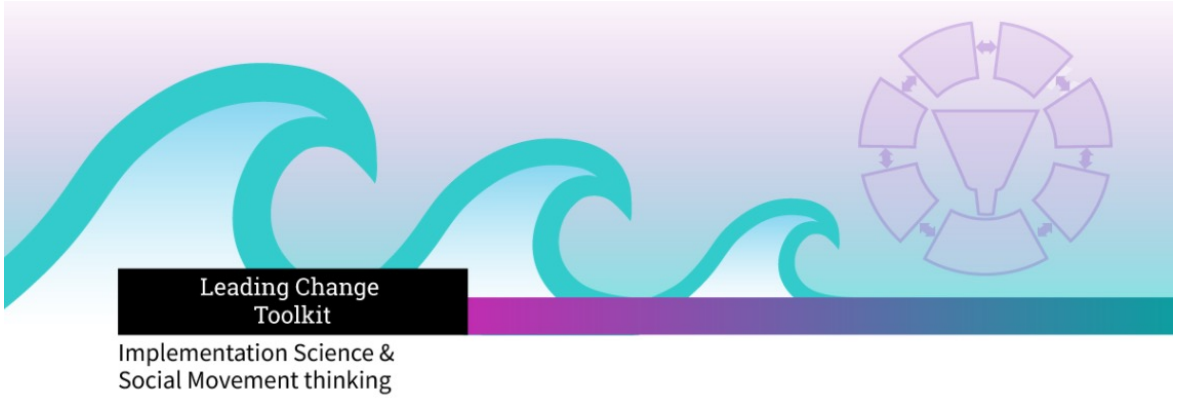
The toolkit is based on Knowledge to Action Framework which helps you to identify:

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

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

ONTARIO OSTEOPOROSIS STRATEGY

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

- **https://www.gerascentre.ca/osteoporosis-strategy-for-long-term-care**
- **https://osteostrategy.on.ca/toolbox/ltc-toolbox/ltcresources**
- **https://osteoporosis.ca**

GERAS Centre for Aging Research

PREVENTING HIP FRACTURES. SAVING LIVES.

RNAO

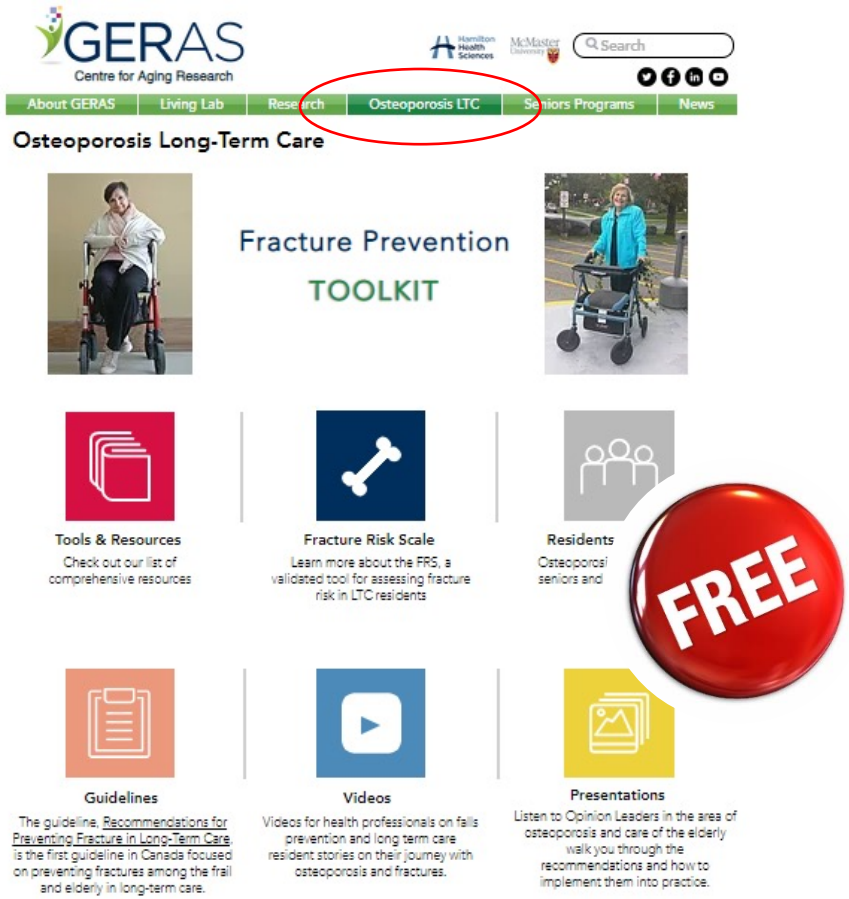
ONTARIO OSTEOPOROSIS STRATEGY

Go To:

Google

Fracture Prevention Toolkit

https://osteostrategy.on.ca/



GERAS Centre for Aging Research

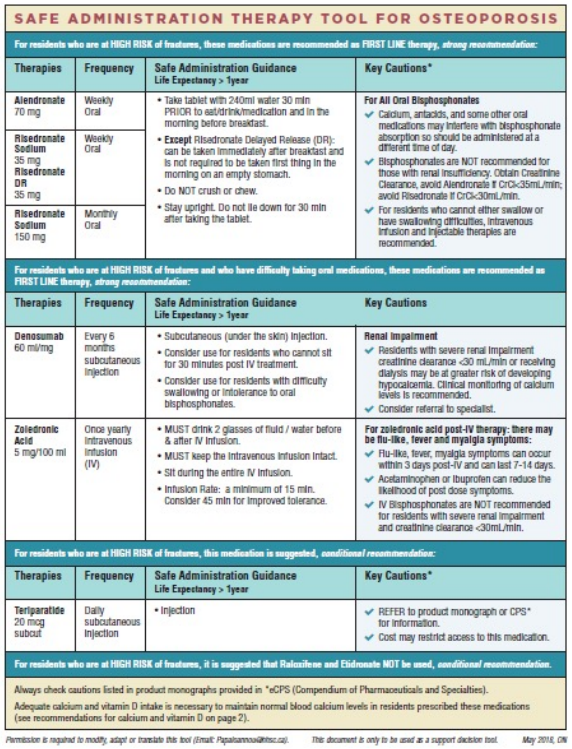
PREVENTING HIP FRACTURES. SAVING LIVES.

RNAO

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 > 1year	Key Cautions*
Alendronate 70 mg **Risedronate Sodium** 35 mg **Risedronate DR** 35 mg **Risedronate Sodium** 150 mg	Weekly Oral Weekly Oral Monthly Oral	• Take tablet with 240ml water 30 min PRIOR to eat/drink/medication and in the morning before breakfast. • **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. • Stay upright. Do not lie down for 30 min after taking the tablet.	**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<35mL/min; avoid Risedronate if CrCl<30mL/min. ✓ For residents who cannot either swallow or have swallowing difficulties, intravenous infusion and injectable therapies are recommended.

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 > 1year	Key Cautions
Denosumab 60 ml/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*:

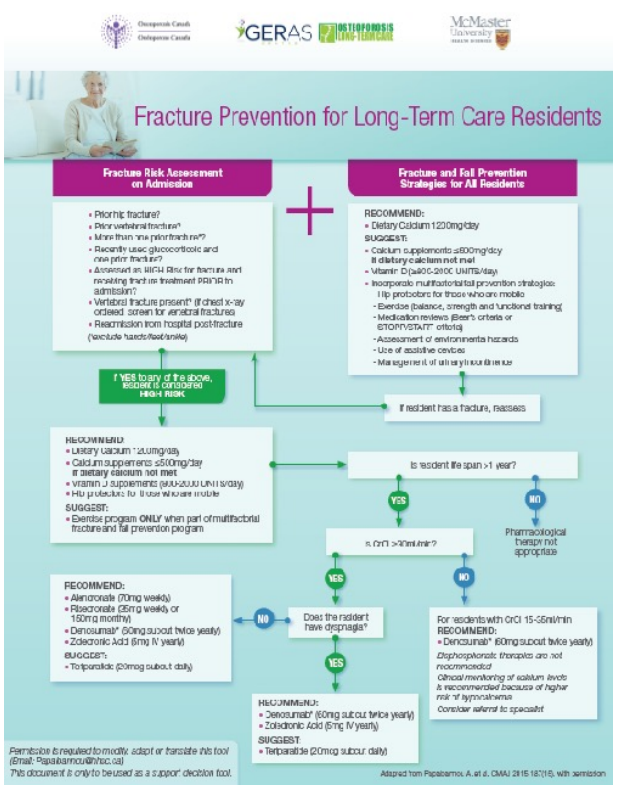
Therapies	Frequency	Safe Administration Guidance Life Expectancy > 1year	Key Cautions*
Teriparatide 20 mcg subcut	Daily subcutaneous injection	• Injection	✓ REFER to product monograph or CPS* for information. ✓ Cost may restrict access to this medication.

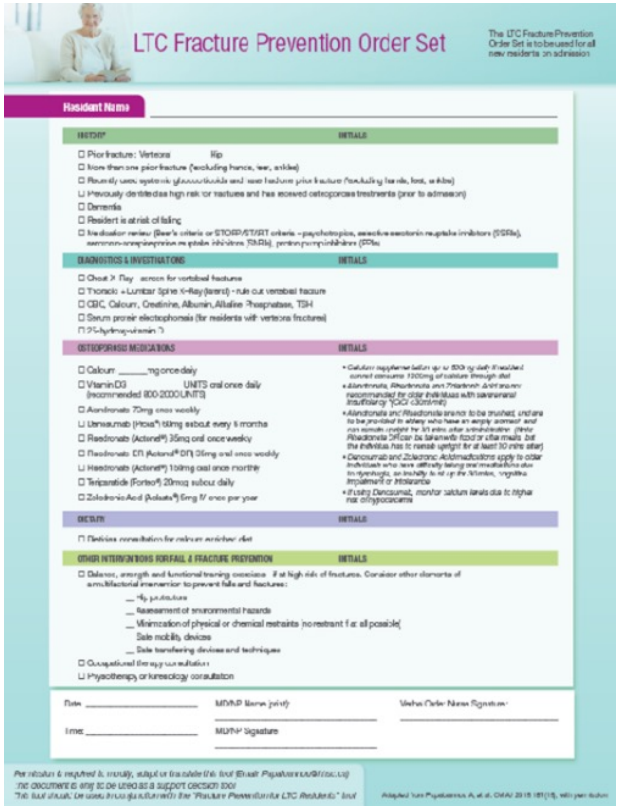
For residents who are at HIGH RISK of fractures, it is suggested that Raloxifene and Etidronate NOT be used, *conditional recommendation*.

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@lhsc.ca). This document is only to be used as a support decision tool. May 2018, ON





GERAS Centre for Aging Research

PREVENTING HIP FRACTURES. SAVING LIVES.

RNAO

Educational Videos

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

ONTARIO OSTEOPOROSIS STRATEGY

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

GERAS Centre for Aging Research

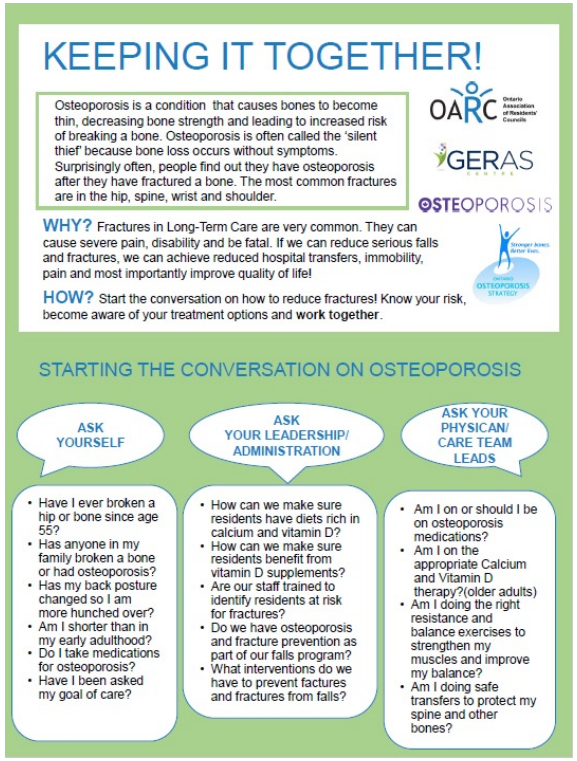
PREVENTING HIP FRACTURES. SAVING LIVES.

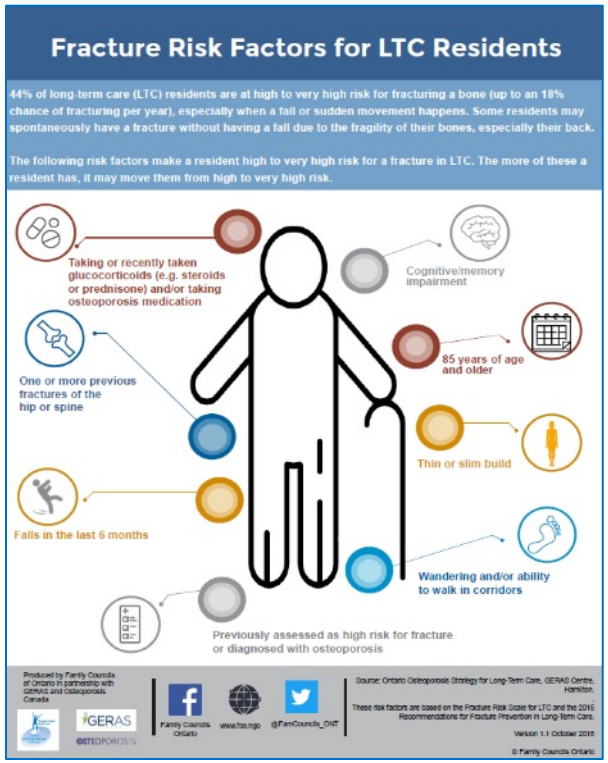
RNAO

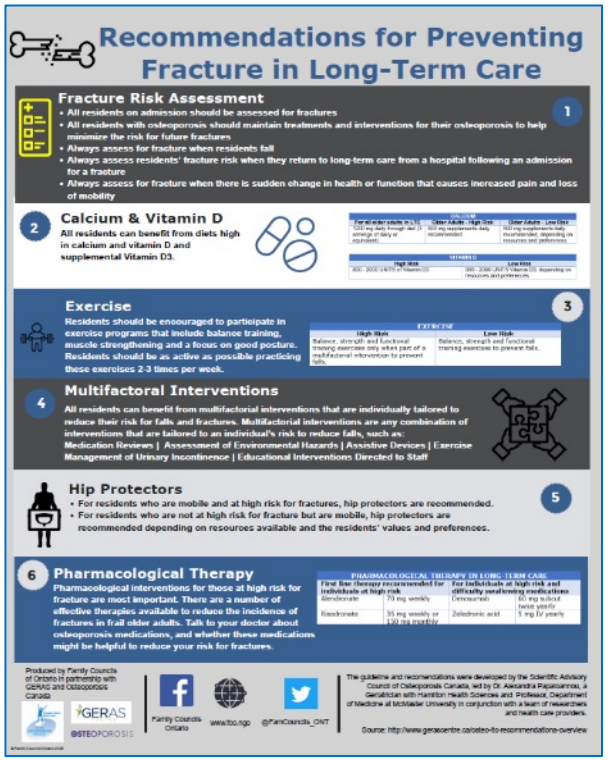
For residents and family members

ONTARIO OSTEOPOROSIS STRATEGY

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



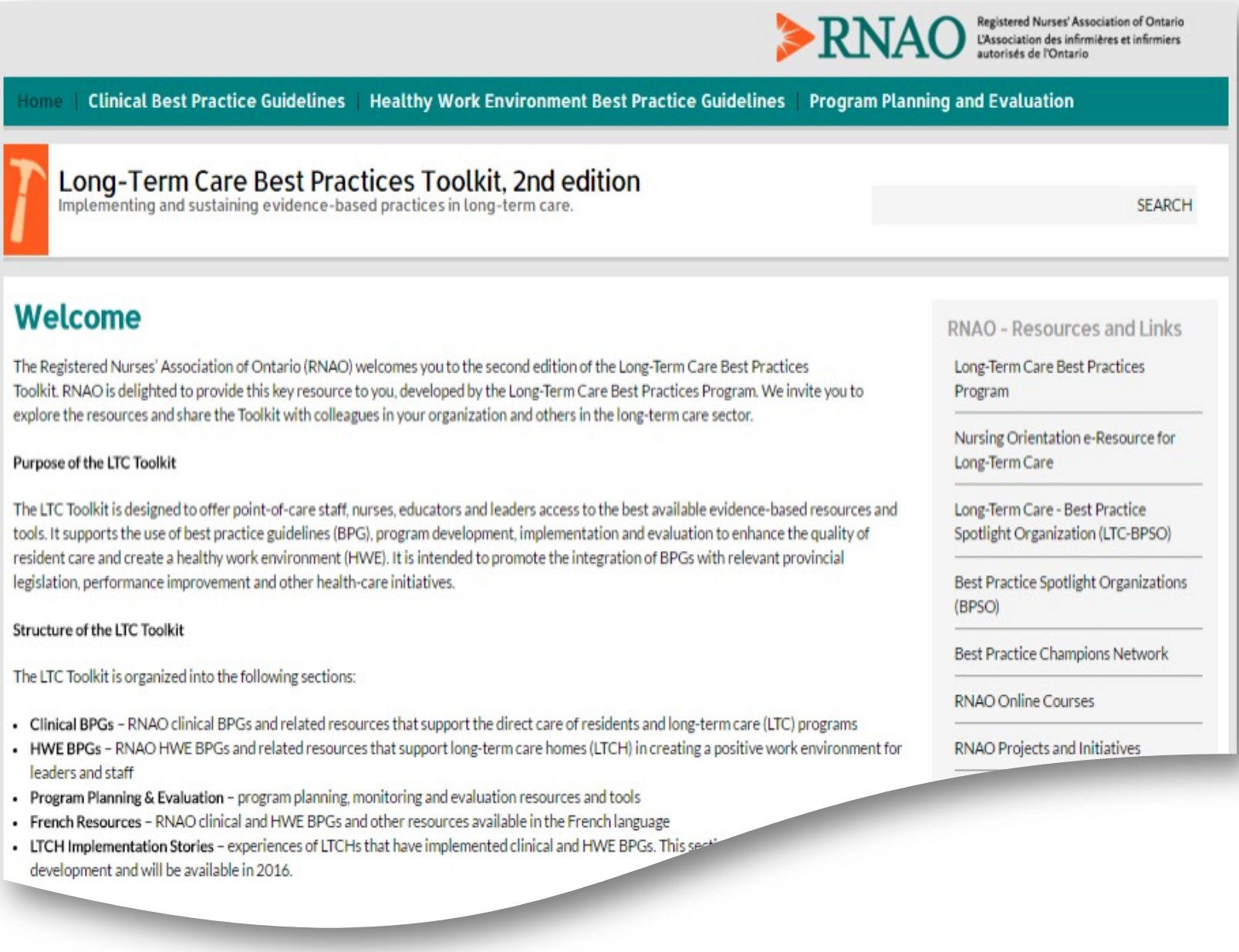




GERAS Centre for Aging Research

PREVENTING HIP FRACTURES. SAVING LIVES.

RNAO



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

Bev Faubert
RNAO LTC Best Practice Coordinator
bfaubert@RNAO.ca

Freda Poirier
RNAO LTC Best Practice Coordinator
fpoirier@RNAO.ca

Kate Harvey
OOS Regional Integration Lead
kharvey@osteoporosis.ca

Judy Porteous
OOS Regional Integration Lead
jporteous@osteoporosis.ca

Thank You!


OSTEOPOROSIS
CANADA


RNAO


LTC
LONG-TERM CARE
BEST PRACTICES
PROGRAM


GERAS
CENTRE


Stronger bones.
Better lives.
ONTARIO
OSTEOPOROSIS
STRATEGY


Hamilton
Health
Sciences


PointClickCare®


Ontario


McMaster
University


interRAI™


UNIVERSITY OF
WATERLOO


Family
Councils'
Program


OARC
Ontario
Association
of Residents'
Councils