

Healthy Ageing 101:

Gait and Balance in Older Adults: Slips, Trips and Falls

Dr. Anna Grosse, MBBS

Geriatric Medicine Fellow, Sinai Health/UHN's
Healthy Ageing and Geriatrics Program



**Sinai
Health**

Healthy Ageing
and Geriatrics



UHN

Toronto General
Toronto Western
Princess Margaret
Toronto Rehab
Michener Institute



**RTO
ERO**

Land Acknowledgement

The Dish With One Spoon is a treaty between the Anishinaabe, Mississaugas and Haudenosaunee that bound them to share the territory and protect the land.

Subsequent Indigenous Nations and peoples, Europeans and all newcomers have been invited into this treaty in the spirit of peace, friendship and respect.

Objectives

1. Know what a fall is and who is at risk of falls
2. Appreciate the consequences of falls
3. Understand why older adults fall
4. Know what to do if you fall or witness a fall
5. Learn how falls can be prevented - “how *not* to fall this Fall” and in the future!



What 'counts' as a fall?

“An event which results in a person coming to rest inadvertently on the ground or floor or other lower level”

– World Health Organisation

- Each year, 1 in 3 older Canadians experience a fall
- Women are more likely to fall and to be injured from a fall
- Most falls occur at home
- Most falls occur while walking



Guinness World Records, 13 June 2022

Why do falls matter?

Falls are common and are the leading cause of injury in Canada for older adults.

- 1 in 3 older adults who fall are seriously injured
 - Minor injury (skin tear, bruise, sprain)
 - Major injury (head trauma, organ damage, fracture)
 - Fatal injury
- High costs of falls-related hospitalization and treatment
- Falls can lead to functional decline, loss of independence and reduced quality of life
- Falls beget more falls

Why do older adults fall?

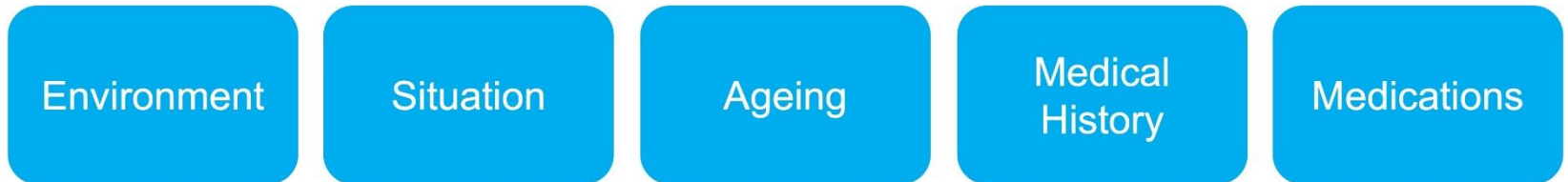
Impaired vision
Parkinson's disease
Opioids
Inappropriate footwear
Vertigo
Narrow hallways
Sensory impairment
Slippery floor
Poor mobility
Delirium
Rushing to get to the bathroom
Low blood pressure
Muscle weakness
Furniture arrangement
Heart arrhythmia
Substance use
Physical inactivity
Sleeping pills
Macular degeneration
Trip hazards
Poor balance
Dementia
Benzodiazepines

Uneven surfaces
Disability
Acute illness
Alcohol intoxication
Stairs
Arthritis
Neuropathy
Hurrying to answer the phone
Cognitive impairment
Slower reaction time
Dehydration
Unfamiliar environment
Inner ear disorders
Wet tiles
Heart failure
Poor lighting
Syncope
Deconditioning
Polypharmacy
Improper use of mobility aid
Meniere's disease
Running for the bus
Antipsychotics

Stroke
Age-related changes
Chronic pain
Low blood sugar
Risky behaviour
Dizziness
Icy surfaces
Incontinence
Foot problems
Diabetes
Loose rug
Previous falls
Hearing impairment
Cluttered space
Altered gait
Antihypertensives
Cataracts
Lack of hand rails
Anemia
Drowsiness
Antipsychotics
Infection
Living alone

Why do older adults fall?

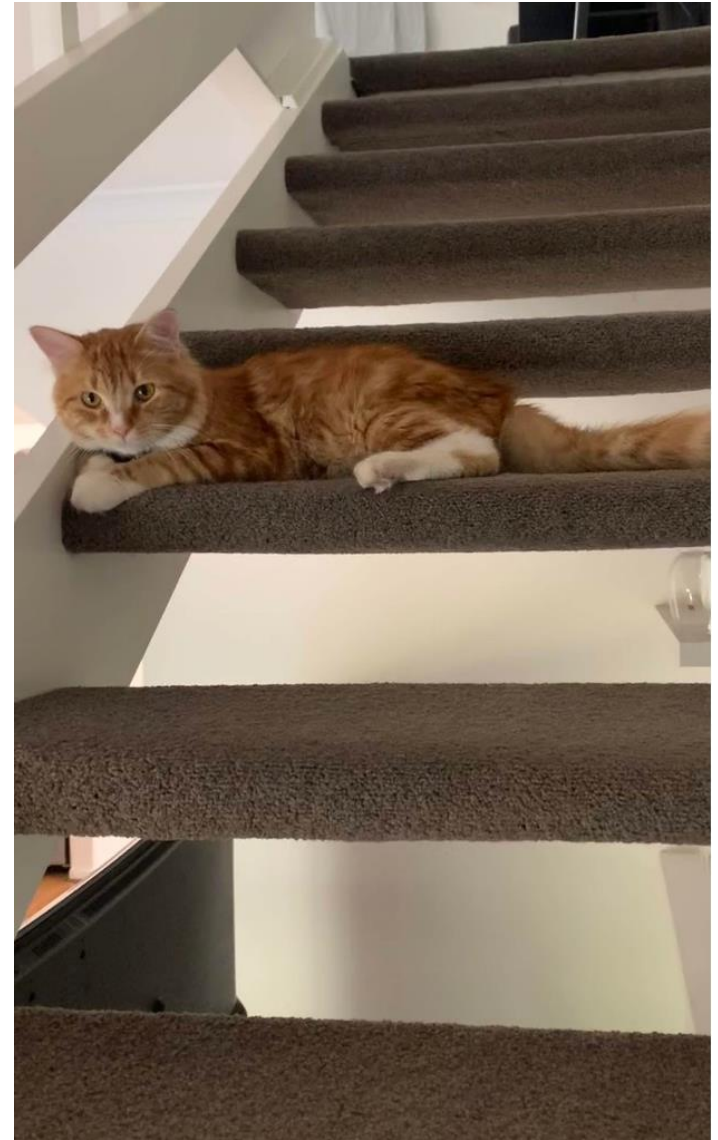
- Risk factors + Precipitant (slip or trip) = Fall
- Falls are multifactorial



- Risk factors interact and are additive
 - More risk factors = higher falls risk
- Not everyone at risk will fall

Environmental Factors

- Trip hazards
 - e.g. Rugs, cords, stairs, pets
- Slippery surfaces
- Cluttered spaces
- Poor lighting
- Lack of safety equipment
 - e.g. Ramps, hand rails, grab rails, shower chair
- Living alone



Situational Factors

- Rushing to get somewhere
 - e.g. Telephone, doorbell, bathroom
- Unfamiliar environment
- Lack of sensory aids
 - e.g. Glasses, hearing aids
- Lack of mobility aids
 - e.g. Cane, walker
- Inappropriate footwear
- Intoxication



Age-related Factors

- Reduced strength
 - Smaller, weaker muscles
- Reduced balance
 - Inner ear, nerves, brain
- Slower reaction time
- Blood pressure variations
- Altered metabolism of drugs



Medical History

- Sensory impairment
 - e.g. Vision (cataracts, glaucoma), hearing loss
- Cardiovascular disease and low blood pressure
 - e.g. Heart failure, arrhythmias, syncope
- Gait (walking) abnormalities
 - e.g. Arthritis, chronic pain, previous stroke-related issues
- Altered balance and dizziness
 - e.g. Diabetic neuropathy, vertigo, Parkinson's disease
- Cognitive impairment
- Acute illness
 - e.g. Infection, dehydration, high or low blood sugar

Medications

The type, number and dose of medications is important.

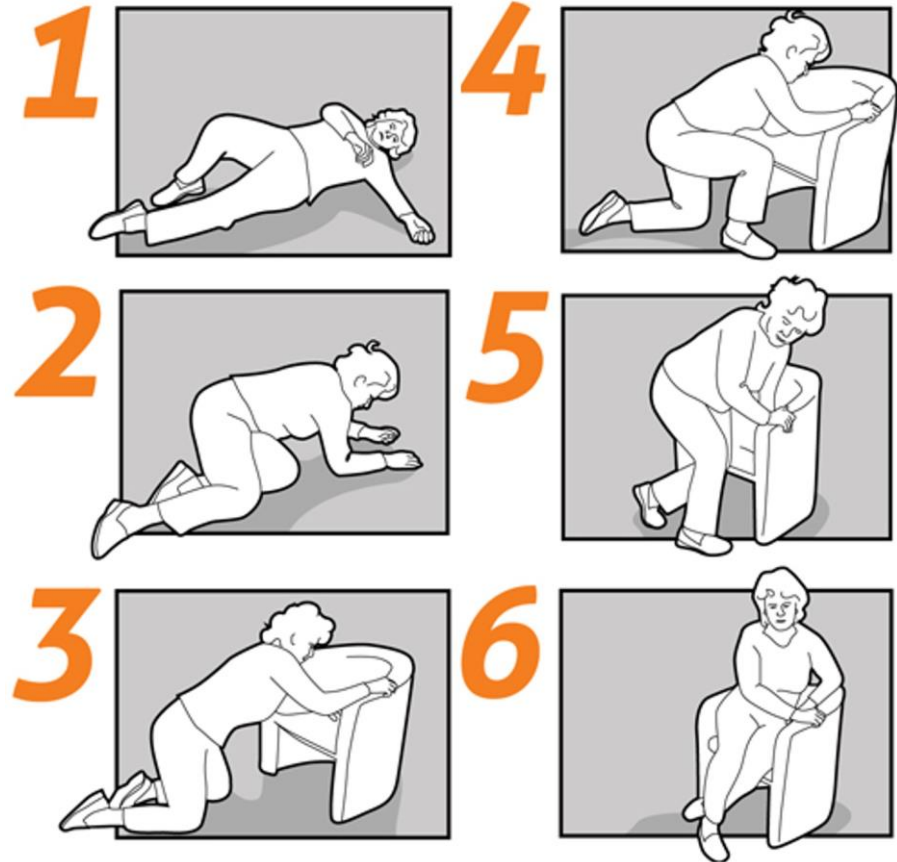
- Antihypertensives
- Antidepressants
- Benzodiazepines
- Antipsychotics
- Opioids
- Some diabetes medications



Myriam Zilles, 10 December 2020

What should you do if you fall?

- Stay calm
- If seriously hurt or can't get up:
 - Call for help – don't wait
 - Stay as warm and comfortable as possible
- If unharmed and able to get up:
 - Get up slowly and safely
 - Tell someone
 - Implement falls prevention strategies



Eastern Health, 26 October 2021

What can we do about falls?

- Risk will never be ‘zero’
- Just like cause of falls, the management of falls is multifactorial, too

Prevention

Harm
Minimization

- Managing falls is a team effort
 - Family, friends and personal support network
 - Primary care provider, geriatrician
 - Physiotherapist, occupational therapist, personal trainer
 - Chiropodist, optometrist, audiologist

Preventing Falls: What Doesn't Work

- Staying at home
- Limiting activity
- Vitamin D tablets
 - Do not *prevent* falls, but can strengthen bones to reduce the risk of fractures (broken bones)
- Multivitamins
- Restraints

Preventing Falls: What Does Work

- Optimizing medical conditions
- Reviewing medications
- Assistive devices
 - e.g. Glasses, hearing aids, gait aids (walker, cane)
- Strength, balance and exercise training
- Modifying behaviour
 - e.g. Get up slowly, avoid rushing
- Modifying the environment



Preventing Falls: What You Can Do

- Visit your primary care provider
- Have your medications reviewed
- Have your vision checked
- Have your hearing checked
- Use sensory and mobility aids if you need them
- Wear non-slip, well-fitting shoes

Exercise

- Walking
- Tai Chi
- Gardening
- Water aerobics
- Stretching

Free falls prevention exercise classes are available for older Ontarians!



Preventing Falls at Home

- Arrange an OT Home Safety Assessment
- Install safety equipment
 - e.g. Handrails, grab rails, ramps, shower board, toilet seat raiser
- Remove clutter and trip hazards
 - Take away or secure rugs and cords
- Ensure there is adequate lighting
- Make important items easily accessible
- Consider a personal alarm – and wear it!

Take-home points

- Falls in older adults are common, but not inevitable
- Falls can cause serious injury
- There are lots of things that cause falls, but also lots of things that can be done to prevent them



Additional Resources

Find more information in
“Preventing Falls At Home”
available on our website

<https://sinaigeriatrics.ca/patient-resources/preventing-falls-at-home/>



Additional Resources

<https://sinaigeriatrics.ca/healtheducation/>

Exercise and Falls Prevention Programs

- Older Adults (aged 65 and older) can join one of 2,000 free classes across Ontario to stay active, improve and maintain balance, strength and mobility.

Seniors' INFOline at 1-888-910-1999 or TTY: 1-800-387-5559

<https://www.ontario.ca/page/exercise-and-falls-prevention-programs>

Home Safety Assessment

- Get an OT Home Safety Assessment if you have fallen or are at risk of falling.

Call your local Ontario Home and Community Care Support Services Office at 310-2222 (no area code needed)

Questions? (submit through Q&A)



Stay Connected With Us



<https://sinaigeriatrics.ca/healtheducation/>

Website:

<https://sinaigeriatrics.ca>

Twitter:

@SinaiGeriatrics

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Healthy Ageing and Geriatrics Program (Sinai Health and University Health Network)

Upcoming Healthy Ageing 101 Schedule

October 25, 2022 12-1pm EDT

Navigating the Health and Community Support System

Speaker: **Audrey Miller** (Managing Director – Elder Caring Inc)

November 15, 2022 12-1pm EDT

Advice on How to Maintain Brain Health and Mental Agility

Speaker: **Dr. Allison Sekuler** (Managing Director – Centre for Ageing and Brain Health Innovation, Baycrest)

December 13, 2022 12-1pm EDT

Exploring a Healthy Financial Life: Money Management for Older Adults

Speaker: **TBD**

January 24, 2023 12-1pm EDT

Advice on How to Approach Advance Care Planning

Speaker: **Rosanna Macri** (Bioethicist - Sinai Health)

Join Us on November 4th

10th Annual Toronto Geriatrics Update Course

Friday November 4th;
8:40 AM – 3:30 PM EDT

4 Sessions + 4 Workshops

To register, visit
<https://sinaigeriatrics.ca/events-and-education/geriatrics-update-course/>

8:40 AM - 8:50 AM	COURSE REGISTRATION/LOGIN
8:50 AM - 9:00 AM	OPENING REMARKS
9:00 AM - 9:50 AM	WHEN DO GUIDELINES FAIL THE ELDERLY? (TOP 10 THINGS THAT MAKE GERIATRICIANS TWITCH) Dr. Lindy Romanovsky, Geriatrician, Sinai Health and University Health Network
9:50 AM - 10:40 AM	UPDATES ON MAID Dr. Sandy Buchman Freeman Family Chair in Palliative Care & Medical Director, North York General Hospital
10:40 AM - 11:00 AM	BREAK
11:00 AM - 11:50 AM	TOP 10 GERIATRIC MEDICINE ARTICLES OF 2022 Dr. Sharon Marr, Geriatrician, Hamilton Health Sciences Chair of the Regional Geriatric Program central
11:50 AM - 12:40 PM	MANAGING OSTEOPOROSIS AND BONE HEALTH Dr. Stephanie Kim, Geriatrician, Sinai Health and University Health Network
12:40 PM - 1:10 PM	LUNCH BREAK
1:10 PM - 2:10 PM	CONCURRENT BREAKOUT SESSION #1: OPTION 1 or 2 OPTION 1: MANAGING COMPLEX DEMENTIA RESPONSIVE BEHAVIOURS Facilitators: Dr. Carole Cohen, Geriatric Psychiatrist, Sunnybrook Health Sciences Centre Clara McGregor, Staff Lawyer, Advocacy Centre for the Elderly Mark McCabe, Police Constable #9141, Vulnerable Persons Coordinator, Toronto Police OPTION 2: MANAGING COMPLEX PHARMACOLOGICAL SCENARIOS - DEPRESCRIBING AND POLYPHARMACY Facilitator: Chris Fan-Lun, Pharmacy Clinical Coordinator, Sunnybrook Health Sciences Centre
2:10 PM - 2:20 PM	BREAK
2:20 PM - 3:20 PM	CONCURRENT BREAKOUT SESSION #2: OPTION 3 OR 4 OPTION 3: HOW TO NAVIGATE A COGNITIVE ASSESSMENT Facilitator: Dr. Morris Freedman, Neurologist, Baycrest OPTION 4: VAGUE ABNORMALITIES ON A PATIENT'S BLOOD WORK Facilitator: Dr. Michael Scott, Hematologist, St. Michael's Hospital
3:20 PM - 3:30 PM	CLOSING REMARKS