Falls Workshop 1: Fall Risk ASSESSMENT of Community-Dwelling Seniors

A Practical Approach

Geriatric Refresher Day – May 15, 2019

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Objectives

- Highlight the importance of fall prevention in seniors
- Review the components of a multifactorial fall risk assessment
- Demonstrate practical tips for fall risk assessment specific to: physical function, medications, pain, and postural hypotension
- Highlight important components of a fall history
- Interactive discussion of a fall risk assessment using a case presentation

Why Stop Falls?

- It is estimated that 1/3 of seniors is likely to fall at least once per year.
- For those over 80 years old, 50% typically fall each year, and half of those will fall 2 or more times.
- Falls cause 95% of all hip fractures
- Falls are the leading cause of injury-related hospitalization and death among individuals aged 65 years and older.
- Falls cause 85% of seniors' injury-related hospitalizations.

(National Falls Statistics PHAC (2014). Seniors' Falls in Canada – Second Report)

(Inouye, S.K. Brown, C.J. and Tinetti, M.E. Medicare nonpayment, hospital falls and unintended consequences. *New England Journal of Medicine, 2009, 360 (23), 2390-2393.)*

Why Stop Falls?

- Falls are <u>not</u> part of normal aging
- Falls can lead to:
  - Chronic pain
  - Loss of confidence, reduced mobility and independence
  - Fear of falling, depression and anxiety
  - Activity restriction
  - Social isolation

(PHAC (2014) Seniors' Falls in Canada, Second Report)

Good News!

The literature suggests that as many as 1/3 of falls- related adverse outcomes are preventable.

(LHIN Collaborative Integrated Provincial Falls Prevention Framework & Toolkit July 2011)

Are You at Risk for Falls?

Champlain Region
Patient, Family and Caregiver
Education Program

Falls are the main reason why older people lose their independence.

✔ Check your fall risk with the **Staying Independent Checklist**.

✔ Use this checklist every year and discuss changes with your doctor.

More information:
Your local public health agency, champlainhealthline.ca or stopfalls.ca

Primary Care Providers: for screening, assessment and program resources, please go to stopfalls.ca

PED 7 (03/2019)

Complete the Staying Independent Checklist

Please circle "Yes" or "No" for each statement below.			Why it matters
Yes (2)	No (0)	I have fallen in the last 6 months.	People who have fallen once are likely to fall again.
Yes (2)	No (0)	I use or have been advised to use a cane or walker to get around safely.	People who have been advised to use a cane or walker may already be more likely to fall.
Yes (1)	No (0)	Sometimes I feel unsteady when I am walking.	Unsteadiness or needing support while walking are signs of poor balance.
Yes (1)	No (0)	I steady myself by holding onto furniture when walking at home.	This is also a sign of poor balance.
Yes (1)	No (0)	I am worried about falling.	People who are worried about falling are more likely to fall.
Yes (1)	No (0)	I need to push with my hands to stand up from a chair.	This is a sign of weak leg muscles, a major reason for falling.
Yes (1)	No (0)	I have some trouble stepping up onto a curb.	This is also a sign of weak leg muscles.
Yes (1)	No (0)	I often have to rush to the toilet.	Rushing to the bathroom, especially at night, increases your chance of falling.
Yes (1)	No (0)	I have lost some feeling in my feet.	Numbness in your feet can cause stumbles and lead to falls.
Yes (1)	No (0)	I take medicine that sometimes makes me feel light-headed or more tired than usual.	Side effects from medicine can sometimes increase your chance of falling.
Yes (1)	No (0)	I take medicine to help me sleep or improve my mood.	These medicines can sometimes increase your chance of falling.
Yes (1)	No (0)	I often feel sad or depressed.	Symptoms of depression, such as not feeling well or feeling slowed down, are linked to falls.
TOTAL _____		**Add up the number of points for each "yes" answer. If you scored 4 points or more, you may be at risk for falling. Discuss this brochure with your doctor or health-care provider.**	

This checklist was developed by the Greater Los Angeles VA Geriatric Research Education Clinical Center and affiliates and is a validated fall risk self-assessment tool (Rubenstein et al. J Safety Res; vol. 42, n°6, 2011, p. 493-499). Adapted with permission of the authors.

Notes: _____

_____

_____

Did you know?

"Most falls occur as a result of compounding factors that combine and overwhelm an older person's ability to maintain or regain his or her balance."

(Seniors' Falls in Canada – Second Report, PHAC)

Risk Factors

Biological factors

Environmental factors

Socio-economic factors

Behavioural factors

Biological Risk Factors

- Age-related changes
- Medical conditions
- Acute or chronic illness
- Dizziness/postural hypotension
- Bowel and bladder problems
- Medications
- Visual deficits/glasses
- Hearing loss
- Decreased sensation

- Pain
- Balance or gait problems
- Foot problems (toe/nail deformities, ulcers, edema)
- Lower extremity weakness
- Depression
- Cognitive impairment
- Functional/ADL impairment
- History of falls

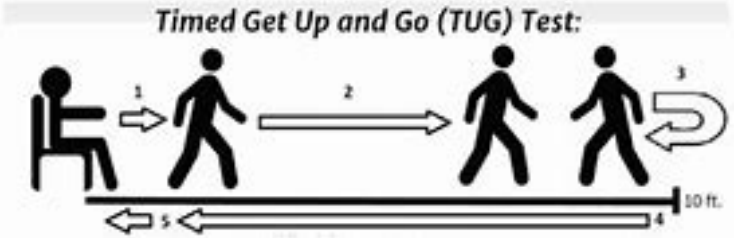
Normal Aging

- Stiffening of connective tissue
- Loss of muscle mass
- Slowing of nerve conduction
- Decreased visual acuity
- Impaired depth perception
- Vascular changes
- Decreased joint range of motion

Functional Assessments

Timed Up and Go (TUG)

- Simple & practical performance measure of gait & balance
- Standardizes most of the "basic mobility" tasks
- Senior is observed while he/she rises from a chair, walks 3 meters & returns to the chair
- Standardized cut-off scores to predict risk of falling
- A cut-off score of ≥ 13.5 seconds was shown to predict falling in community-dwelling frail elders



(Shumway-Cook et al., 2000)

- **TUG score for risk of falls is not valid with cognitive impairment

(AGS/BGS Guidelines, 2010)

Chair-Stand Test

- Assesses leg muscle strength, balance and endurance
- Senior cannot use arms (arms are crossed on the chest)
- Ask senior to stand up to a full standing position and then sit back down again

30 Second Chair Stand Test

AGE	Men- Number of Stands	Women- Number of Stands
60-64	14-19	12-17
65-79	12-18	11-16
70-74	12-17	10-15
75-79	11-17	10-15
80-84	10-15	9-14
85-89	8-14	8-13
90-95	7-12	4-11

Scores less than 8 (unassisted) stands were associated with lower levels of functional ability

(Rikli, Jones 1999)

Five Times Sit To Stand

- Optimal cut-off time for predicting recurrent fallers is 15 seconds.

(Buatois et al. 2008, 2010)

- Estimate cut-off values for normal performance in community-dwelling older adults:

- 60-69 years: 11.4 seconds
- 70-79 years: 12.6 seconds
- 80-89 years: 14.8 seconds

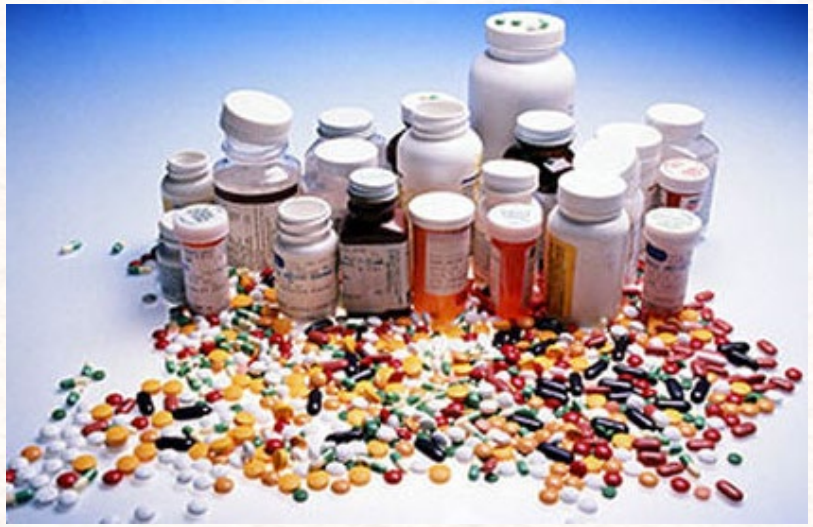
Medication Review

Medications

- Medications can have side effects that are associated with increased risk of falls or injuries from falls
  - Prescription
  - Non-prescription/over the counter
  - Illicit drugs/ ETOH
- Can cause dizziness (by causing low blood pressure), slow reaction time/reduce alertness, nerve damage/neuropathy, movement problems
- Common culprits include: psychoactive medications (include sedatives, hypnotics, antidepressants, antipsychotics)
- Also: cardiac meds, diuretics, antihypertensives , anticholinergic agents, narcotics
- Polypharmacy an additional concern
- Blood thinners – risk of injury

Medication Assessment

- Review bottles, blister-packs, weekly dosettes
  - Taking as prescribed/over-taking/missing doses?
  - Taking at right time?
  - Understand what medications are for and taking for right reason?
  - What steps are taken if miss dose?
  - Using friends/relatives medications?
  - Mixing with alcohol or other drugs?
  - Volume of alcohol, marijuana, illicit drugs
- Important to also assess:
  - OTC medications (and frequency)
  - Vitamins/minerals/natural products



Pain Assessment

Pain

- Many seniors have pain
  - Often chronic – many under report
- Pain can contribute to falls:
  - Limits mobility
  - Promotes musculoskeletal weakness due to inactivity
  - Impacts joint movement
- Studies show that community-dwelling seniors with pain were more likely to have fallen in the past 12 months and to fall again in the future
- Foot and chronic pain were particularly strong risk factors for falls

Pain Assessment

ONSET	When did it begin? How long does it last? How often does it occur?
PROVOKING/ PALLIATING	What brings it on? What makes it better? What makes it worse?
QUALITY	What does it feel like? Can you describe it?
REGION/RADIATION	Where is it? Does it spread anywhere?
SEVERITY	What is the intensity of the pain? (0n a scale of 0 to 10 with 0 being none and 10 being the worst possible) Right now? At best? At worst? On average?
TIMING/TREATMENT	Is the pain constant? Does it come and go? Is it worse at any particular time? What medications and treatments are you currently using? How effective are these? Do you have any side effects from the medications and treatments?
UNDERSTANDING/ IMPACT ON YOU	What do you believe is causing the pain? Are there any other symptoms with this pain? How is this pain impacting you and your family?
VALUES	What is your goal for this pain? What is your comfort goal or acceptable level for this pain? (On a scale of 0 to 10 with 0 being none and 10 being worst possible)? Are there any other views or feelings about this pain that is important to you or your family? Is there anything else you would like to say about your pain that has not been discussed or asked?

RNAO (2013). Assessment and Management of Pain (Third Edition)

Assessment for Postural Hypotension

Postural Hypotension

What - ↓ of ≥ 20 mm Hg (systolic BP) or ≥10 mm Hg (diastolic BP) within three minutes of standing

Why - Body unable to compensate for pooling of blood in the venous systems of lower extremities and GI tract when rising

CGS Journal of CME 2016 volume 6, Issue 1
www.posturalhypotension.ca

Postural Hypotension

How: Measure peripheral blood pressure and heart rate in the supine position and then after 1 and 3 minutes of standing

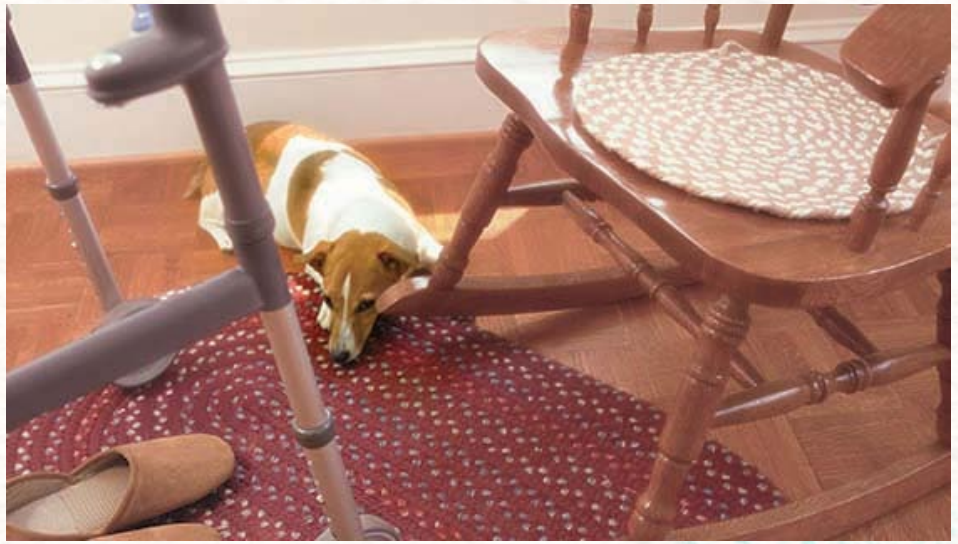
- Postural hypotension with ↑ in heart rate
  - Suspect volume dehydration
- Postural hypotension with no change in heart rate
  - Potential - autonomic dysfunction or beta-blockage

- Timing: morning, after meal, or after BP meds taken effect
- Ask if senior symptomatic during position changes

CGS Journal of CME 2016 volume 6, Issue 1
www.posturalhypotension.ca

Environmental Risk Factors- Indoors

- Poorly maintained home
- Poorly lit stairs, ramps or doorways
- Stairs with irregular step width or height
- Stairs without handrails or marking on the edges
- Slippery floors, throw rugs, loose carpets
- Raised sills in door jams
- Clutter
- Low toilet seats
- Lack of grab bars in bathrooms
- Pets



Environmental Risk Factors- Outdoors

- Wintery conditions - Snow or ice on stairs or walkways
- Public/community hazards
- Use of assistive devices
- Uneven sidewalks or cracks in sidewalks
- Stairs without handrails or marking on the edges
- Poor lighting
- Objects on sidewalks or walkways such as garbage cans
- Unmarked curbs or corners without curb ramps
- Long crosswalks without pedestrian islands

Ottawa Public Health (2015). You CAN Prevent Falls

Behavioural Risk Factors

- Risk-taking attitudes
  - action or inaction
- Reduced physical activity
- Excessive alcohol use
- Fear of falling
- Improper footwear/clothing
- Use of assistive devices
- Poor nutrition/hydration
- Lack of sleep

Social and Economic Risk Factors

- Isolation
- Language barrier
- Poor living conditions
- Lack of transportation
- Low level of education

Fall History

Fall History

- History of falls
- Frequency – escalating
- Circumstances
- Time of day
- Location of fall
- Events leading up to fall
- Environmental hazards
- Mental status
  - alert, groggy, dizzy
- Any loss of consciousness
  - before, after, duration
- Loss of balance
- Landing
  - backwards, face plant, on hands, etc.
- Witnessed/unwitnessed
- Use of mobility aid
- Able to get up on own after
- Injury
- Sought medical attention
- Associated hospitalization

Where to be assessed

- Primary Care Physician
- Central Intake for Specialized Geriatric Services
- Geriatric Assessment Outreach Team (GAOT)
- West End Integrated Fall Prevention Program
- Champlain- Falls Assessment and Streamlined Treatment (C-FAST) Clinic
- Montfort Falls Clinic
- Geriatric Day Hospitals

The Case of Mrs. M.

Mrs. M.

- A pleasant 86 year-old retired teacher who lives alone independently in her own apartment with elevator access
- She goes out of her apartment at least 3 times a week (“to run errands”) and has close friends that she sees regularly.
- She walks with a cane but only when outside because she prefers to use her furniture to support her balance when at home (I don’t have a big apartment so it is no problem!)
- She fell once last winter after slipping on ice, causing a fractured wrist. She had a minor “tumble” when she bent down to wipe up a spill in her kitchen 2 weeks go and bumped her head against a low cabinet door (“Luckily I have a hard head!”)
- She has pain in her knees most days, especially if she walks too far or take the stairs so she avoids doing much walking if she can

Mrs. M.

- Past Medical History
  - Hypertension
  - Type II diabetes
  - Osteoarthritis of knees
  - Osteopenia (diagnosed 10 years ago)
  - Urinary urge incontinence
  - Depression (started treatment after her husband passed away 3 years ago)
  - Mild Cognitive Impairment
  - Presbyopia (wears bifocals)
  - Cataract surgeries
  - Non-smoker, no regular alcohol intake
- Medications
  - Perindopril 8 mg daily
  - Amlodipine 10 mg daily
  - Metformin 500 mg BID
  - Celexa 20 mg daily
  - Lasix 20 mg daily
  - Tolterodine ER 4 mg daily
  - Celebrex 100 mg daily
  - Oxazepam 10 mg qhs
  - Tylenol Nighttime PRN

Does Mrs. M. need a fall risk assessment?

What are her potential risk factors for falls?

What questions would you ask her?

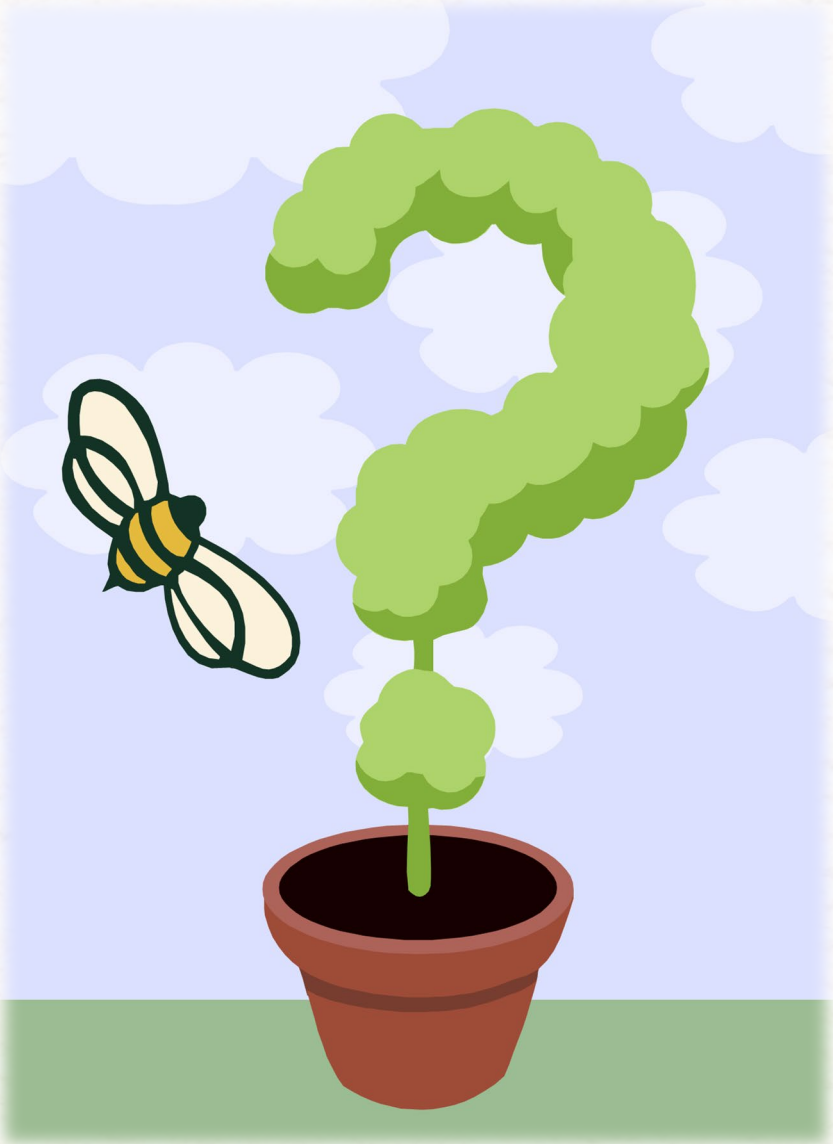
Physical Exam Results

- Supine BP 150/80, HR 68, standing BP after 1 minute 126/70, HR 80, mild dizziness reported
- Mild ankle edema
- No feet deformities
- Mildly antalgic gait – no aids
- TUG: 18 seconds
- Chair stand test: 5 repetitions in 30 seconds

What would you do next?

Please return after lunch for:

Falls Workshop 2 –
Fall Risk Intervention



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