Navigating Recovery Safely: Minimizing Risk of Falls Post Stroke

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PRESENTER DISCLOSURE

Presenter(s) Mary Haller and Dana Guest:

Presenters have not received any commercial support and have no conflicts to declare

Objectives

1. Identify stroke-related impairments that heighten vulnerability to falls.
2. Identify recommended screening/assessment tools post stroke and recognize limitations to generalized screening for fall risk in persons living with stroke.
3. Identify appropriate interventions for fall risk management and phased approach for integration.
4. Review educational materials and resources tailored for falls risk management in stroke patients.

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GUIDELINE

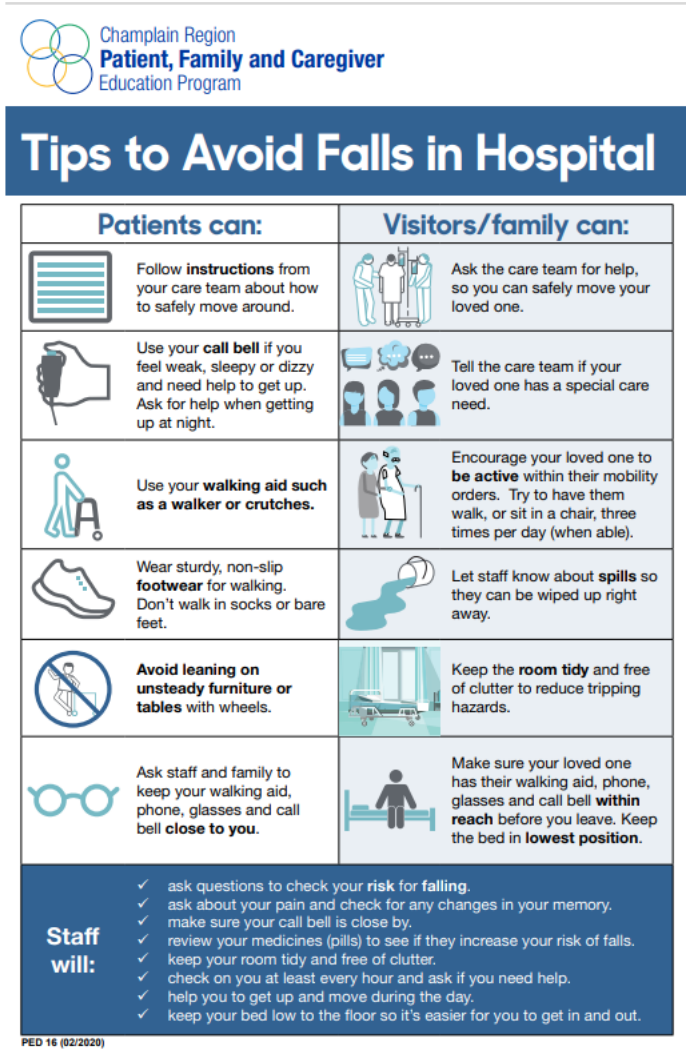
World guidelines for falls prevention and management for older adults: a global initiative

Key Messages

- Falls /related injuries are increasingly common especially post stroke
- Many falls can be prevented
- Fall /injury prevention needs multidisciplinary management
- Individualized multidomain interventions are effective for reducing the rate of falls in high-risk individuals i.e post stroke
- In care homes/hospital settings, all older adults should be considered as high risk

Universal Fall Risk Interventions

- Ensure mobility aids within reach
- Offer help as needed
- Allow for family to remain with patient as much as possible
- Work to reduce clutter
- Encourage patient to use eyeglasses, hearing aids and walkers/canes
- Erect a caution sign and call housekeeping immediately to clean up a spill



Champlain Region
Patient, Family and Caregiver
Education Program

Tips to Avoid Falls in Hospital

Patients can:	Visitors/family can:
Follow **instructions** from your care team about how to safely move around.	Ask the care team for help, so you can safely move your loved one.
Use your **call bell** if you feel weak, sleepy or dizzy and need help to get up. Ask for help when getting up at night.	Tell the care team if your loved one has a special care need.
Use your **walking aid such as a walker or crutches.**	Encourage your loved one to **be active** within their mobility orders. Try to have them walk, or sit in a chair, three times per day (when able).
Wear sturdy, non-slip **footwear** for walking. Don't walk in socks or bare feet.	Let staff know about **spills** so they can be wiped up right away.
Avoid leaning on unsteady furniture or tables with wheels.	Keep the **room tidy** and free of clutter to reduce tripping hazards.
Ask staff and family to keep your walking aid, phone, glasses and call bell **close to you**.	Make sure your loved one has their walking aid, phone, glasses and call bell **within reach** before you leave. Keep the bed in **lowest position**.

Staff will:

- ✓ ask questions to check your **risk** for **falling**.
- ✓ ask about your pain and check for any changes in your memory.
- ✓ make sure your call bell is close by.
- ✓ review your medicines (pills) to see if they increase your risk of falls.
- ✓ keep your room tidy and free of clutter.
- ✓ check on you at least every hour and ask if you need help.
- ✓ help you to get up and move during the day.
- ✓ keep your bed low to the floor so it's easier for you to get in and out.

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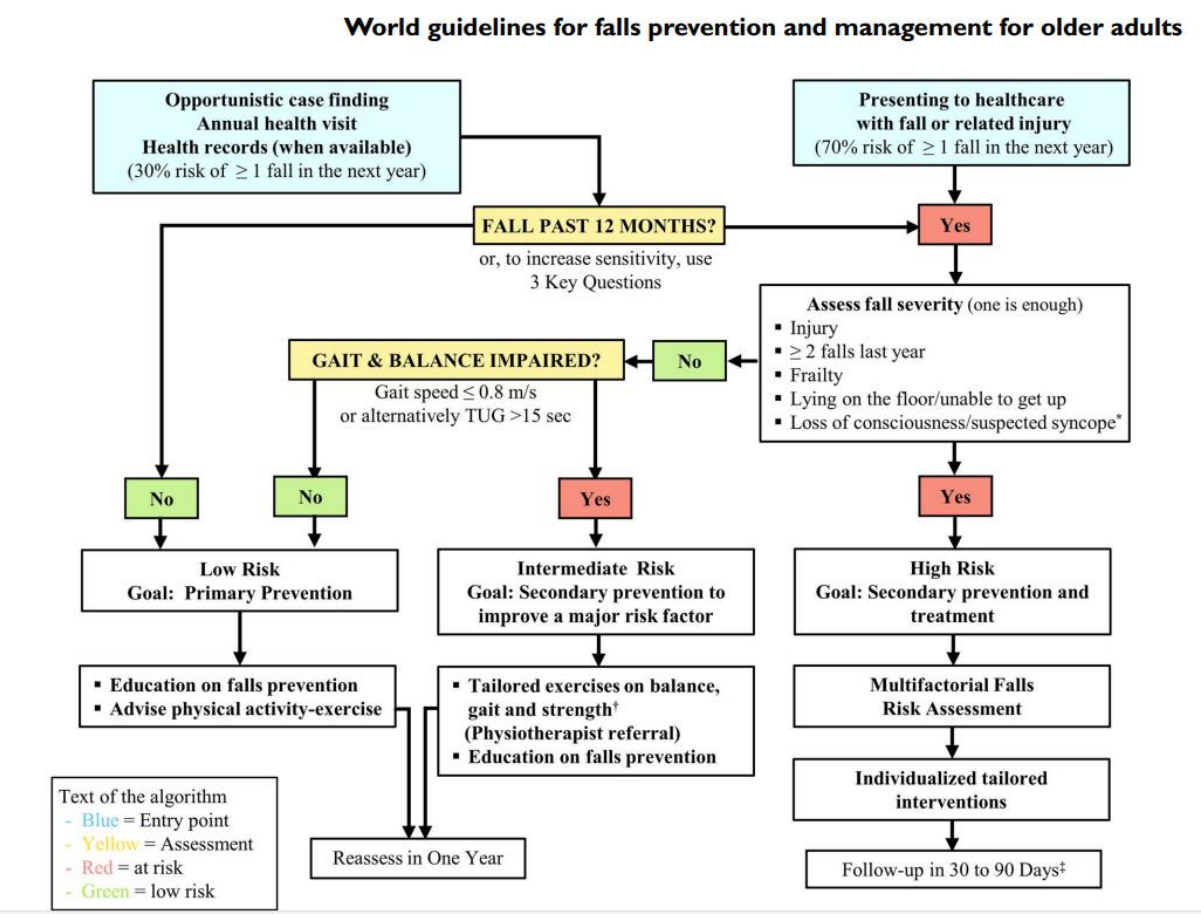
Algorithm

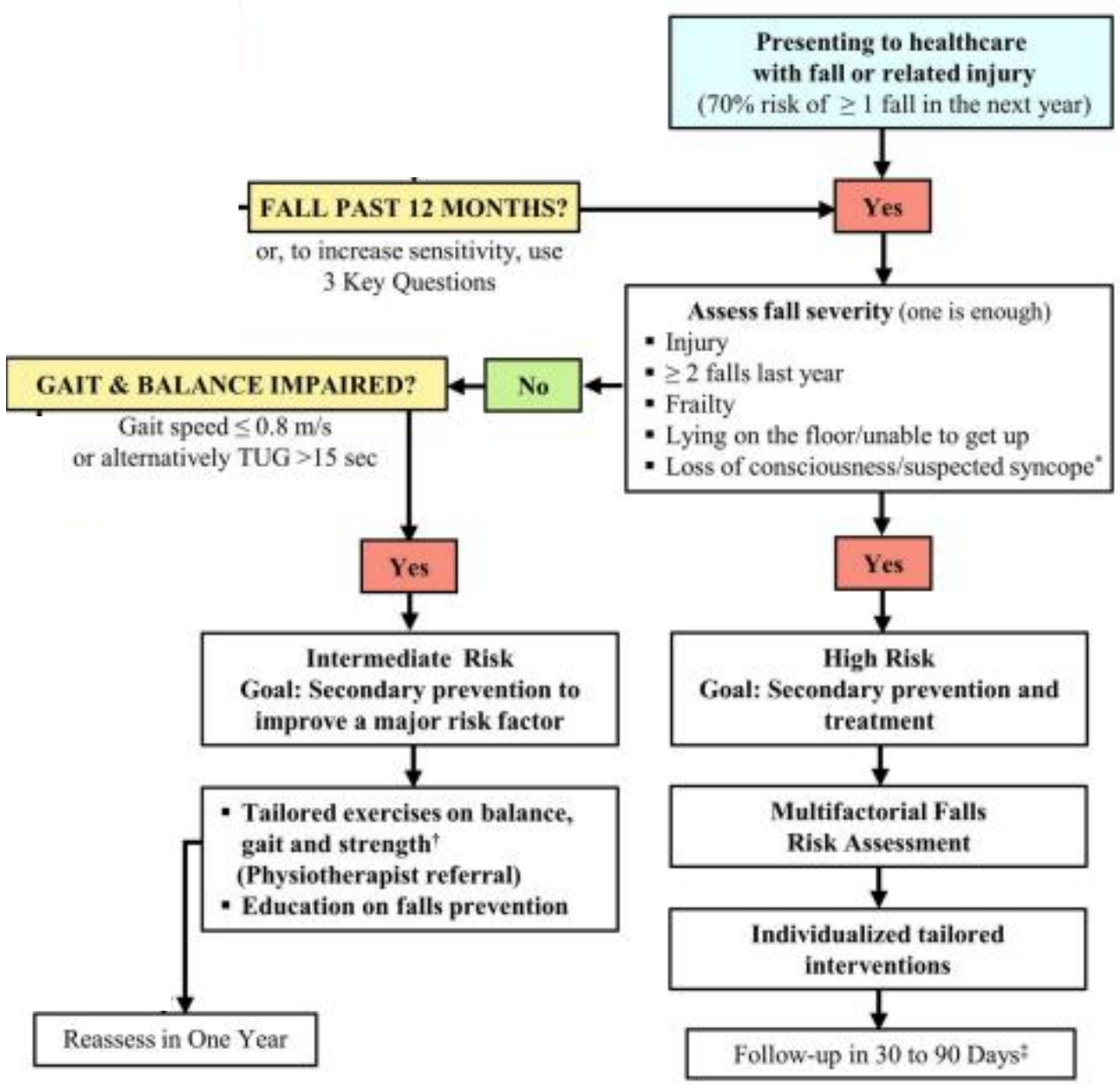


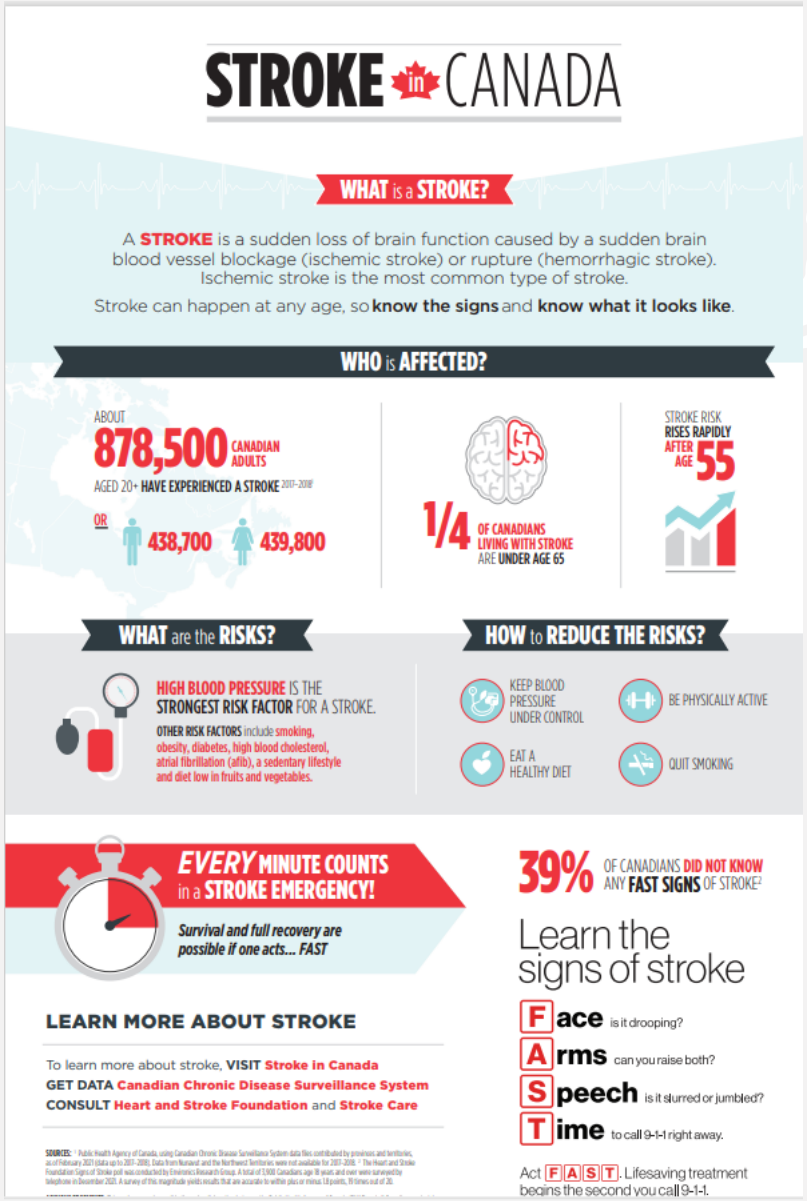
3 Key Questions

1. Have you fallen in the past year?
2. Do you feel unsteady when standing or walking?
3. Do you have worries about falling?

World guidelines for falls prevention and management for older adults

Text of the algorithm
- Blue = Entry point
- Yellow = Assessment
- Red = at risk
- Green = low risk





In care homes/hospital settings, all older adults should be considered as high risk

75% of our stroke population >65 or older adults

Inpatient Case Study

Bernie 60-year-old gentleman who suffered a left stroke 3 days ago and presents with:

- Weakness in his right arm and leg
- Vision changes - hemianopia/visual field cut
- Decreased sensation
- Impaired coordination
- Apraxia - difficulty planning movements
- Decreased attention and insight
- Difficulty communicating
- Right knee pain, secondary to arthritis but worse in hospital
- Fatigue

Past medical history:

- HTN
- OA

Screening = High Risk

Atlas Screening Tool:

Bernie scores “High Risk” on general facility falls screening tool and fall risk identified in chart

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Atlas Fall Risk					
History of fall within the last year?			0	0	
Impaired mobility, balance and/or gait?	10	10	10	10	
Impaired mental status?	0	0	0	0	
Based on your clinical judgment, is the patient at risk for falling?	10	10	10	10	
Atlas Fall Total	20	20	20	20	

Allied health assesses within 48 hours and recommends:

1 person assist to stand with a 4WW to transfer to chair or walk to bathroom to toilet. They note that he is impulsive and attempts to do things without assistance.

Next Steps?

Best Practice Recommendations

Canadian Stroke Best Practices

Table 2: Suggested Screening/Assessment Tools for Risk of Falling Post Stroke

Assessment Tool	Time to Complete	Items and Scores	Required Equipment
Stroke Assessment of Fall Risk (SAFR) **Breisinger et al. 2014**	Unknown	7 fall risk-factors comprised of 4 impairment-based measures (impulsivity, hemi-neglect, static, and dynamic sitting balance) and 3 Functional Independence Measures (transfers, problem-solving, and memory) are measured. Total scores range from 0-49 with a higher score indicating a higher risk of falling.	Several commonly available objects.
Predict-FIRST **Sherrington et al. 2010**	30 minutes for physical component.	Respondents are measured on 5 risk factors including frequent toileting, central nervous system medications, experiencing a fall in the past year, being male, and inability to perform a tandem stance. Respondents are cumulatively scored across the five risk factors to assess the probability of falling. A score of 0=2% chance of falling, 1=4%, 2=9%, 3=18%, 4=33% and 5=52%.	Several commonly available objects.
STRATIFY **Oliver et al. 1997**	Unknown	Patients are given five questions about the absence (score of 0) or presence (score of 1) of falls risk factors including previous falls, visual impairments, frequent toileting, agitation, and a mobility score of three or four. Mobility scores are obtained by combining the mobility and transfer scores on the Barthel Index. STRATIFY scores are ranged from 0 (low risk) to 5 (high risk).	Several commonly available objects.
Timed Up & Go Test (TUG) **Podsiadlo & Richardson 1991**	1-2 minutes	The patient begins in a seated position, is asked to stand and walk 3 metres, turn, walk back to their chair sit back down. Patient is timed with difficulties in mobility monitored by instructor. A time of $\geq$ 15 seconds indicates an increased risk of falling.	Several commonly available objects.
Modified Motor Assessment Scale (M-MAS) **Carr et al. 1985**	15-35 minutes	8 items pertaining to balance, mobility and motor function, the latter of which measuring upper arm function, walking, sitting to standing, supine to side-lying, supine to sitting, and hand movements. Each item is scored 0 to 6 with a higher score indicating greater difficulty performing the equivalent item task.	Several commonly available objects along with a low plinth.

Interventions

- Identification of patient at risk
- Visual reminders to call for assist
- Environmental set up /
- Frequent rounding
- Regular toileting (Q2hr)
- Education patient/ family on risk of falls
- Communication/ documentation of fall risk and strategies
- Ongoing assessment

Ongoing Assessment of Risk

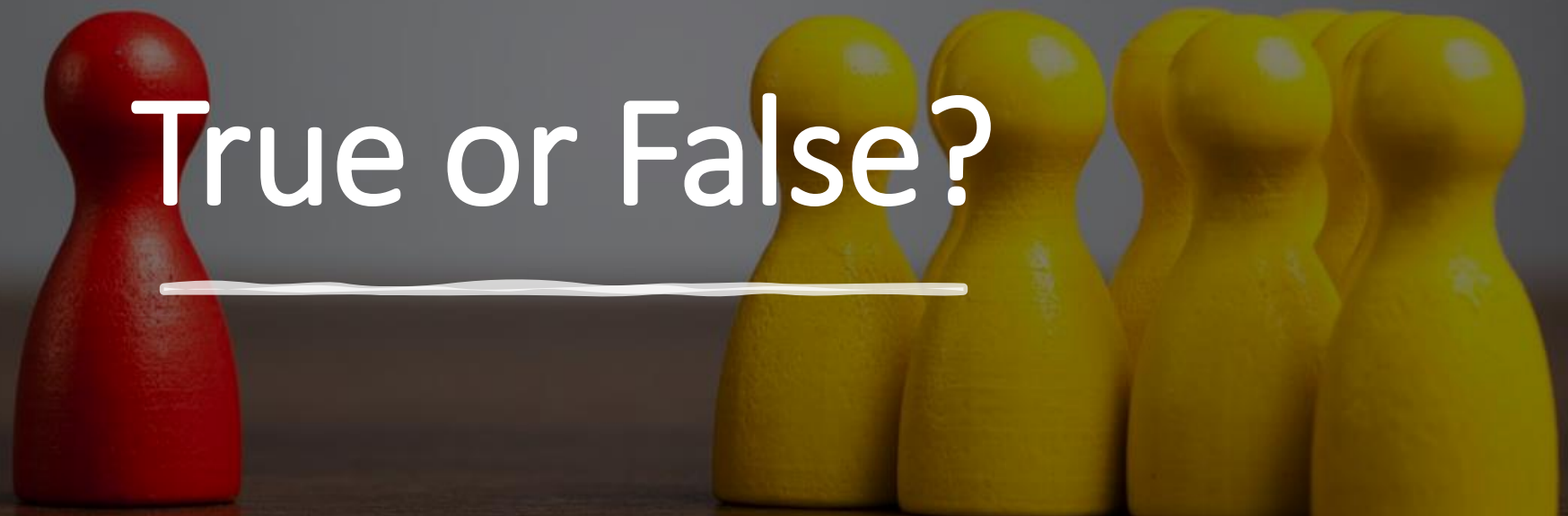
Despite targeted interventions and regular reminders when rounding you continue to find Bernie attempting to mobilize independently.

What should you do?

- Determine the motivation for mobilizing
- Encourage family to be more present
- Implement chair and bed alarms
- Posey mat on floor
- Consider use of wheelchair to allow for independent mobility

Myths or Truths

True or False?



Community Case Study

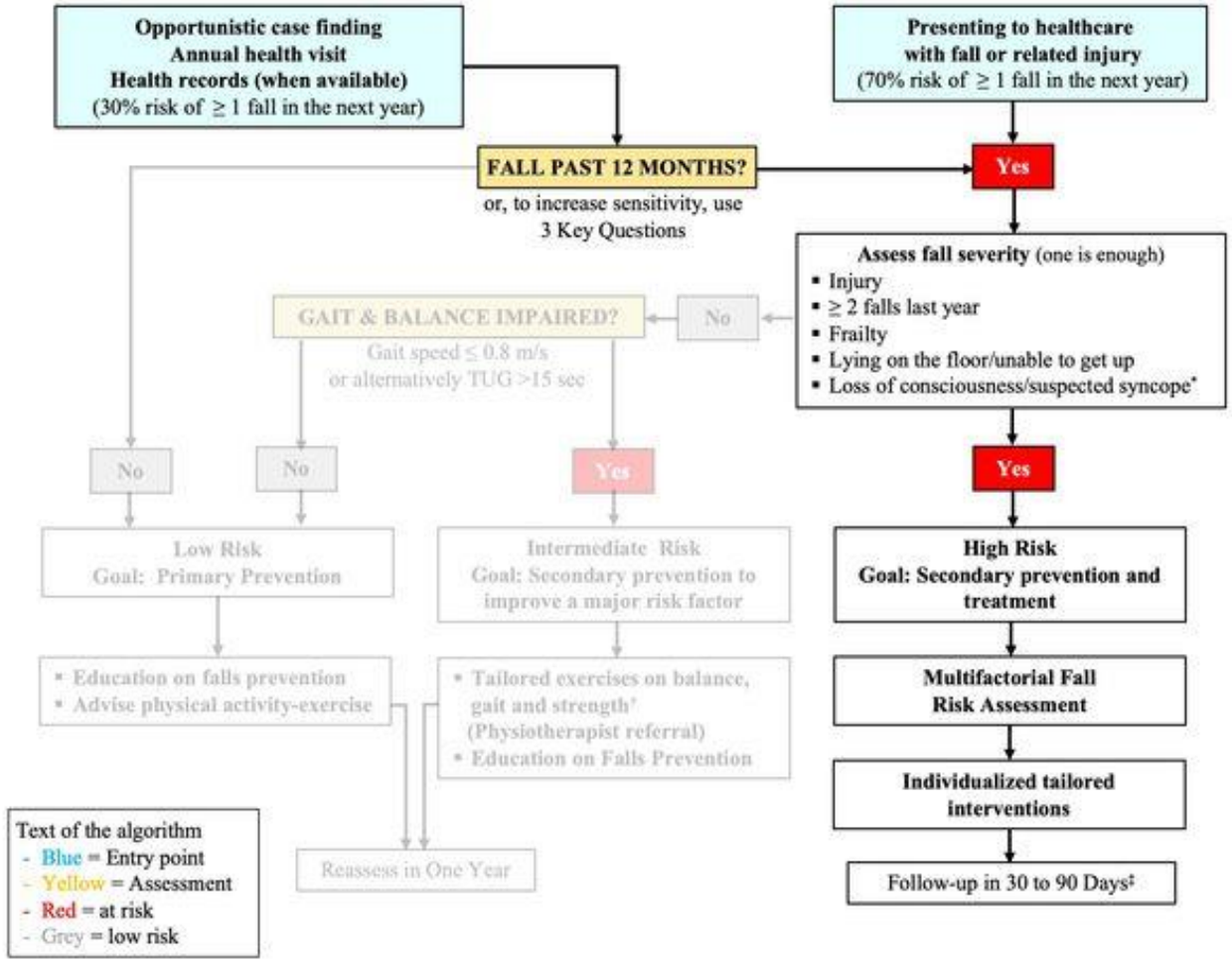
Mr. C: 80-year-old man suffered a mild right CVA and was recently discharged home from acute care with homecare for bathing, and home OT assessment pending.

Patient presents with:

- CVA with mild cognitive changes
- Using walker secondary to right sided weakness and decreased balance
- Osteopenia
- Newly diagnosed afib
- Hypertension
- Smoker
- Dizziness
- Unintentional weight loss, BMI 19.6
- Unknown environmental risks
- Requires bathing assist
- History of falls in the bathroom, exiting home, at night-prior to CVA dx
- Meds- Atenolol, Rivaroxaban , Bisprolol, Plavix, Vitamin D,

Assess fall severity = High Risk

- Injury
- Previous falls
- Frailty
- Lying on the floor/unable to get up
- LOC/suspected syncope



Multi Factorial Assessment:

- Cognition
- Dizziness
- Home environment
- Balance, strength and gait assessments
- Medication
- Footwear

Individualized Tailored Interventions for Mr. C :

High Risk:

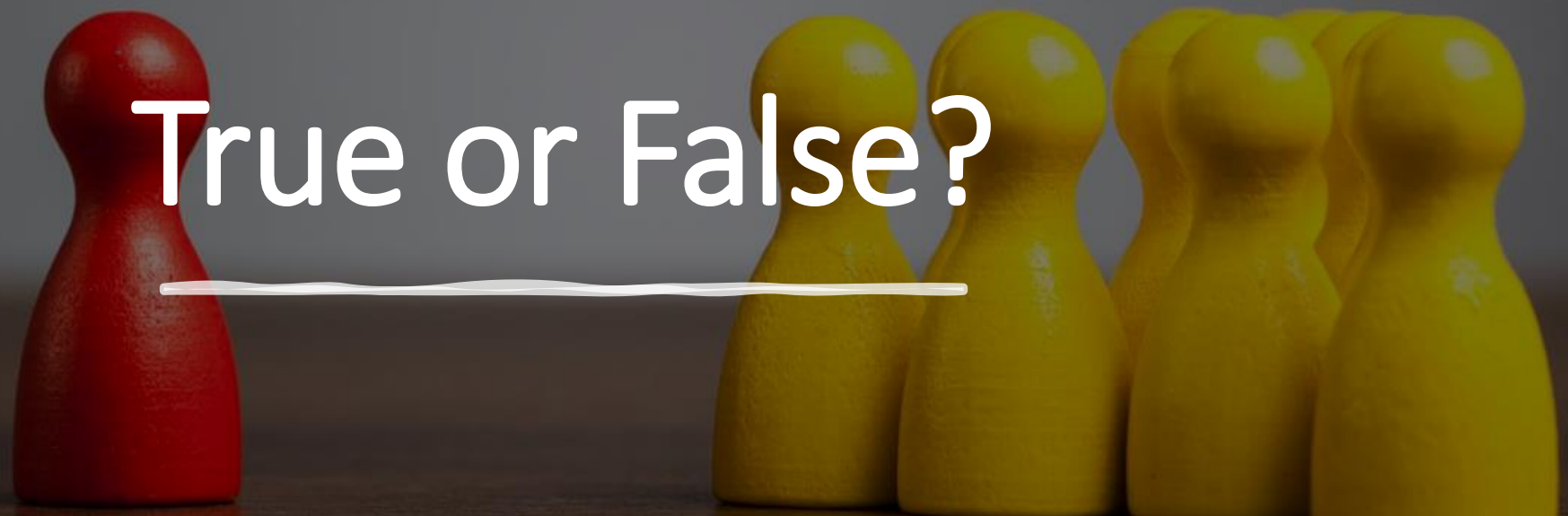
- Strength gait and balance program/ Physiotherapy
- Nutritional counselling
- Home OT
- Footwear recommendations
- Monitoring and support for cognitive concerns- family home care , friends and neighbors
- Medication deprescribing as indicated
- Sleep hygiene education and avoidance of medication
- Bone health treatment for injury prevention
- Consider need for a personal alarm

Generalized Interventions:

- Community Exercise
- Physio referral: gait aids, strength and balance
- Environmental adaptations to consider
- Education on fall risk and postural hypotension strategies
- Meds requisition/deprescribing
- Personal alarm

Myths or Truths

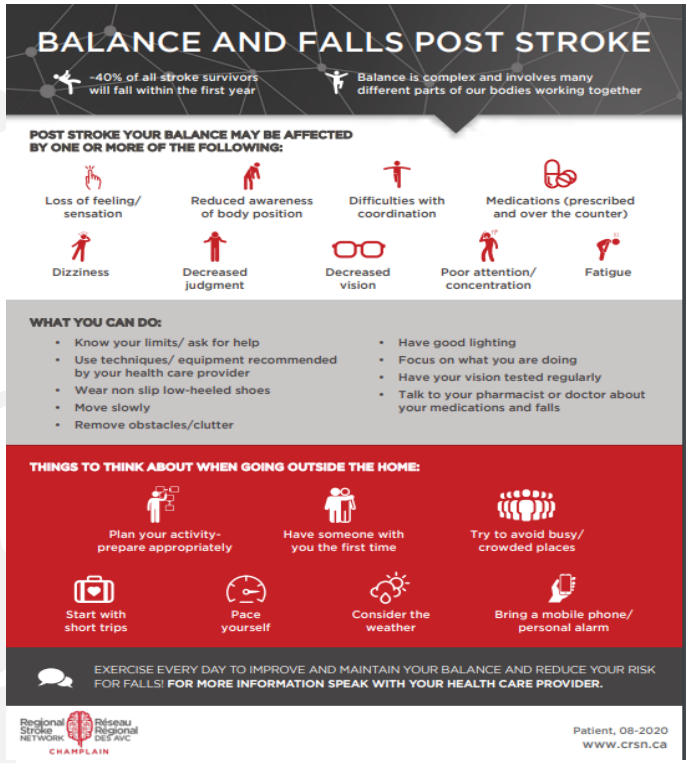
True or False?

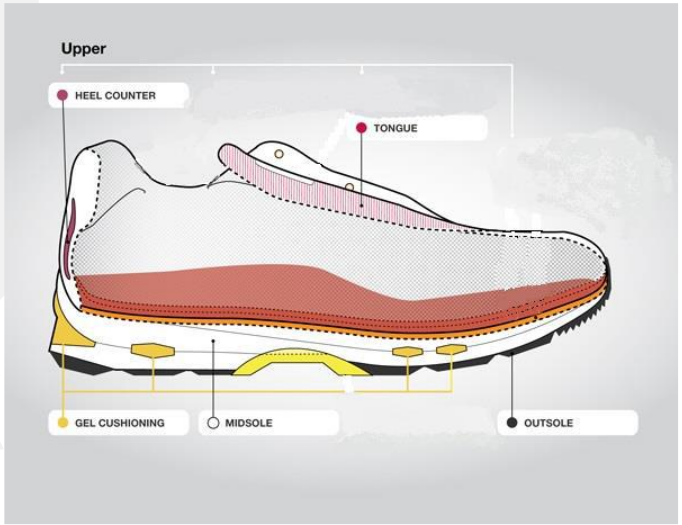


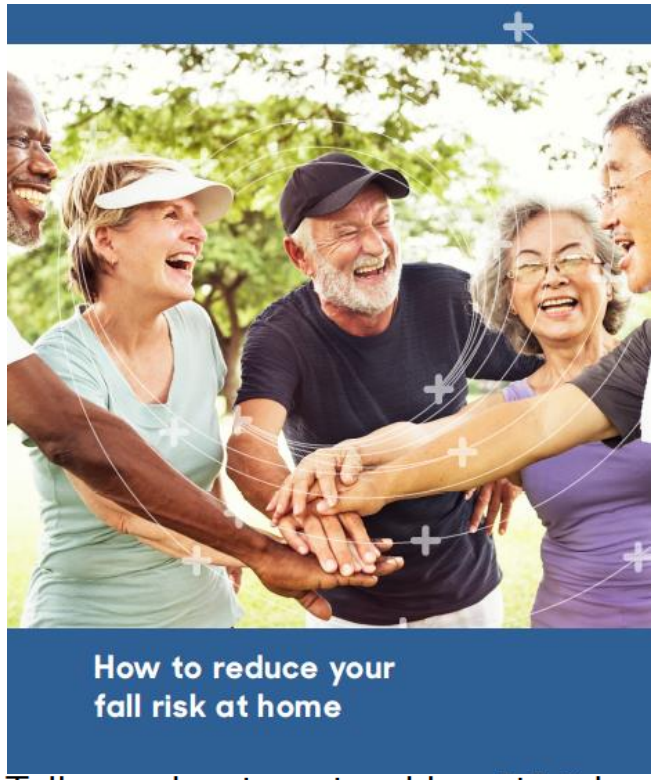
Patient/Caregiver Resources

- Champlain Regional Stroke network infographics: CRSN
- WHO falls: WHO falls fact sheet
- The Ottawa Hospital:
  - ✓ Hypotension
  - ✓ Footwear
  - ✓ Reduce falls at home
- Staying independent Checklist:

StayingIndependentChecklist







Tell me about postural hypotension

What is it?
Postural hypotension means your **blood pressure** drops too low when you stand up from sitting or lying down. It is more common as you get older.

People with postural hypotension may feel:
- Dizzy or light-headed
- Faint
- Blurred vision
- Weak
- Unsteady when walking
- Nauseous

These symptoms may be worse right after getting up in the morning, after eating and after certain medications. This may lead to falls and injury.

What causes postural hypotension?
- Not drinking enough water, especially on very hot days, or after heavy sweating.
- Vomiting or diarrhea for a long time.
- Illnesses such as heart disease, diabetes, Parkinson's disease.
- Some types of medication (including over-the-counter medication).
- Bedrest. You may become weak when you've been ill in bed or not active for a long time.
- Drinking alcohol.

What you can do:

Tell	Measure	Review	Drink
your doctor* if you feel any of the symptoms above.	your blood pressure (lying and standing) when visiting your doctor.*	all your medications with your pharmacist or doctor.*	plenty of fluids** (but avoid or limit alcohol).

Avoid	Stay active	Rise slowly
bending down all the way to the floor or standing up quickly.	every day and make sure to do light exercises such as walking.	1. Sit first with feet dangling for one minute. 2. Pump your calf muscles by pointing your toes up and down. 3. Hold a stable object when rising from bed or chair to stand. 4. If you feel dizzy or have other symptoms , sit down again.

*Doctor or other health-care professional such as nurse or nurse practitioner.
**Discuss the proper amount with your doctor if you've been told to reduce your fluids.
Health Care Professionals: Please go to www.posturalhypotension.ca for additional resources.

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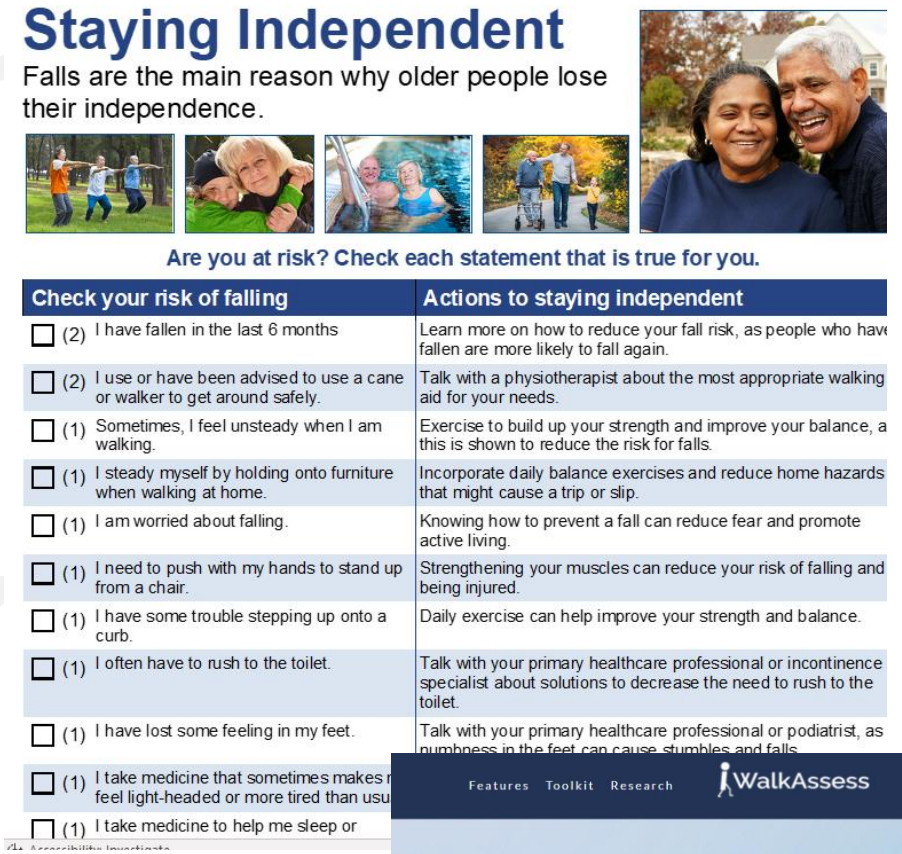
Health Care Provider Falls Resources

- Staying Independent Checklist
- Technology: personal alarms, watches
- ADP: assistive-devices-program
- Deprescribing: deprescribing.org/
- Regional Geriatric Program of Eastern Ontario: https://www.rgpeo.com/
- Paramedicine program: Community Paramedicine Programs
- World falls Guidelines: https://worldfallsguidelines.com/
- iWalkAssess: iWalkAssess

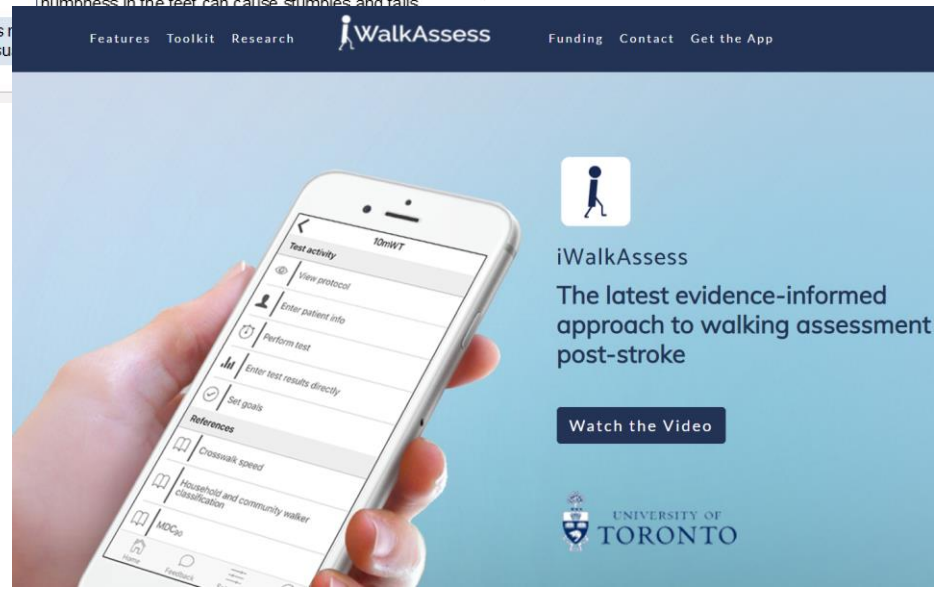


Staying Independent

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

Are you at risk? Check each statement that is true for you.

Check your risk of falling	Actions to staying independent
☐ (2) I have fallen in the last 6 months	Learn more on how to reduce your fall risk, as people who have fallen are more likely to fall again.
☐ (2) I use or have been advised to use a cane or walker to get around safely.	Talk with a physiotherapist about the most appropriate walking aid for your needs.
☐ (1) Sometimes, I feel unsteady when I am walking.	Exercise to build up your strength and improve your balance, a this is shown to reduce the risk for falls.
☐ (1) I steady myself by holding onto furniture when walking at home.	Incorporate daily balance exercises and reduce home hazards that might cause a trip or slip.
☐ (1) I am worried about falling.	Knowing how to prevent a fall can reduce fear and promote active living.
☐ (1) I need to push with my hands to stand up from a chair.	Strengthening your muscles can reduce your risk of falling and being injured.
☐ (1) I have some trouble stepping up onto a curb.	Daily exercise can help improve your strength and balance.
☐ (1) I often have to rush to the toilet.	Talk with your primary healthcare professional or incontinence specialist about solutions to decrease the need to rush to the toilet.
☐ (1) I have lost some feeling in my feet.	Talk with your primary healthcare professional or podiatrist, as numbness in the feet can cause stumbles and falls
☐ (1) I take medicine that sometimes makes r feel light-headed or more tired than usu	
☐ (1) I take medicine to help me sleep or	



Key Messages
6.3. Falls Prevention and Management

Patients with strokes are at much higher risk for falls than other Hospitalized patients (14-65% higher risk)

- ✓All patients should be screened for fall risk by an experienced clinician
- ✓Those identified as being at risk should undergo a comprehensive interdisciplinary assessment
- ✓An individualized falls prevention plan should be implemented for each patient.
- ✓Bed and chair alarms should be provided for patients at high risk for falls according to local fall prevention protocols.
- ✓If a patient experiences a fall, an assessment of precipitating factors should be completed and fall prevention plan updated

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