What’s Up With Falls?
A Practical Approach for Health Care Providers

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Simcoe Muskoka Integrated Fall Strategy End Fall This Fall Conference
September 23, 2014
Objectives

- Describe why people fall
- Know that falling can be prevented
- Understand the Health Care Provider’s role in multifactorial falls assessments and interventions
The Bad and the Ugly...

- Falls are bad
- Increase with Age
- 30% of Community Elders 65+ Fall/Year
  - 60% if had fall the previous year
- 50% of Long-Term Care Residents Fall/Year
- Falls are associated with loss of independence in ADLs
The Bad and the Ugly…

- 20% Require Medical Attention = 106,000 Older Ontarians Presented to EDs with Falls in 2011/2012
- 10-15% Major Injury = 26,000 Hospitalized with Falls Related Injuries in 2011/2012
- 1% of falls in the elderly result in hip fracture
The Really Ugly…

- Falls (with no injury) are associated with at least a 3x increase in risk of nursing home admission over a year
  - 10x if Injury Sustained
So Why Do We Fall?
A Conceptual Way to Understand Why We Fall…

**Intrinsic risk factors**
- Gait & balance impairment
- Peripheral neuropathy
- Vestibular dysfunction
- Muscle weakness
- Vision impairment
- Medical illness
- Advanced age
- Impaired ADL
- Orthostasis
- Dementia
- Drugs

**Extrinsic risk factors**
- Environmental hazards
- Poor footwear
- Restraints

**Precipitating causes**
- Trips & slips
- Drop attack
- Syncope
- Dizziness
- Acute medical illness

FALL

JAGS 2001;49:664-672.
Why Would We Fall Then?

- Risk Factors are Additive (INTRINSIC)
  - *Muscle Weakness* (Sarcopenia)
  - *Gait Imbalance* - Sensory Issues (Inner Ear, Diabetes)
  - *Vision and Hearing Impairments*
  - *Orthostasis* (Blood Pressure Drops When Standing)
  - *Dementia*
Why Would We Fall Then?

- Risk Factors are Additive (EXTRINSIC)
  - **Environmental Factors** (Loose Rugs/Cords, Poor Lighting, Lack of Safety Equipment)
  - **Drug Side Effects** (Blood Pressure Meds, Sleeping Tablets, Anti-Nausea Medications)
Why Would We Fall Then?

- Risk Factors are Additive (**SITUATIONAL**)
  - **Alcohol**
  - **Medications**
  - **Footwear**
  - **Night Rush to the Bathroom**
  - **Rushing to Answer the Telephone**
  - **New Environment** (**Light Switches, Elevator, Stairs, Bus**)
How it Happens...

- Precipitant factor, such as a slip, often causes the actual fallé

FALLS ARE USUALLY ALWAYS MULTIFACTORIAL!!!
A Practical Approach for Practitioners
So What Can be Done?

- Research shows that the most effective interventions involve multi-dimensional risk factor modification. Why???
- These can significantly reduce the risk for falling (18%) and the number of falls achieved (43%).
Share the Love…

- The multidimensional assessment and intervention is best often performed by a multidisciplinary team or with a multidisciplinary approach.
  - Primary Care Provider
  - PT and OT
  - Pharmacist
  - An Awesome Geriatrician
  - CCAC Care Coordinator
Any Concerns Here?

Reenactment -- *not a real patient.*
A Practical Approach

- If on history and examination, there are unexplained symptoms such as syncope, Parkinsonism, or knee pain, address them!
- Look for specific problems.
Medication Review

- Psychotropic medications are consistently associated with falls across various settings.
- Medication Review has not been independently tested as a means of preventing falls, but it is a major component of proven multidimensional interventions.
Medication review

- Look for antipsychotics, antidepressants and benzodiazepines
- Review the indication for each
- Discontinue where the indication is not clear
- Change one thing at a time
Physical Examination

Vision Testing

- Prevalence of visual impairment is very high in patients admitted with a fall compared to those in the community
- Correctible causes are common.
- If visual impairment detected, e.g. with Snellen chart, refer for formal evaluation
Physical Examination

- Gait, Balance and Weakness
  - Each factor involves multiple levels of the neuroaxis.
  - Abnormalities are often non-localizing.
Physical Examination

- Gait and Balance abnormalities are each associated with approximately 2x increase in falling
- Regardless of etiology, abnormalities are often amenable to exercise programs
- The optimal exercise program is unclear
- Some of the strongest evidence for exercise-based interventions is for balance training.
Physical Examination

- **Timed Up and Go (TUG)**
  - A performance based test of various systems (including strength, balance, gait) that predicts falls risk
  - Rise from chair, walk 3 metres and return
  - Time >14 seconds signifies high risk

- **Berg Balance Scale**
  - A practical approach to assess someone’s risk of falling.
Physical Examination

- Postural Hypotension
  - Fall in SBP > 20, DBP > 10 or Symptoms of Cerebral Hypoperfusion
  - Treat by adjusting Antihypertensive and or Antidepressant Medications
  - Try Non-Pharmacological Measures: rising slowly, raising the head of bed 10°, compression stockings, crossing the legs after standing, increase water intake
Mental Status Examination

- Perform basic cognitive assessment, such as MMSE
- Cognitive impairment doubles risk of falling
- Though often irreversible, it is important to identify cognitive impairment as a risk factor
What Can be Done?

- Multifactorial Intervention should consider:
  - Gait (Balance) Training
  - Exercise (Strength) Training
  - Environmental Modification
  - A Medication Review
  - Assistive Device Advice
  - Treatment/Education for Postural Hypotension
  - Treatment of Sensory (Vision, Hearing) and Cardiovascular Disorders (Pacemaker),
A Growing Cadre of Falls Prevention Services for Ontarians

- There are now 200 physiotherapy clinics offering government funded physio services across the Province.
- There are also 1900 free exercise and falls prevention classes now available across the Province serving 106,476 older Ontarians.
- Many areas are also developing interprofessional falls clinics and emphasizing improved mobility as part of care planning.
Strong and Steady?
In Summary

- Falls are associated with high badness.
- If you don’t ask, they won’t tell...
- Falls often occur because of multiple risk factors.
- Treatment entails addressing multiple risk factors, usually with the help of your team!
- The Ministry of Health is expanding useful services to help reduce older Ontarians risk of falls; make use of them!