

A fall is a sudden and unintentional change in position resulting in an individual landing at a lower level such as on an object, the floor, or the ground, with or without injury. <sup>(1)</sup>

Mobility is broadly defined as the ability to move oneself (e.g. by walking, by using assistive devices or by using transportation) within community environments that expand from one's home to the neighborhood and to regions beyond.

Mobility is fundamental to active aging and is intimately linked to health status and quality of life. Although there is widespread acceptance regarding the importance of mobility in older adults, there have been few attempts to comprehensively portray mobility, and research has to a large extent been discipline-specific. The concept of mobility is portrayed through 5 fundamental categories of determinants (cognitive, psychosocial, physical, environmental and financial), with gender, culture and biography (personal life history) conceptualized as critical crosscutting influences. <sup>(2)</sup>

## Statistics <sup>(1)</sup>

- In 2009/10, the rates of falling among Canadians aged 85 and older were significantly higher than among the general Canadian population. The data indicated significantly higher rates of falls among females than males for each survey year.
- Studies show a 43% increase in the number of individuals who reported a fall-related injury from 2003 to 2009/2010.
- 30-50% of older adults aged 65 to 69 experience a fall each year. About 1/3 are serious falls with higher risk of adverse events.
- 67% of older adults aged 65 or older received medical treatment after a fall injury in an emergency room, while 16% sought treatment in a doctor's office and 7% from a clinic.
- The overall number of fall-related hospitalizations appears to have increased due to an increased aging Canadian population.
- Falling is associated with increased risk of mortality, morbidity, reduced functioning and long-term care admissions (especially in first six weeks after admission).
- Mobility exercises can reduce fall risk for older adults.

## Common Causes <sup>(3)</sup>

The risk of falling dramatically increases as the number of risk factors increases.

### Predisposing risks include reduced:

- Sensory input (vision, hearing and proprioception)
- Nerve conduction and number motor neurons
- Fast twitch fibers
- Muscle mass
- Vascular changes: Prone to postural hypotension

## Intrinsic risks include:

- Advanced age
- Previous falls
- Muscle weakness
- Gait & balance problems
- Poor vision
- Postural hypotension
- Chronic conditions including arthritis, stroke, incontinence, diabetes, Parkinson's and dementia
- Fear of falling

## Extrinsic risks include:

- Lack of stair handrails
- Poor stair design
- Lack of bathroom grab bars
- Dim lighting or glare
- Obstacles and tripping hazards
- Slippery or uneven surfaces
- Psychoactive medications
- Improper use of assistive device

## Management <sup>(3)</sup>

### Health Care Providers can significantly decrease the fall risk of older adults by:

- Screening for fall risk at encounters/visits and annually.
- Providing effective clinical interventions for the following fall risk factors:
  - Vestibular disorder/poor balance
  - Vitamin D deficiency
  - Medications linked to falls
  - Postural hypotension
  - Vision impairment
  - Foot or ankle disorder
  - Home hazards
- Conducting a comprehensive post-falls assessment for contributory causes and risk factors.
- Implementing multidisciplinary management strategies that target modifiable risk factors, especially environmental factors and footwear.
- Assessing for prescribed and other medication being taken and considering de-prescribing.
- Assessing for osteoporosis risk and presence of fragility fractures and treating accordingly.
- In Acute Care, common tests include:
  - Schmid Fall Risk Assessment
  - Stratify
  - Morse Fall Scale
  - Hendrich II Fall Risk
- In Long Term & Residential Care, common tests include:
  - Area Ellipse of Postural Sway
  - Mobility Fall Chart
  - Tinetti Performance Oriented Mobility Assessment (POMA)
- In Primary Care and in the community, common tests include:
  - Berg Balance Scale
  - Fullerton Advanced Balance (FAB) scale
  - Stop walking when talking

# Introduction: Falls & Mobility

- The BESTest (balance evaluation system test)
- Tinetti Performance Oriented Mobility Assessment (POMA)
- Walking speed
- Timed-Up-and-Go Test (TUG): The TUG test is one of the easiest tests to carry out in a client's home to identify clients at risk for falls that require a more in-depth assessment and evaluation.

## References

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Last Updated: March 26, 2020