Preventing Falls and Dementia Related Hospital Admissions

Amy Craven, PT, MS, DPT, CCM  
Katherine Vanderhorst, RN-BC, BSN, CCM

Objectives:

- Recognize the risk factors associated with falls.
- Increase knowledge of evidenced based tests for fall risk assessment.
- Employ fall prevention strategies with Dementia clients to reduce unnecessary hospitalizations.
Fall Statistics

- Older adults with dementia are four to five times more likely to fall than older people who do not have cognitive impairment.
- For those who fall, the risk of sustaining a fracture is three times higher than for cognitively well people.
- Those who fall are more likely to have long term consequences such as hospitalization, disability, or death.

Fall Statistics New Hampshire

- % of elderly Adults who fell = 26.2% (= to National average)
- FallsDeaths/100,000: 109 (Higher than the National average)

Costs of Falls Elderly in US

- $29 B paid by MCR
- $12 B paid by private –out of –pocket-payers
- $9 B paid by MCD

Total cost in NH $186,000,000

- $125,000,000 MCR
- $36,000,000 Private out of pocket
- $25,000,000 MCD

CDC 2018
GREATER RISK FOR HOSPITALIZATION FOR THE PATIENT WITH COGNITIVE ISSUES

HOSPITALIZED 3X AS OFTEN

AMONG MEDICARE BENEFICIARIES WITH ALZHEIMER’S OR OTHER DEMENTIAS, 21 PERCENT OF HOSPITAL STAYS ARE FOLLOWED BY A READMISSION WITHIN 30 DAYS.

Definitions of a fall:

An event that results in a person inadvertently coming to rest on the ground or other lower level (not as a result of loss of consciousness, violent blow, sudden onset of paralysis or seizure) (Gibson et al., Kellogg International Work Group, 1987)

An event which results in a person coming to rest unintentionally on the ground or other lower level, not as a result of major intrinsic event (such as stroke) or overwhelming hazard (Tinetti et al., 1988)
Falls

- Are common
- Preventable
- Frequently unreported
- Often cause injury
- Can restrict activity unnecessarily
- A recent fall is a predictor of future falls
- Detection and treatment of gait and balance disorders reduces the risk of future falls
- Perform a multifactorial falls risk assessment for each of your vulnerable clients

Incidence of Falls

- Most falls occur outdoors
- Women are more likely to report indoor falls
- Indoor falls are associated with frailty
- Outdoor falls are associated with compromised health status in more active elderly

Classifications of Falls

- Trigger: Intrinsic or Extrinsic
- Consequences: Injury or no Injury
Three main physical reasons that contribute to why older people are more likely to have a fall:

- **Chronic** health conditions, such as dementia, heart disease, and low blood pressure (hypotension), which can cause dizziness.
- Impairments, such as poor vision, muscle weakness, reduced postural control.
- Illnesses that can affect balance, for example: labyrinthitis, vestibular neuritis, BPPV.

### Why do people fall?

#### Environmental (1 in 3 falls)
- Rugs/Carpets
- Doormats
- Slippery stairs
- Loose slippers
- Wet floors
- Slippery bathroom floors
- Wires
- Dim Lighting
- Living alone
- Alcohol

#### Muscular
- Muscle weakness
- Arthritis
- Spinal disease
- Contractures
- Pain
- Use of walking aids

#### Neurological
- Dementia
- Epilepsy
- Parkinson’s disease
- Anxiety
- Neuropathy
- Depression
- Stroke
Falls Risk Assessment

- Medication review
- ADL and IADL assessment
- Orthostatic blood pressure measurement
- Vision assessment
- Gait and balance evaluation
- Cognitive evaluation
- Assessment of environmental hazards

What is the person’s fall history?

Circumstances?
Medications?
Chronic conditions?
Mobility status?
Alcohol intake?

You can use the positives to tailor a fall prevention program specific for each of your older adults.
Clinical Guidelines for Gait and Balance

Risk assessment includes assessment of gait, balance, mobility and muscle weakness

Provide interventions to improve balance, transfers and gait

Gait Assessment: What to look for in the elderly person at risk for falling?

Changes in gait with aging
Average gait speed declines 12% to 16% per decade after 70 years old
Stride frequency increases
Stride length decreases at a given walking speed
Double support time increases
Gait Assessment: What to look for in the elderly person at risk of a fall

Gait Characteristics of Fallers
• Decreased trunk rotation
• Increased knee flexion
• Several small steps and reduced speed prior to stepping over low obstacle (<12”)
• Shorter step and stride length
• Slowed gait speeds
• Decreased single leg support time and increased double limb support time.

Screening and Examination of Gait and Balance
• Timed Get Up and Go Test
• Dynamic Gait Index
• Berg Balance Scale
• Single Leg Stand Test
Timed Get Up and Go Test

- Measures functional capacity rather than individual impairment – reflects multiple domains, useful in detecting mobility impairment
- Time it takes to stand up from armchair, walk 3 meters (10 feet), return to chair and sit down

**Interpretation of Performance on the Timed Get Up And Go Test**

- < 10 sec. *Low fall risk*; clients are freely mobile; encourage regular exercise
- < 20 sec. *Moderate fall risk*; clients are independent with basic transfers; most go outside alone and climb stairs; many are independence with tub and shower transfers. PT referral may be appropriate.
- >30 sec. *Very high fall risk*; Many are dependent with chair and toilet transfers; most are dependent with tub and shower transfers; most cannot go outside alone; few, if any, can climb stairs independently. Physician or multidisciplinary team assessment recommended.
Dynamic Gait Index

- Developed to quantify gait dysfunction in older adults during level surface walking as well as more complex functional tasks.
- Dual task demands relevant to falls risk in elderly
- Applicable to assessing balance in other groups of patients including those with vestibular disorders, multiple sclerosis, head injury, and Parkinson’s
- Scores of 19 or less out of 24 indicate increased risk of falling in older adults (Shumway-Cook 1997)

- Measure of static and dynamic balance in movements common in everyday life on 14-item scale (56 points)
- Useful for evaluating multiple falls risk in community living older adults
- Likelihood of multiple falls increases as score decreases
- Reliable test of balance in elderly in residential care – change of 8 points required to reveal genuine change in function
Single Leg Stance Test

A measure of static balance that relates to foot/ankle strategies

Functional implications for gait, especially on uneven surfaces, and going up/down curbs or steps

Marker of frailty in elderly persons

Community dwelling older adults unable to stand for 5 sec. had a 2.1 times risk of falls with injury

Limitations of Balance Scales and Screening Tools

- Screening for falls may increase fear of falling
- Scales and balance screening tools have not been well tested in a wide range of populations/settings
- Uncertainty regarding predictive scores
- Scales test different aspects of balance, sensitivity for prediction and examination may be best with multiple tests
Fear of Falling: A Major Cause of Falls

Activity restriction  Poor perceived health

Social withdrawal  Reduced strength

Reduced balance  Increased disability

Reduced independence  Increased fall risk

Poor quality of life

Environmental factors can contribute to risk of falls and mobility problems
- An assessment and modification of home hazards may decrease fall risk
Practice Guidelines

- Review all medications
- Speak with physician to modify psychotropic meds and discontinue, if appropriate

Use exercise to improve measures of balance and reduce incidence of falls

Use of a multidimensional exercise program that incorporates balance training and strengthening should improve postural stability and reduce fall risk
Why Does Dementia Increase Fall Risk?

The person with dementia may experience changes that increase their risk of falling.

Changes may occur in:

- Insight, which affects judgment and the ability to reason
- Recognition of sensory input, such as sight, sound, touch
- Communication: ability to understand and express needs
- Coordination of movement: the brain’s inability to communicate with the muscles and carry out day-to-day functions despite having the physical ability
- Interpretation of their environment, causing illusions and misperceptions e.g., depth, light intensity, color, pattern, temperature
- Retention of information: loss of memory, difficulty with new learning
- Initiation of tasks, leading to immobility
How the caregiver communicates with the person they are assisting is an important factor in reducing the risk of falls for people with dementia.

Remember to:
- Obtain the person’s attention
- Reduce distractions
- Gain eye contact
- Watch for non-verbal cues from the person to help understand their actions and reactions

Be mindful of your approach:
- Remain calm and watch your facial expression and gestures
- Give thought to how instructions are given; use short, simple sentences; suggest one step at a time; use cueing; allow time; encourage the person

Quick Guide to teach families and caregivers to help reduce falls risks for individuals with dementia:

1. Provide adequate lighting
2. Provide visual cues/signage
3. Clear walking paths inside the home
4. Decrease clutter outside
5. Keep information and reminders in a common place
6. Keep important things by the bed
7. Consider unmet needs
8. Lower noise levels
9. Keep help at hand
10. Safe footwear
Provide Visual Contrast

• Use obvious contrast in color to define objects from the background
• Use solid colors with no pattern to decrease confusion
• Avoid black surfaces, which may be misinterpreted as being a black hole

Aging can affect your balance, muscles and joints

This is made worse if we spend long periods sitting down

The more active an individual is, the more they can offset the effects of ageing

What can we encourage our clients to participate in to stay mobile and prevent falls?
Leading Hospitalization Issues in Dementia Clients:

- Trouble managing medical conditions
- Pneumonia (due to trouble swallowing)
- Urinary Tract Infections
- Falls
- Behaviors
- Resistance to Care

**HOSPITALIZATION IN DEMENTIA**

- We want to prevent unless completely necessary
- Increases confusion
- More likely to develop complications

*All hospitalizations for individuals with a clinical diagnosis of probable or possible Alzheimer’s were used to calculate percentages. The remaining 27% of hospitalizations were due to other reasons.*

*Created from data from Rudolph et al. (2010)*
Preventing Falls Checklist

- Exercise
- Physical Therapy assessment
- Review all medications by the health care provider
- Vision exam
- Podiatrist exam
- Remove throw rugs
- Secure carpet edges
- Reduce clutter
- Remove cords and wires on the floor
- Avoid floor wax
- Push in the drawers
- Check lighting for adequate illumination at night and on the stairs
- Install handrails on both sides of the stairwell
- Eliminate chairs that are too low to sit in and get out of easily
- Keep often used items in cabinets that can be reached easily without using a step stool.
- Wear well-fitting shoes and slippers with non-skid bottoms.

Fall prevention summary

- The quality of falls care for older adults is suboptimal
- If we can successfully reduce the risk factors for falling, then we can reduce the incidence and the morbidity associated with falls
- Incorporating evidenced based assessments and increasing awareness and understanding of the modifiable risk factors can contribute to decreased falls.
- Extremely important to try to prevent falls in your older patients and prevent future falls from your current fallers
- Look at their meds, cognition, orthostasis, vision, gait, balance
- Encourage exercise to improve muscle strength and balance
- Screen for fear of falling and counsel to improve mobility
Checklists--Examples

• Home Safety Council
  www.homesafetycouncil.org/resource_center/rc_checklist_w001.aspxp

• Rebuilding Together --Checklist
  www.rebuildingtogether.org

• CDC Check for Safety
  www.cdc.gov/ncipc/pub-res/toolkit/checkforsafety.htm
  http://www.cdc.gov/ncipc/duip/fallsmaterial.htm

Home Assessment Resources

HOME SAFETY SELF ASSESSMENT TOOL (HSSAT) v.4 Falls ...
https://sphhp.buffalo.edu › aging › par › file.res
CONTACT US

• CONTACT: WWW.CVSENIORCARE.COM
• 716-863-0743-Katherine Vanderhorst
• 716-491-2098-Amy Craven

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https://www.cdc.gov/homeandrecationalsafety/falls/adultfalls.htm
http://www.cdc.gov/ncipc/pub-res/toolkit/checkforsafety.htm
http://www.cdc.gov/ncipc/falls/Fallmaterial.htm

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