

Fall Prevention for People with Dementia

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Fall Prevention for People with Dementia

- Objectives
 - Identify fall risk factors unique to people with dementia
 - Identify dementia specific fall risk assessment/screening
 - Understand benefits of fall prevention Physical Therapy (PT) for people with dementia
 - Understand the important role of caregiver/care partner and how to best support caregivers
 - Discuss brief overview of PT & OT treatment techniques
 - Identify when to refer patients to PT

Fall Risk Factors Unique to People with Dementia

- Over 55 million people in the world are living with dementia (2020); projected up to 139 million in 2050. (WHO, 2021)
- Cognitively impaired people have 8-10 times more falls than people without dementia (Allen et al, 2009) and are less likely to recover from a fall. (Baker et al, 2011)

Fall Risk Factors Unique & More Pronounced in People with Dementia

- Unique:
 - Type of Dementia
 - Neuropsychiatric symptoms of dementia
 - Sedentary Behavior
 - Unmet Needs
 - Caregiver Burden
- More Pronounced:
 - Gait & Balance Impairments
 - Autonomic dysfunction/orthostasis
 - Visuospatial deficits
 - CNS active medications
 - Home and environmental safety
 - Improper use of assistive device
 - Functional deficits
 - Diabetes and Depression
 - Female Sex

Dementia Specific Fall Risk Assessment and Screening

- Have the primary caregiver complete the STEADI Stay Independent Questionnaire
- Acquire history on daily routine, exercise habits, functional mobility status from caregiver
- Falls-focused physical exam
 - Cardiac eval
 - Orthostasis assessment
 - Medication review
 - Recent eye exam (person with dementia may not report changes in vision)
 - Gait, strength, balance – try demonstrating for patient to follow along
 - Gait speed is a good fall risk screen

STEADI

Stay Independent Questionnaire

(CDC, 2017)

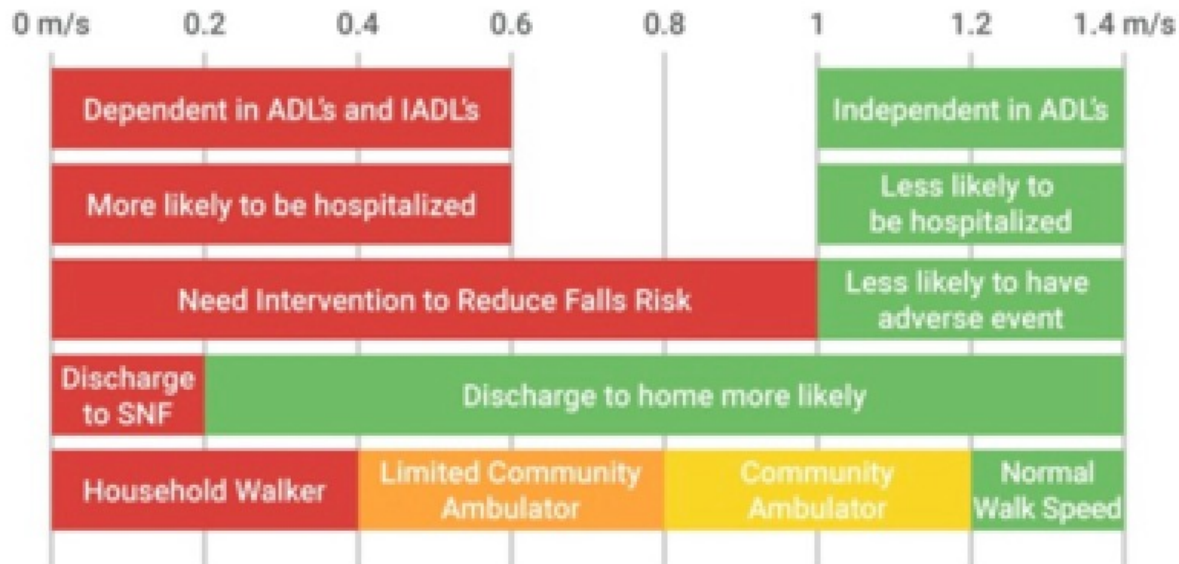
Check Your Risk for Falling

Circle "Yes" or "No" for each statement below			Why it matters
Yes (2)	No (0)	I have fallen in the past year.	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 medicines 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.	

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; 2011; 42(6)493-499). Adapted with permission of the authors.

Gait Speed

Walking Speed



Benefits of Fall Prevention Physical Therapy for People with Dementia

- Documented benefit of exercise for community dwelling persons with mild-moderate dementia
 - Multimodal: strength, balance, endurance, tai chi
 - Designed and Supervised by PT
 - 2-3 times per week for a minimum 25 weeks
 - Can reduce falls and improve function
 - Can slow rate of functional mobility loss in early stages of cognitive decline
 - Individualized and enjoyable AND involve **caregivers**
- More studies are underway regarding benefits of tai chi on fall prevention for people with dementia

(Casey et al, 2020)

Importance of the Caregiver

- Caregivers:
 - Include physical activity
 - Help with reorientation
 - Help ensure regular sleep pattern
 - Ensure use of hearing aids & glasses
 - Assist with adequate pain control
 - Monitor for elimination needs
 - Promote regular ambulation
 - Assist with daily routine
 - Help reduce delirium and falls

(Ching, 2017)

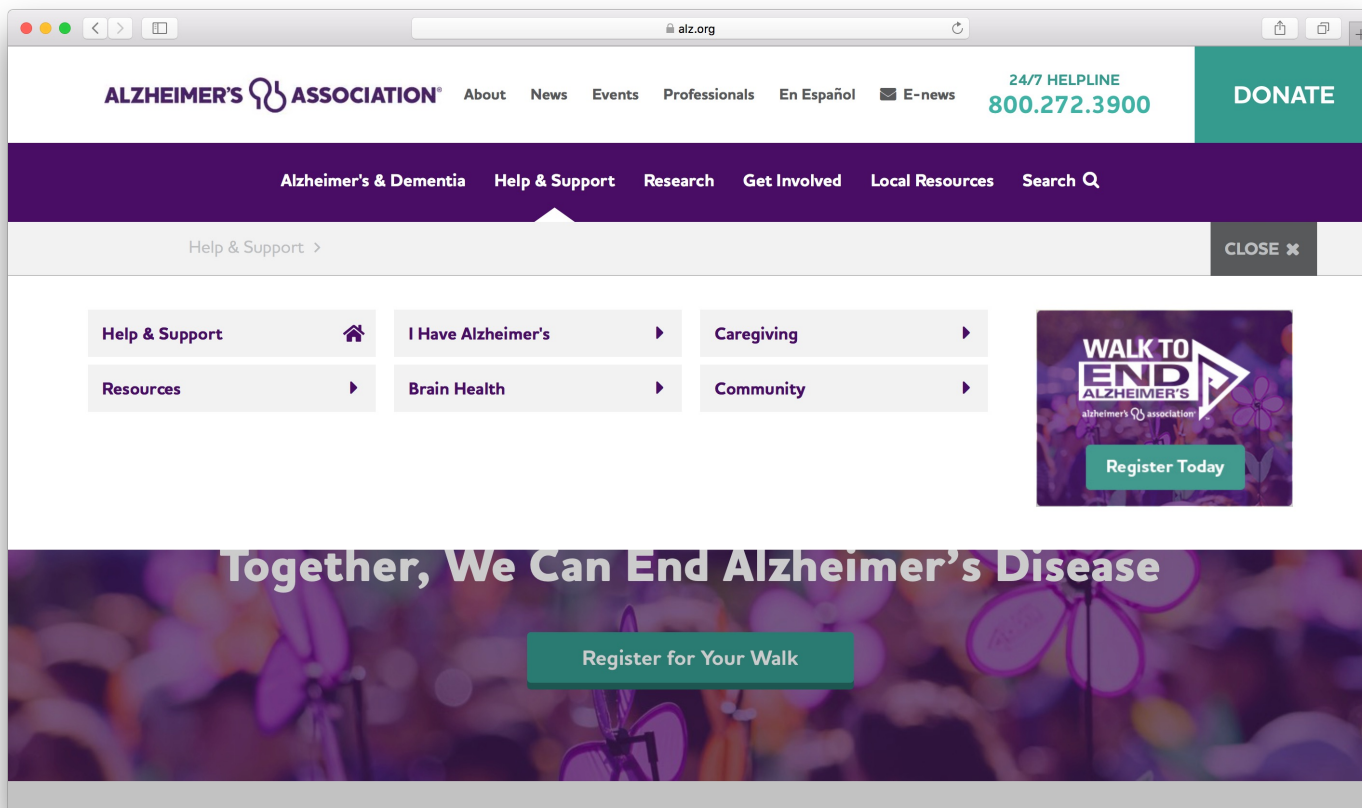
Involving Caregivers

- Engage with the caregiver and person with dementia
- Identify needs/preferences AND offer choices
 - High level of adoption of fall prevention strategies
(Meyer et al, 2020)
- Exercise will have to include a caregiver for more significant cognitive impairment
 - Perform exercises safely & correctly
 - Program adherence depends on caregiver
 - Longer duration of instruction and/or group instruction may be valuable for patients with moderate to severe levels of cognitive impairment

(Yao, 2013)

Caregiver Resources

- Alzheimer's Association
- <https://www.alz.org/help-support/caregiving>



Caregiver Resources

Caregiving



Coronavirus (COVID-19): Tips for Dementia Caregivers

Daily Care



Stages and Behaviors



Care Options



Caregiver Health



Safety

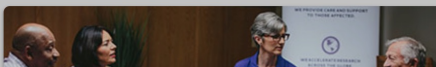


Financial and Legal Planning for Caregivers



Together, We Can End Alzheimer's Disease

Register for Your Walk



Fall Prevention Therapy Treatment Techniques for People with Dementia

- Exercise: multimodal (strength, balance, endurance, tai chi)
- Cognitive Training:
 - Target executive function, working memory, alternating attention
 - Combine cognitive and physical intervention
 - Improves balance, gait speed, function in cognitively impaired older adults
- Functional Training
 - Hobbies/former activities
 - Call on procedural memory
 - Preserved even as dementia progresses (sit to stand, stairs, tie shoes, brush teeth)

Fall Prevention Therapy Treatment Techniques for People with Dementia

- Errorless Learning
 - Used when inability to learn using traditional trial and error method
 - Tasks set up to reduce errors and guessing
 - Tasks practiced with consistent structure until the learner masters the tasks
 - structured cues are gradually removed
 - Rewards/Encouragement
 - Positive Emotion
 - Positive emotional motivators (PEMS)
 - Verbal Encouragement
 - Relaxing Music
 - Sensory Assistance
 - Kinesthetic Facilitation
 - Optimize Attention and Motivation
 - Educate caregivers: patient agitation and behavioral issues are manifestations of their cognitive impairment

Fall Prevention Therapy Treatment Techniques for People with Dementia

- Assistive mobility devices
 - Support lower extremity weakness, offload painful joints, contribute a wider base of support
 - Must be able to use the device safely
 - Inappropriate device prescription can increase risk of falling
 - Can require more energy to use a device
 - initially, a slower and more challenging gait can result
- Rehab professionals experienced with persons with dementia will maximize their ability to help reduce fall risk
 - Types & stages of dementia
 - How to apply alternative learning strategies
 - How to involve caregivers

Fall Prevention Medical Treatment Techniques for People with Dementia

- Address modifiable risk factors:
 - Orthostatic hypotension
 - Eye exam, cataracts
 - Tapering or eliminating CNS-active medications when appropriate
 - Prevention of hypoglycemia
 - Treat depression
 - Treat behavioral disturbances: unmet needs such as thirst, hunger, pain
 - Address home safety

(Casey et al, 2020)

REDUCING RISK OF FALLS FOR PEOPLE WITH DEMENTIA

People 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. Also, those who fall are five times more likely to be hospitalized or live in a long-term care setting than older adults with dementia who do not fall. People with Parkinson's disease, vascular and Lewy body dementia are more prone to mobility disturbances. (Fiona Shaw, 2003)

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, colour, pattern, temperature
- retention of information: loss of memory, difficulty with new learning
- initiation of tasks, leading to immobility

Things to consider when a person falls:

- Is there a reversible cause or is it related to another medical condition?
- Is the person taking multiple medications?
- Is the person experiencing medication side-effects or interactions?
- Are medications being taken as prescribed?
- Does the person have changes in vision?
- Has the person's mobility changed?
- Is the person restless?
- Is the person fatigued?
- Is the person in pain but unable to recognize or communicate their discomfort?

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Home Safety

- Ensure Adequate Lighting
 - Increase lighting/reduce glare/limits shadows
 - Night lights, glow in the dark light switches, motion-sensor lights, entrances and walkways well lit
- Provide Visual Contrast
 - Define objects from background/avoid black surfaces
 - Use contrasting colors for: bathmats, handrails, non-slip tape on edge of each stair, toilet seat, doorsill, walls/baseboards

(Alzheimer Society of Manitoba, 2016)

Home Safety

- Keep Pathways Clear
 - Declutter, surfaces kept level/dry/non-slip
 - Floors: no throw rugs, avoid waxing, fix carpet/flooring damage, no extension cords
 - Furniture: simple arrangement, keep in consistent location
 - Outdoors: paint step edges a contrasting color & with mixture of paint/sand
- Enhance Accessibility
 - Important items & frequently used items in consistent/visible/easy-to-reach place
 - Personal alert device
 - Label Cupboards with name of contents
 - Mobility aids close by
 - Bedroom on main floor near bathroom

Home Safety

- Increase Bathroom safety
 - Shower chair, non-slip bath mat, grab bars, hand held shower, raised toilet seat
 - Night lights in bathroom and hallway
 - Lower water heater temperature
- Safe Footwear
 - Avoid extra-thick soles
 - Velcro closure recommended
 - No socks or barefoot walking indoors (shoes, slippers that cover toes/heels ok)
- Reduce Noise Level
 - Reduce business, avoid sudden, loud noises

Referral to Physical Therapy

- When: ASAP
 - Early referral prior to progression of cognitive impairment and when they are at lower risk of falls
 - Gait and Balance impairments are common
 - Usually more severe in persons with dementia such as Parkinson Disease Dementia, vascular dementia & Diffuse Lewy Body dementia
 - Changes in gait may precede any objective cognitive deficits
 - Gait technique variability associated with 12 time increase risk of cognitive decline over a 4 year period in adults with formerly normal cognitive testing
 - Early biomarker of dementia
 - Slower gait speed can predate onset of dementia by about 7 years particularly the non-Alzheimer Disease dementia
 - A fall can also be an opportunity to assess for cognitive changes

(Byun et al, 2018)

(Ching, 2017)

Transition to Palliative Approach

- When patient has little functional capacity and compromised quality of life (stage 7 of the Functional Assessment Staging of Alzheimer's Disease scale)
- Recurrent falls with other indicators for end of life care
- Recurrent falls associated with aggressive chronic disease management with no prospect of recovery
- Falls from standing without guarding or self protection
- High distress level of family/caregivers
 - Education: falls are inherent to progression of dementia
 - Address functional needs, support caregiver, de-escalate medical management of chronic conditions
 - Focus on safety, comfort, well being

(Casey et al, 2020)

(Iaboni, et al 2017)

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Fall Prevention for People with Dementia

THANK YOU!

National Fall Prevention Awareness Week

September 18-24, 2022