

Benefits of Exercise for People Living with Dementia

Presented by



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Alzheimer's Texas

A privately funded voluntary health organization formed in 1982 to serve Central Texans with Alzheimer's disease and their caregivers.

MISSION

To eliminate Alzheimer's disease and related disorders through the advancement of research and to enhance care and support for individuals, their families, and caregivers.

VISION

To create and sustain a dementia capable Texas in which persons with Alzheimer's and related disorders, and their families, receive quality care, effective treatments, and meaningful support.



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Learning Objectives

- Understand the growing body of research linking exercise with improved outcomes for people living with dementia.
- Identify evidence-based benefits of exercise for both persons living with dementia and their care partners.
- Learn a range of approaches for supporting a people living with dementia to safely exercise.
- Consider and share ways we can apply and educate others about these strategies.



Why Do Cognitive, Physical, Mood, & Behavioral Changes Occur?

Physiological Causes:

- **Neurons (nerve cells) are being lost in the brain due to plaques and tangles**
- Cognitive, Physical, Mood, & Behavioral changes depend on which part of the brain is being impacted by these losses
- **Other physiological causes:**
 - Pain
 - Infection
 - Metabolic Changes
 - Medication side effects
 - Another cooccurring change in health or incident: stroke, cancer, fecal impaction, etc.



Common Cognitive and Physical Symptoms

Cognitive Symptomatology		Physical Symptomatology	
Memory Loss	Inability to learn new things	Weight loss	Weak/stiff muscles
Poor Judgment	Shortened attention span	Seizures	Inability to complete ADLs (Activities of Daily Living)
Loss of spontaneity and sense of initiative	Problems recognizing family and friends	Skin infections	Difficulty standing
Difficulty completing daily tasks	Difficulty with language/inability to communicate	Difficulty swallowing	Loss of balance and coordination
Repeating questions/statements	Difficulty organizing thoughts	Fatigue	Sleep disturbance
Wandering/Getting Lost	Problems recognizing family and friends	Loss of bowel control	Difficulty walking
Losing things/Misplacing items	Difficulty with multi-step tasks	Loss of bladder control	Respiratory onfection/Pneumonia



Common Psychological and Behavioral Symptoms

Psychological Symptomatology	Behavioral Symptomatology
Anger/Frustration	Wandering
Anxiety	Agitation/Aggressive Behavior
Depression/Sadness	Using Foul language/Yelling
Delusions	Tearfulness/Crying
Mood swings	Eating Difficulties
Apathy	Sleep Disturbance
Mania	Impulsiveness
Irritability	Inappropriate Sexual Behavior
Personality Changes	Refusing Help
Paranoia	Hoarding
Aggressiveness	Accusations
Hallucinations	Incontinence



How are Caregivers & Care Partners Impacted?

“Disruptive behaviors are more disturbing partly because of the adverse impact on the emotional connection between the caregiver and the care-recipient and partly because they exacerbate difficulties in other domains (e.g., caring for activities of daily living).”

(Cheng, 2017)

A recent meta-analysis found overall prevalence rates of 34 and 44%, respectively, of elevated depressive and anxiety symptoms for caregivers.

(Sallim et al., 2015)

A recent longitudinal study found incidence rates of 37 and 55% for major depressive and anxiety disorders in a 24-month interval for caregivers.

(Joling et al., 2015)



Dementia Related Preventative Benefits of Exercise

- Approximately one third of dementia cases are attributable to modifiable risk factors: physical inactivity, smoking and hypertension. (Atly et al., 2020)
- With the rising prevalence of Alzheimer's Disease and the lack of neuroprotective drugs, there is renewed focus on dementia prevention strategies across the lifespan.
- Exercise has emerged as a key intervention for influencing cognition positively, including reducing the risk of age-related cognitive decline and dementia. (Atly et al., 2020)
- Physical activity has been found to influence brain metabolism, preventing an increase in the metabolite called choline. The concentration of this metabolite often rises as a result of the increased loss of nerve cells, which typically occurs in Alzheimer's Disease. (Matura et al., 2017)



Other Preventative Benefits of Exercise

Moderate but regular physical activity is associated with a reduction in total mortality among older people and has been found to have a positive effect on risk for:

- coronary heart disease
- fat mass (body composition)
- stroke (reduces blood pressure)
- type 2 diabetes risk
- some cancers (breast and colon)
- falls
- reduced bone density
- depression

(Vogel et al., 2009); (Allison et al., 2019)



Benefits of Exercise for People Living with Dementia

- Recent research shows that aerobic exercise promotes improved executive functioning in adults at risk for cognitive decline (Blumenthal et al., 2019; Yang et al., 2015)
- As many as 30% of people living with Alzheimer's disease will experience major depression and depression can further intensify memory loss in those already struggling with dementia.
- Physical exercise stimulates the production of hormones and neurotransmitters associated with memory and mood. These include endorphins and encephalins that influence memory retention and serotonin which can help elevate mood and enhance memory and learning. (Basso et al., 2017)
- Research is also showing a positive impact of exercise on other dementia related symptoms, including: Loss of balance and coordination, cardiovascular complications, and sleep problems. (Shokri-Kojori et al., 2018; Jefferson et al., 2015; Baker et al., 2011).



Perceived Benefits from Care Partners

A recent study confirmed that a 6-month exercise program can promote positive perceived outcomes on functional capacity and behavioral and psychological dementia symptoms in older adults with mild to moderate dementia living in institutionalized settings.

Findings suggests that an exercise intervention with individuals living with dementia in institutionalized care may be useful as a strategy for caregiver distress management, alleviating the burden felt by formal caregivers in other settings.

(Sampaio et al., 2021)



Simple Physical Exercises for People Living with Dementia

- Walking – one of the best exercises around. Walking around the house, the yard, or outside for any amount of time. You could even combine the walk by doing an errand together like walking the dog or going to the grocery store.
- “Sit to stand exercises” strengthen muscles needed for essential activities like using the toilet.
- Balance exercises-stay balanced in a standing position (hold on to a support when needed) – improves balance and posture, can be a stand-alone exercise or part of an everyday activity like washing dishes.
- Sit unsupported for a few minutes each day (with constant supervision to prevent falls) – strengthens the abdominal and back muscles needed for posture.
- Stretch while lying in bed – move various body parts and stretch stiff muscles, this can be done with assistance or independently.

* Always consult a physician before starting an exercise regimen.



Moderate Physical Exercises for People Living with Dementia

- Stretches and/or strength exercises – simple chair stretching routines or easy strength and balance routines.
- Tai chi/Yoga – adapted for a variety of physical conditions
- Gardening/Horticultural activities – something simple like raking or pulling weeds gives a sense of accomplishment and is a great workout
- Household chores – basic chores can be great exercise, like folding laundry, dusting, light vacuuming, or washing the car



Advanced Physical Exercises for People Living with Dementia

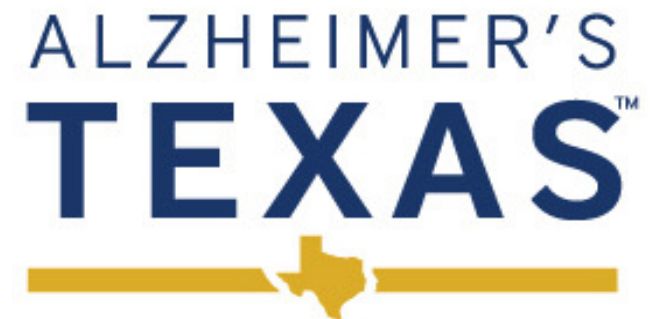
- Dancing – this is a fun activity that doesn't feel like exercise. Play favorite dance music at home or look for social events at senior centers or other locations that include dancing. Music is also great for your mood!
- Exercise/sports classes or activities – some senior centers, respite programs, or similar organizations offer classes specifically for people living with dementia. (wheelchair volleyball, balloon toss)
- Water exercise – consider going to a local class at the YMCA or senior center.



Limitations

- Requires time and planning to support safe exercise for people living with dementia.
- Ability to safely engage in exercise decreases over the course of the disease process.
- More research is needed to fully understand the benefits for people living with dementia and their caregivers.





Questions?

What do you want us to know?

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