

## Exercising for the Brain

by Luciana Cramer, Care Specialist Alzheimer's Association California Central Chapter

“What can I do to prevent Alzheimer’s?” This is one of the most frequently asked questions of our Alzheimer’s Association care specialist team.

Alzheimer’s is one of the most feared diseases today. Scientists have not yet identified its causes or a cure. Doctors don’t even have available a conclusive test to diagnose it. Over 5.4 million Americans are living with it, and the numbers are expected to rise.

Epidemiology studies have shown that there is no 100 percent sure way to avoid getting Alzheimer’s disease. Yet, if there is one thing everyone can do today to reduce their risk of Alzheimer’s, the answer is clear: exercise.

### Physical activity before developing cognitive symptoms

Mounting evidence shows regular exercise helps reduce levels of brain loss and helps our cognitive abilities as we age.

A Florida study<sup>1</sup> demonstrated that exercise at mid-life may reduce the odds of dementia in older adults by up to 60 percent. Such extraordinary findings were corroborated by several other studies, including a University of Lisbon study<sup>2</sup> that found that physical activity benefits happen independently of age, education, vascular history or diabetes.

“Basically, whatever’s good for your heart is good for your head,” says Dr. Lawrence Whalley, a researcher at Scotland’s University of Aberdeen. “Mortality of vascular disease in the United States was halved between 1965 and 1995, and this is one of the great public-health successes of the 20th century. And what people are looking for in dementia prevention is the same because the factors that everyone knows predispose to heart disease also predispose to dementia.”

In addition to reducing risk for dementia, regular exercise has also been found to help stave off the onset of Alzheimer’s and dementia<sup>3,4</sup>, another reason for all age groups to exercise.

### Physical activity at early stages of Alzheimer’s or MCI

For those affected with MCI (Mild Cognitive Impairment) or the early stages of Alzheimer’s, regular exercise should be a priority.



In a six-year study with 1,740 participants in Seattle<sup>5</sup>, researchers found that those with early Alzheimer’s disease who were less physically fit had four times more brain shrinkage than those who were more physically fit. The findings suggest physical fitness helps **slow the progression of the disease.**

Nothing else so far has demonstrated such dramatic, positive impact in the fight against the onset of dementia. Currently available dementia and Alzheimer medications can alleviate some of the symptoms, but they do not slow the progression of the disease. Including regular exercise in your personal strategy against dementia will help you preserve your cognitive skills in addition to enhancing your fitness levels.

### Physical activity at mid-stages of Alzheimer’s

Professionals working in dementia care have long observed that exercising at the mid-stages of Alzheimer’s disease helps patients maintain independent living skills, maintain muscle memory, reduce fall risk and promote balance and mobility. Exercise also helps reduce stress, anxiety, depression and insomnia – problems that often affect people in the mid-stages of Alzheimer’s.

In our own experience as care specialists, we have seen that clients with a contin-

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**For all ages and cognitive levels:  
Seek medical advice and approval before starting any exercise regimen.**


## Caregiver Tips


 Use protective headgear when engaged in physical activities, such as bicycling, horseback riding, skating and so on.

 Aerobic exercise improves oxygen consumption, which benefits brain function; aerobic fitness has been found to reduce brain cell loss in elderly subjects.

 Physical activities that involve mental engagement such as plotting a route, observing traffic signals and making choices, can add value to your brain-health workout -particularly if you do these activities with a companion!

 Walking, bicycling, gardening, tai chi, yoga and other activities of about 30 minutes daily get the body moving and the heart pumping.

 The Centers for Disease Control and Prevention has created a strengthening program that can be assessed on-line at [cdc.gov/physicalactivity/growingstronger](http://cdc.gov/physicalactivity/growingstronger)

 If you or your loved one has memory loss and enjoys taking walks, wearing a **Safe Return** ID bracelet can bring peace of mind. Call (888) 572-8566 or visit [medicalert.org/safereturn](http://medicalert.org/safereturn) to enroll.

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ued history of physical fitness and exercise do far better into all stages of dementia than the ones who don't.

Patients in mid-stages also benefit greatly from a more individualized exercise regimen with the guidance of a physical therapist. Thanks, in part, to the advocacy efforts of the Alzheimer's Association, physical therapy is now covered by Medicare for Alzheimer patients.

### Physical activity at late-stages of Alzheimer's

At this stage, physical activities must be highly individualized and performed with the assistance of a physical therapist or other experienced professional. The patient's personal goals should be analyzed and identified in close cooperation with a medical team after a careful risk assessment.

Specialized physical activity can be used to promote mobility, independent living skills, muscle memory (necessary for utilizing tools such as utensils, a toothbrush or a pencil) and strengthen neck muscles necessary to prevent aspiration. Its results can be extremely helpful in reducing the need for more supported care and can minimize the adaptations needed in the home or surroundings. Exercise can also be part of a continence program<sup>6</sup>.

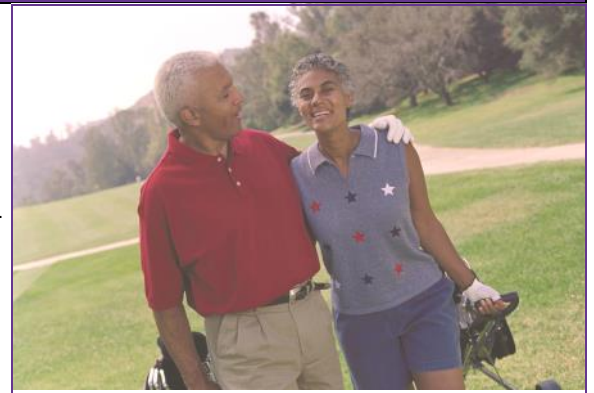
Professionals have found specialized physical activities are more successful in patients who have a long history of continued regular exercising as opposed to those who lived more sedentary lives, which is another good reason to start early!

### What kind of physical activity is the best?

There are some published studies that emphasize the benefit of strength training (e.g. lifting weights) for cognitive enhancement. Others have looked at high calorie-burning activities (such as running or bicycling). Most studies focus on moderate levels of activities (such as walking or dancing) done frequently, three or more times a week. Although the findings in cognitive benefits vary slightly between studies, most of them have reported a high correlation between physical activity and brain health.

The best physical activity for you and your loved one, however, is one you enjoy doing! Exercising should be fun, and if you can do it with a partner, it is even better. Join a gym, take regular walks at the beach or at a park, swim, take dance lessons, ride your bike. It all adds up to promoting your cognitive health.

For people in the early to moderate stages of dementia, the bustle and newness of a gym can be overwhelming. Exercise regimens can always be modified to include more appropriate activities such as yoga, Tai Chi, walks, balance exercises and strength training. A physical therapist can help with designing and adapting exercise routines to the individual needs.



### Can playing golf help your brain?

Golf can be even more stimulating when played without a cart. It involves physical exercise (walking as well as swinging), mental stimulation (strategizing and keeping score), and social contact.

And continue practicing it regularly and safely. This will be your best and most effective strategy to reduce your risk of dementia and to fight Alzheimer's disease.

### References:

1. **Andel, R.** et al. 2008. Physical exercise at midlife and risk of dementia three decades later: a population-based study of Swedish twins. *J Gerontol A Biol Sci Med Sci.* 2008 Jan; 63(1):62-6.
2. **Verdelho, A.** et al. Physical Activity Prevents Progression for Cognitive Impairment and Vascular Dementia: Results From the LADIS (Leukoaraiosis and Disability) Study. *Stroke.* 2012 Dec;43(12):3331-3335. Epub 2012 Nov 1.
3. **Larson, E.B., Wang, L., Bowen, J.D., McCormick, W.C., Teri, L., Crane, P., & Kukull, W.** 2006. Exercise Is Associated with Reduced Risk for Dementia among Persons 65 Years of Age and Older. *Annals of Internal Medicine.* 144 (2), 73-81.
4. **Wang, L., Larson, E.B., Bowen, J.D. & van Belle, G.** 2006. Performance-Based Physical Function and Future Dementia in Older People. *Archives of Internal Medicine.* 166, 1115-1120.
5. **Burns, J.M.** et al. 2008. Cardiorespiratory fitness and brain atrophy in early Alzheimer disease. *Neurology.* 71, 210-216.
6. **Schnelle, J.F.,** et al. (2002) Translating clinical research into practice: a randomized controlled trial of exercise and incontinence care with nursing home residents. *Journal of American Geriatrics Society.* 50, 1476-1483.



### Resources:

- ◆ The Visiting Nurses and Hospice Care Association has physical therapists with plenty of experience in dementia care. Call (805) 965-5555 for more information.
- ◆ Vista Del Monte has a great fitness and aquatic program for all seniors. Call (805) 879-5559 or visit [sbseiorfit.org](http://sbseiorfit.org) for details.
- ◆ Live 2B Healthy Senior Fitness provides fitness classes in many local senior residences, and now they also provide individual, in-home training. Call Chandra at (805) 665-3189 or visit [live2Bhealthy.com](http://live2Bhealthy.com) for details.
- ◆ Most senior community centers provide fitness program that may include yoga, dancing and tai chi. Please contact the center closer to your home for schedules.