



## BRAIN HEALTH BOOST



### New Advances Bring Hope for Alzheimer's

*The Brain Health Initiative (BHI) is working to develop brain healthy communities, creating a culture that promotes brain health protective factors and decreases risk factors, thereby improving brain health, optimizing brain performance, and preventing and fighting brain illness across the lifespan for the Florida Suncoast region and beyond. **Today's Boost talks about new advances in the detection and treatment of Alzheimer's disease and dementia.***

Many of us live in fear of developing Alzheimer's disease, and with good reason. The leading cause of dementia, this brain illness robs us of the ability to think, learn, and remember, eventually erasing our very identity. Unfortunately, despite the best efforts of the medical community, we still lack an effective way to treat or prevent this brain illness.

That doesn't mean that progress is not being made in the fight against dementia. While researchers are still unable to pinpoint the exact cause of Alzheimer's disease, they do know a combination of age-related factors along with genetics, lifestyle, and environmental variables can take their toll on our brain health.

More than six million American families are currently living with dementia and those numbers are expected to continue to climb. Dementia has come to represent a number of brain issues that include memory loss, confusion, changes in personality, loss of cognitive skills, and the inability to perform everyday activities. The terms "dementia" and "Alzheimer's" are often used interchangeably because Alzheimer's disease is the most common form of dementia.

Alzheimer's disease is characterized by an accumulation of protein in the form of amyloid plaques and neurofibrillary tangles that create clumps in the brain. These clumps interfere with communication between nerve cells, and eventually destroy brain cells. Because dementia affects areas of the brain involved in learning and memory, the first symptom may be difficulty in recalling new information.

Just this year, several breakthroughs in Alzheimer's research were announced including two major developments from our colleagues at Harvard-affiliated Massachusetts General Hospital (MGH).

In May, [researchers at MGH](#) published their findings about how amyloid beta—the neurotoxin believed to be at the root of Alzheimer's disease—forms in the structures that connect the

neurons in the brain and impairs communication between nerve cells. By identifying how amyloid beta is formed, researchers can now begin to identify targets for reducing the formation of the neurotoxin and develop new therapies to slow or prevent the onset of this brain illness.

Another [study at MGH](#) looked at reducing or preventing inflammation in the brain caused by Alzheimer's. In findings reported in July, the MGH researchers identified a signaling molecule that can modify the inflammation caused by the immune system's response to Alzheimer's high levels of amyloid beta deposits and tau tangles. These signals tell the cells that normally help clear away infections to become more active, resulting in excessive inflammation in the brain and triggering the death of even more neurons as part of the immune response. The result is the cognitive decline seen in dementia. Using a type of biological signal that can improve the body's natural immune response, researchers were able to control the neuroinflammation and instruct these cells to return to their more beneficial task of clearing away the deposits and tangles that are the hallmarks of Alzheimer's disease.

In June, the U.S. Food and Drug Administration (FDA) approved the use of the drug aducanumab for the treatment of Alzheimer's disease. Aducanumab is the first novel therapy approved for Alzheimer's disease in nearly 20 years and is the first treatment directed at reducing the presence of the amyloid beta plaques. While many doctors and their patients celebrated the decision, others felt the medication was rushed to market without enough evidence that the drug's removal of amyloid plaques reversed the cognitive decline found in dementia, according to a recent article from [Harvard Health](#). There are also concerns about the \$56,000 per year cost for the drug, as well as its potential side effects of brain swelling and bleeding that require frequent follow-up brain scans of users.

And finally, just last month the [FDA cleared a new test](#) for early dementia. CognICA is five-minute, computerized cognitive assessment that is completed using an iPad. Developed by Cognetivity Neurosciences, the test offers several advantages over traditional cognitive tests, including its high sensitivity to early-stage cognitive impairment, avoidance of cultural or educational bias, and absence of learning effect upon repeat testing.

### WHAT YOU CAN DO TODAY TO PROTECT YOUR BRAIN HEALTH

*Although there is no treatment for preventing or curing Alzheimer's disease and dementia, the BHI and Harvard Health offer these suggestions for lowering your risk of developing Alzheimer's or slowing its progression.*

- **Exercise.** Research suggests that physical activity improves your cognitive skills. It increases blood flow and oxygen to the brain and reduces your risk of high blood pressure, stroke, and diabetes — all linked to dementia.
- **Watch your weight.** The MIND diet (Mediterranean-DASH intervention for neurodegenerative delay) can help you shed pounds and protect your brain. A healthy diet based on unprocessed or minimally processed food, including fruits and vegetables, whole grains, and lean protein, fills you up on relatively few calories. Studies also show that people who eat a healthy diet are less likely to experience cognitive impairment.
- **Eat more fish.** In addition to eating a healthy diet, a study from the National Institutes of Health found fish was the single most important dietary factor in lowering the risk of cognitive impairment and cognitive decline.
- **Sleep.** Consistent, good-quality sleep benefits your overall health and is

important for your brain. Studies show that getting less than the recommended seven to eight hours a night can cause you to score lower on tests of mental function. It is not clear why lack of sleep increases your risk for developing dementia, but it may be related to the fact that your brain organizes and stores new knowledge and memories during sleep and clears away toxins. A lack of sleep disrupts these actions.

- **Know the warning signs.** We all have moments for forgetfulness that are not necessarily signs of Alzheimer's. The early symptoms you need to watch for include:
  - Difficulty with everyday tasks, like paying bills or following directions.
  - Repeating stories or asking the same questions multiple times.
  - Trouble following a conversation.
  - Getting lost in familiar neighborhoods.
  - Personality changes.
  - Easily confused about time or place.
  - Troubling behavior.
- **Support.** Join the **Walk to End Alzheimer's, 9 a.m., Saturday, Nov. 20 at Ed Smith Stadium in Sarasota**, and help support people in the community impacted by Alzheimer's and dementia— both those with the disease and the people who care for them. Registration information is available at [www.alz.org/flgulfcoast](http://www.alz.org/flgulfcoast).
- **BE BRAIN HEALTHY and adopt a lifestyle** that includes thoughts, behaviors, emotions, responses, and language that promote brain health protective factors:
  - Stress resilience
  - Nutrition
  - Physical activity
  - Sleep
  - Social connection
  - Emotional wellbeing
  - Meaning and Purpose
  - Cognitive stimulation and creativity
  - Engaging with nature
  - General health
  - Positive impacts

### **About the Brain Health Initiative ([www.brainhealthinitiative.org](http://www.brainhealthinitiative.org))**

The Brain Health Initiative (BHI) is a cutting-edge approach to protecting brain health, promoting brain performance, and preventing and fighting brain illness across the lifespan. The BHI is creating brain healthy communities, cultures that foster brain health protective factors and address risk factors, thereby improving brain health and optimizing brain performance outcomes for the Florida Suncoast region and beyond. Join the **Be Brain Healthy** movement, **because brain health matters, and lifestyle makes a difference**. To view all Brain Health Boosts [click here](#).