

## Dear Friends & Supporters of ADNI,



Michael Weiner, M.D.  
Fellow Participant & ADNI  
Principal Investigator

As we begin to settle into the groove of not only a new year, but also a new decade, it is hard to believe that we are now in our 6th year of ADNI. Since 2004, we have been gathering and analyzing thousands of brain scans, genetic profiles and biomarkers all in an ongoing effort to find more sensitive and accurate methods to detect Alzheimer's disease at earlier stages, mark its progress, and eventually decrease the burden of the disease.

The original goal of ADNI was to define biomarkers in blood and spinal fluid for use in clinical trials, specifically to determine the best way to measure how treatment affects Alzheimer's disease.

However, as the field has evolved, ADNI's goal has now extended to the use of biomarkers to detect Alzheimer's at a pre-dementia stage.

With scientists at 59 research centers—54 in the U.S. and five in Canada and over 800 participants—ADNI has achieved some key accomplishments. We can only hope that the work we are doing—the work that you make possible through your involvement in the study—will continue to build on these key milestones:

1) ADNI has developed a standardized approach for use of imaging, blood and CSF biomarkers in clinical trials of Alzheimer's disease, which are now employed in several industry and NIH sponsored treatment studies.

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A Special Newsletter for  
Participants in the Alzheimer's  
Disease Neuroimaging Initiative

### SPRING 2010

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## Senior Moments May Not Necessarily Mean AD— Do You Know What's Normal?

While there is some truth to the fact that frequent mental lapses may precede Alzheimer's, experts stress that 'senior moments' don't guarantee that dementia is on the way.

The HealthDay article by Steven Reinberg that appeared on January 18, 2010 explains what's normal and what's not.

Mental lapses among older adults occur more often among those developing Alzheimer's disease than healthy elders, new research finds.

Excessive daytime sleepiness, staring into space and disorganized or illogical thinking are other mental fluctuations that often precede Alzheimer's, say researchers from

Washington University School of Medicine in St. Louis.

"For many years, people have jokingly attributed mental lapses, or incidents when the train of thought temporarily seems to jump its tracks, as 'senior moments,'" said lead researcher Dr. James Galvin, an associate professor of neurology. "It has never been clear as to whether these lapses could lead to the development of Alzheimer's disease. We demonstrate clearly, for the first time, that such episodes are more likely to occur in persons who are developing Alzheimer's disease."

But this doesn't mean that everyone who has a "senior moment" is on the verge of dementia, Galvin stressed.

### Do you know the 10 signs?

The Alzheimer's Association has kicked off a new consumer education campaign entitled, "Know the 10 Signs: Early Detection Matters." The campaign is focused on increasing awareness of the 10 warning signs of Alzheimer's and the benefits of early detection and early diagnosis. Visit the Alzheimer's Association Web site at [http://www.alz.org/alzheimers\\_disease\\_know\\_the\\_10\\_signs.asp](http://www.alz.org/alzheimers_disease_know_the_10_signs.asp) to learn more about the 10 warning signs of AD, as well as the difference between Alzheimer's and age-related changes.

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2) ADNI has demonstrated the feasibility and value of multicenter PET amyloid imaging, which is expected to have a significant impact on future clinical trials and diagnosis of early Alzheimer's disease.

3) ADNI results are being distributed to the worldwide scientific community without data embargo, which is unprecedented. This has resulted in publication of more than 60 scientific papers, with many more scheduled for publication, has greatly advanced our understanding of the biology of this disorder and is expected to lead to the development of more effective diagnostic methods and treatments.

4) ADNI research has garnered one unanticipated finding: within some completely normal subjects, there is evidence of early Alzheimer's disease pathology, which may in the future be shown to be a risk factor for cognitive decline and development of dementia. However, much more work needs to be done in this area.

5) Finally, the funding and success of ADNI has led to the creation of ADNI-like projects in Australia, Japan, Europe, Korea, and China, expanding the global impact of the project and continuing to further research.

All of these accomplishments have contributed to the current success of ADNI and we are thrilled to announce that ADNI was recently awarded a Grand Opportunities (GO) grant from NIH as part of the American Recovery and Reinvestment Act to expand its research efforts. Under the GO grant, researchers will recruit people with early-stage MCI to the study population to learn more about the conversion from MCI to Alzheimer's and to find additional biomarkers that will help to refine the current biomarker profile for AD.

As we continue to embark on this final year of ADNI and begin the ADNI GO project, we are hopeful that we will be able to obtain additional funding to continue the study for another five years so that we can make even more advancements and discoveries in AD research.

Perhaps no other project in the Alzheimer's field has had the overall impact of ADNI. On behalf of all of the investigators involved, we want to thank the volunteers and their families for their participation in this groundbreaking study. We understand that this commitment requires considerable time. However, without you, we simply cannot continue to learn about the causes and progression of this devastating disease. Thank you for giving your time and dedication to stopping the progression of AD. It is my hope that through this research we can stop imagining a world without Alzheimer's disease and start living in one.

With sincere gratitude,



Michael Weiner, M.D.  
Fellow Participant and ADNI Principal Investigator  
Professor of Radiology, Medicine, Psychiatry, and Neurology  
University of California, San Francisco

## New Data on Key Populations Affected by AD

The Alzheimer's Association recently released the 2010 Alzheimer's Disease Facts and Figures Report and revealed that African-Americans are about two times more likely and Hispanics are about one and one-half times more likely than their white counterparts to have Alzheimer's and other dementias. Although there appears to be no known genetic factor for these differences, the report examines the impact of complicating health conditions. High blood pressure and diabetes, for instance, disproportionately affect these communities and can increase the risk of developing AD. Compounding these compelling statistics is the fact that although African-Americans and Hispanics have a higher rate of Alzheimer's and dementia, they are less likely than whites to receive a diagnosis.

To learn more about this or to read the full report, visit [www.alz.org](http://www.alz.org).



\*Source: Alzheimer's Association

## Why I Chose to Participate in ADNI...a look into one participant's experience

Don McPeak of Sun City, Ariz., became interested in Alzheimer's disease research when he saw both his grandfather and then his mother go through the devastating effects of the disease. He knew AD was linked to genetics in some way and wanted to do his part to help prevent his children and grandchildren from having to deal with the disease in the future.

Upon retirement, Don moved into a community with a built-in medical facility with the necessary equipment to conduct medical research onsite. His community offers a natural fit for medical research because it has the appropriate population group, the medical infrastructure and the staff all readily available. Don said that he didn't just move into a retirement community to play golf, but that he joined this particular medical model to help make a difference.

When he arrived, Don began investigating ways to become involved in AD research due to his family history. He was immediately drawn to ADNI in particular because of the large scope of the trial. ADNI includes over 50 research across the U.S. and internationally, and he found the protocols for research especially intriguing.

For Don, the decision to participate in the ADNI study was a process of self-discovery, as well as the desire to be a part of a national and international effort to fight Alzheimer's disease. Having seen firsthand the way AD affects families, he described how upsetting it is for any family to deal with AD and the emotional toll it has on those close to the affected person. He said that people don't realize how much assistance someone with AD requires. The person's entire personality and persona are taken away and everyone in the family is affected. He also described

the financial strain the disease has on families to provide the necessary supervision and care.

Although Don is experiencing no memory problems currently, he knows there is a very real chance he may develop challenges due to his family history. He already experiences anxiety when he lays his keys down and then isn't able to immediately remember where he put them.

Don views his participation in ADNI as a wonderful, altruistic opportunity to do his part in helping science get a better handle on AD. His views his participation as one small way to help leave a legacy that will continue to benefit future generations in his family and countless others. ●

### Brain Teasers: Give Your Brain a Workout

Just like exercise is good for your body, brain teasers or puzzles can be a good workout for your brain. Try these brain games below. Guess the meaning of the word pictures (answers below).

If word puzzles aren't for you, consider finding another mentally stimulating activity to keep your brain sharp!

- |                     |                              |                       |                            |
|---------------------|------------------------------|-----------------------|----------------------------|
| <b>1.</b> Agebeauty |                              | <b>9.</b> legal legal | <b>13.</b> ban ana         |
| <b>2.</b> SGEG      | m m                          | <b>10.</b> plans      | <b>14.</b> age minus story |
| <b>3.</b> W         | u u                          | plasn                 | <b>15.</b> issue issue     |
| A                   | h h                          | plсна                 | issue issue                |
| T                   | t t                          | plсна                 | issue issue                |
| E                   | <b>5.</b> cycleCYCLEcycle    | plсна                 | issue issue                |
| R                   | <b>6.</b> He He He Himself   | <b>11.</b> rest       |                            |
| <b>4.</b> b b       | <b>7.</b> MAKE - MAKE = ZERO | your                  | <b>14.</b> Thinkuact       |
|                     | <b>8.</b> DAYdayOUT          | <b>12.</b> Mstickud   |                            |

13. banana split  
14. ageless story  
15. tennis shoes  
16. think before you act

9. paralegal  
10. change of plans  
11. you're under arrest  
12. stick in the mud

5. tricycle  
6. He's beside himself  
7. makes no difference  
8. day in day out

1. age before beauty  
2. scrambled eggs  
3. waterfall  
4. Two thumbs up

Source: Bill's Games <http://www.billsgames.com/brain-teasers>

## A Mouse in the House May Not be a Bad Thing

Does the mention of the word “mouse” make you want to jump up on the countertop? What you may not know is that outside of your kitchen and in the lab, these little creatures have been vital to the progression of AD research and the study of many other diseases.

Scientists often use animal models for basic research to study human diseases because they are biologically very similar to humans. Some 99 percent of a mouse’s genes have counterparts in humans; in fact, researchers have identified only 300 genes that are unique to either creature.

Mice have a shorter lifespan than humans, and therefore allow scientists to study disease development over brief periods of time. This is critically important in AD research because the disease takes decades to develop in the human brain. Additionally, scientists can control the animals’ diet and environment, allowing them to focus on specific aspects of the disease.

The first successful gene transfers into mice were achieved in 1980. These are what we call “transgenic” mice. They are

bred to develop specific diseases that mirror human pathology, such as AD. Consider them hero volunteers. Without being able to first test potential therapies on mice with AD-type characteristics, most drugs would never make it to the human clinical trial phase nor would they ever reach the people who need them.

Advances in basic science and animal models have given scientists extensive knowledge about AD’s three defining characteristics: beta-amyloid plaques, tau tangles, and loss of connections, or synapses between neurons. Scientists have detailed the steps by which these plaques and tangles are formed and are learning more about how these early forms of plaques and tangles do their damage.

The progress these mice have allowed has helped to provide clues about biological pathways that lead to AD and generated insights into potential therapeutic targets. In short, scientists could not move forward with finding a cure for AD without these tiny medical heroes.

So the next time you see a mouse scurry across your kitchen floor, instead of running the other way in fear, think of the amazing advances these tiny animals are providing to the advancement of AD research.



To access the full article visit <http://www.healthday.com/Article.asp?AID=635085>

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“While these lapses or fluctuations don’t by themselves mean that you have Alzheimer’s disease, our results suggest that they are something your doctor needs to consider if he or she is evaluating you for problems with thinking and memory,” he said.

For the study, Galvin’s team collected data on 511 seniors, average age 78, with memory problems and found that people with those symptoms were 4.6 times more likely to be diagnosed with

Alzheimer’s and to have more severe Alzheimer’s symptoms.

Cognitive fluctuations occur in Alzheimer’s disease and can significantly affect clinical rating of the severity of dementia and performance on memory and thinking tests. Assessing these fluctuations should be considered in evaluating patients for cognitive disorders, Galvin said.

The hope for improving the diagnosis and treatment of Alzheimer’s hinges on finding

## Free Alzheimer’s Resources from ADEAR

### Participating in AD Clinical Trials and Studies

<http://www.nia.nih.gov/Alzheimers/Publications/trials-studies.htm>

This is an exciting time for Alzheimer’s disease clinical research, as scientists continue to make great strides in identifying potential new interventions to help diagnose, slow, treat, and someday prevent AD entirely. This research can only continue to move forward if people like you are willing to volunteer for clinical trials and studies. Check out this fact sheet to learn more about Alzheimer’s disease clinical trials and studies and their scientific design, and for key facts and questions to consider before volunteering for clinical research.

### Clinical Trials and Older People

[http://www.nia.nih.gov/HealthInformation/Publications/clinicaltrials\\_tipsheet.htm](http://www.nia.nih.gov/HealthInformation/Publications/clinicaltrials_tipsheet.htm)

Have you or a loved one ever thought about joining a clinical trial but aren’t sure exactly what they are or what they entail? Then this factsheet is a great resource for you. It contains information that can help you decide if participating in a clinical trial is right for you, including what a clinical trial is, why you would participate, and what the benefits and risks are of a clinical trial. ●

physical markers that indicate disease progression and the effectiveness of treatment, another expert said.

“The finding is a terrific ad for the need for biomarkers in Alzheimer’s disease,” said William Thies, vice president for medical and scientific affairs at the Alzheimer’s Association. “These mental fluctuations may be common, but are not an exact measurement of whether Alzheimer’s disease is present or how far it has progressed.” ●