



## THE AGING & ALZHEIMER'S UPDATE

PUBLISHED BY THE LAYTON AGING & ALZHEIMER'S DISEASE CENTER  
A NATIONAL INSTITUTE ON AGING ALZHEIMER'S DISEASE CENTER

OCTOBER 2007

### Can Eating Fish Slow the Progression of Alzheimer's Disease?

*Multi-site study directed by Joseph Quinn, MD, Associate professor, Layton Aging & Alzheimer's Disease Center*

Nutritionists have long endorsed fish as part of a heart-healthy diet, and now some studies suggest that omega-3 fatty acids found in the oil of certain fish may also benefit the brain by lowering the risk of Alzheimer's disease. In order to test whether an omega-3 fatty acid can impact the progression of Alzheimer's disease, researchers supported by the National Institute on Aging (NIA), part of the National Institutes of Health, are evaluating one in a clinical trial, the gold standard for medical research. Testimony to the great interest in omega-3 as a potential treatment for Alzheimer's disease, this study is fully enrolled 10 months ahead of schedule with 400 subjects age 50 and older with mild to moderate Alzheimer's disease.

Joseph Quinn, M.D., associate professor of neurology at Oregon Health and Science University, is directing the study in collaboration with the Alzheimer's Disease Cooperative Study (ADCS), a consortium of leading researchers supported by NIA and coordinated by the University of California, San Diego. A preliminary study of fish oil for Alzheimer's disease directed at OHSU by Dr Lynne Shinto helped to make the case for a large national study. Dr Shinto continues to be



involved in these efforts as a member of the protocol planning committee for the national study. The trial will take place at 51 sites across the United States.

Researchers will be evaluating primarily whether the omega-3 fatty acid DHA (docosahexaenoic acid), taken over many months, slows the

*Continued on page 2*

## Hold On To Your Memory

On Saturday, April 21, 2007, 200 individuals attended an aging and memory conference entitled “Hold On to Your Memory: Aging & Memory in the African American Community.” In addition to workshops on illnesses that can affect memory, such as diabetes, heart disease and Alzheimer’s disease, interactive sessions were offered on healthy eating, computers for brain health, and stress management. The healthy soul food luncheon was especially enjoyed. Acupuncture and other alternative therapies were popular features of the conference. During the sessions, participants learned about both traditional and more holistic approaches to health and health care.

The conference was planned and organized by representatives of the Layton Aging & Alzheimer’s Disease Center, community members, and representatives of community agencies, including the Urban League, Providence ElderPlace, and Volunteers of America. The committee has already begun planning a 2nd conference next spring. For information, contact Linda Boise (503-494-6370) or Tiffany McKenna (503-802-0453).



Dr. Jennifer Manly from Columbia University, New York discussed in her keynote address the

manner in which African Americans are uniquely represented among populations experiencing memory loss. Dr. Manly’s Portland ties added to the pleasure of welcoming her to our community.

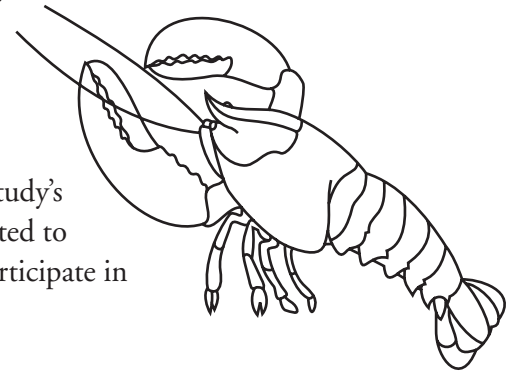
## Can Eating Fish Slow the Progression...

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progression of both cognitive and functional decline in people with mild to moderate Alzheimer’s. During the 18-month clinical trial, investigators will measure the progress of the disease using standard tests for functional and cognitive change.

“The evidence to date in observational and animal studies on omega-3 fatty acids and Alzheimer’s disease warrants further evaluation in a rigorous clinical trial,” says NIA Director Richard J. Hodes, M.D. “This study is one of a number we are undertaking in the next few years through the ADCS to test compounds that might play a role in preventing or delaying the symptoms of this devastating disease.”

“By participating in this study, volunteers will make an invaluable contribution to Alzheimer’s disease research progress,” says Quinn, the study’s principal investigator. “We are indebted to those who graciously volunteer to participate in clinical studies.”



The trial will use DHA donated by Martek Biosciences Corporation of Columbia, Md. Participants will receive either two grams of DHA per day or an inactive placebo pill. About 60 percent of participants will receive DHA, and 40 percent will get the placebo. Doctors and nurses at the 51 research clinic sites will monitor the participants in regular visits throughout the trial. To ensure unbiased results, neither the researchers conducting the trial nor the participants will know who is getting DHA and who is getting the placebo.

In addition to monitoring disease progression through cognitive tests, researchers will also evaluate whether taking DHA supplements has a positive effect on physical and biological markers of Alzheimer’s, such as brain atrophy and proteins in blood and spinal fluid. ❖

*Adapted from article in ADEAR newsletter, May 10, 2007 (used by permission).*

To find out more about the research studies discussed in this newsletter or about other research and clinical trials at the **Layton Aging & Alzheimer’s Disease Center**, check our Web site ([www.ohsu.edu/research/alzheimers](http://www.ohsu.edu/research/alzheimers)) or call Joyce Lear at 503-494-7615.

## Oregon Tax Checkoff Pilot grants 2007

*Funded by the Oregon taxpayers through the Oregon State Checkoff Program*

### ■ “Keys to Optimal Aging: Comparisons of Social Engagement and Network, and Nutrition between Oregonians and Okinawans”

Hiroko Dodge, PhD, Department of Public Health, Oregon State University

### ■ “Seeking Common Ground: Family Caregiver Appraisal of Communication Problems in Persons with AD”

Jeon Small, Child Development and Rehabilitation Center, OHSU

### ■ Refining an in vitro model of beta amyloid neurotoxicity for translational research with resveratrol

Teri Wadsworth, PhD, Department of Neurology, OHSU

### ■ Lutein and Oxidative Stress

Wei Wang, PhD, Department of medicine, OHSU

### ■ Apolipoprotein conformational changes in Alzheimer’s disease

Randall Woltjer, MD, PhD, OHSU Department of Pathology and Layton Aging & Alzheimer’s Center

# The Secret of Long and Healthy Living Among Studies Funded by Oregon Taxpayers

*Oregon tax check-off program supports five Alzheimer’s disease research projects for 2007*

Understanding factors that are associated with long and healthy lives and investigating the potential role of nutrition are among Alzheimer’s disease studies being supported this year by Oregon’s tax check-off funds. The Oregon Alzheimer’s Research Tax Checkoff Program is funded by Oregon residents who donate portions of their state tax refunds toward Alzheimer’s disease research. All of this year’s grants are worth \$25,000.

One study funded this year will examine social engagement and nutrition among Oregonians 85 and older and compare them to persons in the same age cohort living in Okinawa, Japan. The Japanese component of this study is being funded by other resources. Okinawan elders live longer and with better physical and cognitive health than elders living in other places. Whether this is due to social support or nutrition-related factors is unclear but certainly worthy of study. The Oregon subjects will include both urban elders from the Portland metro area and rural elders from Klamath County in southern Oregon. In addition to information about subjects’ social engagement, data will be collected on plasma levels of Vitamin E, C, and lipid levels. The results from this pilot study will lay the groundwork for further study on the role of social support and nutritional factors in maintaining and/or improving cognitive health.

*Continued on page 4*



**Oregon Alzheimer’s Research Tax Check-Off Program** promotes promising research on Alzheimer’s disease in Oregon.

For information about this program, contact Linda Boise (boisel@ohsu.edu) or 503-494-6370.

Another study co-investigated by Dr. Joseph Quinn, neurologist at the Layton Aging and Alzheimer's Center and Teri Wadsworth, Ph.D., OHSU research assistant professor of neurology, is looking at antioxidant effects that different concentrations of resveratrol, a natural compound of red grapes, have on beta amyloid, the protein that clumps to form plaques that kill brain cells, leading to Alzheimer's. In addition to possessing antioxidant properties, Resveratrol is thought to activate an enzyme called SIRT1 that protects brain cells from amyloid-induced death. Wadsworth and Quinn want to develop techniques for monitoring SIRT1 activation in

human white blood cells so it can be used in future clinical trials as a biomarker for resveratrol's effects. By differentiating the mechanisms by which resveratrol exerts anti-amyloid effects, they also hope to develop molecular targets for preventing and treating Alzheimer's.

Oregon Alzheimer's Disease Research Small Grants recipients are determined by the Oregon Partnership for Alzheimer's Research (OPAR), an alliance of scientists and administrators from OHSU, Providence Health System in Oregon, Kaiser Permanente Health System, Salem Alzheimer's Network, Portland State University, Oregon

State University and University of Oregon. The Layton Aging & Alzheimer's Disease Center serves as steward for the program's funds. Grants are awarded to clinical investigators and basic scientists for clinical, biological, behavioral or health system research that will advance understanding, treatment and prevention of Alzheimer's disease.

Applicants are evaluated on scientific merit, but priority is given to investigators just entering the field of dementia research and to new or innovative projects. \*

## *Grant opportunities from the Layton Aging & Alzheimer's Disease Center*

### **OHSU OREGON ALZHEIMER DISEASE CENTER PILOT PROJECT PROGRAM**

**Project dates:** April 1, 2008 – March 31, 2009    **Application Deadline:** October 26, 2007    **Maximum direct costs:** \$30,000

The NIH-funded Oregon Alzheimer Disease Center is accepting applications for two one-year pilot projects. The program supports basic, clinical, or behavioral research on Alzheimer disease, other dementias, and normal brain aging. Applicants can be either new investigators or established investigators with experience in other areas. Contact Diane Waggoner ([waggoner@ohsu.edu](mailto:waggoner@ohsu.edu); 503-494-6977).

### **OREGON CENTER FOR AGING & TECHNOLOGY PILOT PROJECT PROGRAM**

**Project dates:** August 1, 2008 – July 31, 2009    **Application Deadline:** December 14, 2007    **Maximum direct costs:** \$50,000

The Oregon Center for Aging & Technology (ORCATECH) offers annual pilot funding to improve technology and translate that technology into useful tools to improve health and maintain independence in our aging population. ORCATECH focuses on two key reasons for loss of independence among the elderly: decline in cognitive function and decline in mobility. Several focus areas are encouraged for this request, but applications are not limited. Up to three projects will be funded at \$50,000, with additional indirect costs. The full request for applications is at: <http://www.orcatech.org/research.php>. Contact: Tracy Zitzelberger ([zitzelbe@ohsu.edu](mailto:zitzelbe@ohsu.edu), 503-494-7198).

### **OREGON TAX CHECKOFF OHSU ALZHEIMER'S DISEASE RESEARCH FUND**

**Project dates:** August 1, 2008 – July 31, 2009    **Application Deadline:** March 5, 2008    **Maximum direct costs:** \$25,000

The **Alzheimer's Disease Research Fund** supports pilot research that will improve our understanding of dementia or that will advance health care treatment or prevention strategies. Priority is given to investigators entering the field of dementia research; to new or innovative projects; and to projects that foster collaboration. These funds are made available by Oregonians through **The Oregon Income Tax Check-Off Program**.

Contact Linda Boise ([boisel@ohsu.edu](mailto:boisel@ohsu.edu), 503-494-6370) for guidelines and application form.

Visit <http://www.ohsu.edu/research/alzheimers/funding.htm> for further information on these grant programs.

■ **“Home monitoring of physiologic and behavioral change associated with heart failure as a means to detect cognitive impairment”**

Francena Abendroth, MD,  
OHSU Layton Aging &  
Alzheimer’s Disease Center

■ **“Evaluation of web-based cognitive assessment battery in a community setting”**

Scott Hofer, PhD, Department  
of Human Development and  
Family Sciences, Oregon State  
University

■ **“Longitudinal measurement of mobility in healthy elderly and Parkinson’s disease”**

Fay Horak, PHD, OHSU  
Neurological Sciences Institute

## Using Technology to Improve Data Collection for Alzheimer’s Studies

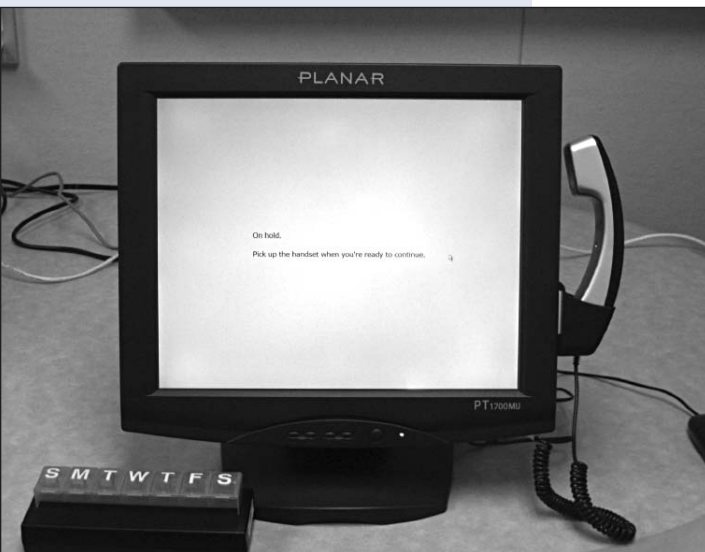
Collecting valid and reliable data is essential for meaningful research. Many research studies require intensive and frequent measurements of individuals’ behavior and physiology over long periods of time. Subjects are often required to come in to a clinic for testing every 6 months or even more often. Clinical studies can be very costly, in part due to the demands of data collection. One potential way to both reduce costs and, at the same time, improve the quality and efficiency of data collection is through the use of technology. The Layton Aging & Alzheimer’s Disease Center is involved in several research studies to advance our knowledge of cost-efficient approaches for conducting clinical research.

One study, the Home Based Assessment Study (HBA), is developing convenient and easy methods to monitor memory and other factors in a person’s home. Three different at-home approaches to collecting data will be compared with traditional in-clinic data collection. Mary Sano, PhD, director of the Alzheimer’s Center, Mt. Sinai School of Medicine in New York is principal investigator for this study. A total of 600 healthy participants aged 75 or older from Alzheimer’s Research Center throughout the U.S. will be enrolled in this study.

Participants found to be eligible for this study will be randomly assigned to one of three groups: one group will provide data for the project via an automated phone system, a second group will receive phone assessment by a live person, and a third group will use a computer-like kiosk that is installed in their home. To compare these innovative data collection methods, subjects will also be assessed in traditional in-clinic visits. The frequency of data collection will also be varied for different subjects within the assigned groups. The Layton Center is developing the kiosks for the 200 study participants that use this method of data collection.

Another study, supported by a pilot grant from the Layton Center’s Roybal Center for Research on Aging, is being carried out by Scott Hofer, PhD, at Oregon State University. Dr. Hofer is evaluating a web-based method of collecting data in subjects homes to study aging-related dynamics of cognitive function, health, and stress over time. Building on previous research, the aim of this study is to develop feasible and sensitive methods to detect change that occurs due to pathological processes rather than due to normal age-related changes. An important aspect of this pilot study is to obtain information from the participants’ willingness to continue with many assessments over the long term and to identify design factors that facilitate continuation in a long-term study.

These and other studies supported by and/or conducted at the Layton Aging & Alzheimer’s Disease Center seek to apply technology-based solutions to the challenges in conducting home-based Alzheimer’s disease research. ❁



*This kiosk will ring on the day study participants are to complete memory tests and other questionnaires.*

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([BOISEL@OHSU.EDU](mailto:BOISEL@OHSU.EDU))

OHSU

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