

## THE AGING & ALZHEIMER'S UPDATE

THE C. REX AND RUTH H. LAYTON AGING AND ALZHEIMER'S DISEASE CENTER  
A NATIONAL INSTITUTE ON AGING ALZHEIMER'S DISEASE CENTER

AUGUST 2010

### Fishing for remedies in cognitive decline

If you enjoy a salmon fillet at least once a week, and also include broccoli and leafy greens in your daily diet, you may be practicing the best defense against Alzheimer's disease. Population studies have indicated a connection between certain foods and cognitive health, inspiring more investigation into the effectiveness of diet and dietary supplements for the prevention and treatment of neurological disease.

Dr. Lynne Shinto, N.D., M.P.H., is an OHSU assistant professor of neurology and affiliate of the Oregon Center for Complementary and Alternative Medicine in Neurological Disorders (ORCCAMIND). She specializes in integrative medicine to treat neurological diseases. In her latest study, she will be expanding on the promising results of an earlier 1-year pilot study of the effects of fish oil and the anti-oxidant, lipoic acid in persons with Alzheimer's disease. Lipoic acid is found in many foods, such as broccoli and spinach, and its anti-oxidant effects are thought to protect brain and nerve tissues.

Previous studies have shown that people with the disease have low levels of one type of omega-3 fatty acid, docosahexaenoic acid, or DHA. "A lot of people

feel DHA is really important in Alzheimer's disease," Shinto said. "DHA is clearly depleted in people with Alzheimer's." The omega-3 used in this study comes from fish and are taken in the form of fish oil capsules. It is not known yet whether the use of lipoic acid combined with omega-3 can help prevent or slow the course of Alzheimer's disease. However, results of the earlier study indicated that participants with Alzheimer's disease in the lipoic acid plus omega-3 group showed a slowing of the Alzheimer's disease process when compared to participants on placebo. Volunteers taking the supplements showed less decline, as measured by cognitive and activity of daily living assessments. Since inflammation, high lipid levels, and insulin resistance have each been associated with Alzheimer's disease pathology, the combination of lipoic acid plus fish oil has the potential to maximize therapeutic

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# Fishing for remedies . . .

Continued from front page 1

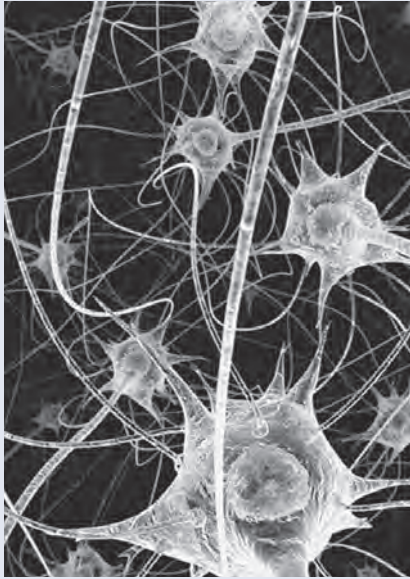


Photo courtesy Wellcome Trust Images, Benedict Campbell

## The Layton Aging and Alzheimer's Disease Center

The Layton Aging and Alzheimer's Disease Center is one of 30 NIH Alzheimer's disease Centers in the United States and the only one of its kind in Oregon. Our Center is recognized as a national leader in dementia care and research, and is committed to serving the needs of people throughout the Northwest.

### Patient Services

Our clinic is staffed by neurologists, nurses and psychologists who have expertise and interest in aging and dementia. Many of our clinic staff are also actively involved in Alzheimer's disease and dementia research. We work together with other research partners and the service community to carry out studies in several areas, with particular focus on the oldest old (persons over 80) and on those with early-stage dementia.

### Volunteering for Clinical Studies

To find out about our current clinical studies, please contact Joyce Lear or Lisa Loree: 503-494-7615. \*



benefit, because they may act on all three of these mechanisms associated with the disease.

To gain more information in testing this treatment's effectiveness in slowing the progression of Alzheimer's disease, Dr. Shinto's new study will look at changes in memory and changes in daily activities among 100 research participants over 18 months. The study will also look at how lipoic acid plus omega-3s affect inflammation, lipid levels, and insulin resistance, and brain changes by MRI.

She appreciates the opportunities available at the Layton Center, which has been "very open to a broad range of treatments," that can create "more and better options" for patients who have neurological disorders.

Lynne Shinto is grateful for "all the neurologists who screen and refer patients, without whom it would not be possible to generate this important data."

The study is due to begin in August 2010, with participants from Portland, Bend, Medford and Klamath Falls. For more information call Lauren McDonald, (503) 494-7240.



## The C. Rex and Ruth H. Layton Aging and Alzheimer's Disease Center

Oregon Alzheimer's Disease Center (OADC) receives 1st 5-year award from National Institute on Aging (1990-1995)

First 54 subjects enrolled for Oregon Brain Aging Study (OBAS)

Neuroimaging Lab Started

State Tax Check-off Program for Alzheimer's Research in Oregon formed to fund new investigators and pilot research

1<sup>st</sup> Clinical Study of potential treatment for AD

OBAS receives 5-year grant through the Department of Veteran's Affairs

Oregon Brain Bank established

OADC scientists confirm apoE4, a sub-type of a common protein, predisposes some women to Alzheimer's disease

Tacrine/ Cognex, the first drug approved by the FDA for Mild to Moderate Alzheimer's disease



# The C. Rex and Ruth H. Layton Center marks 20th anniversary

On May 7th, Center staff, research participants, friends and university partners gathered at OHSU to celebrate 20 years of research and service to the community. The C. Rex and Ruth H. Layton Aging and Alzheimer's Disease Center was first established in 1990 as The Oregon Alzheimer's Disease Center, with grants from the National Institutes of Health. It is one of 30 National Alzheimer's Disease Research Centers in the U.S. Over these 20 years, the Center has conducted over fifty clinical trials, several of which have contributed to the approval of medications for Alzheimer's disease treatment. More than 20,000 patients have received 196,000 assessments in the clinic. Volunteer research participants now number over 4,000. Many independent NIH or VA funded research scientists in Oregon and throughout the country depend on the data and tissue resources of the Layton Center to conduct their on-going research.

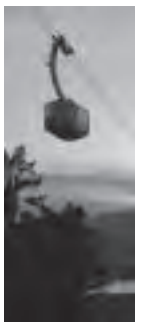


Center director Dr. Jeffrey Kaye, M.D. presents Ruth Layton with roses during the May 7th celebration of the Layton Center's 20th anniversary.

At the celebration, Center director Dr. Jeffrey Kaye, M.D., expressed appreciation for the dedication of long-time staff and volunteers and the generous ongoing support of the Layton family. Doctors Mark Richardson, Dean of the School of Medicine, Daniel Dorsa, Vice President for Research, and Dennis Bourdette, Neurology department chair also addressed the gathering. Each spoke about the importance of the research carried out by the Center, emphasizing its value as a community and national resource.

As Dr. Kaye explains, "I think our ideas about disease causation have matured so that we are now in a phase where the explosive basic knowledge of the past ten years is finally being rigorously tested. It is not a time to pause but to redouble our efforts. I am excited to see what this next phase brings." ❁

## 's Disease Center: 20 Great Years



**OADC receives 2<sup>nd</sup> 5-year award from NIA (1995-2000)**

OHSU establishes first Genetics Core among National Alzheimer's Disease Centers

OADC begins Donepezil/ Aricept clinical trial beginning in March; FDA approved in November

Rivastigmine/ Exelon clinical trial begins

Oregon research team publishes original findings: brain volume loss precedes the onset of Alzheimer's disease

Neuroclerkship Dementia course begins for 4<sup>th</sup>-year OHSU medical students

"75+ Study" identifies need for greater attention by primary care physicians to cognitive function in older patients

OADC moves to Mark O. Hatfield Center  
Center scientist identifies motor slowing as preceding cognitive impairment in dementia

Galantamine/ Reminyl clinical trial begins

10th Anniversary attended by Senator Mark O. Hatfield

Klamath Exceptional Aging Project (KEAP) collaboration with Merle West Center for Medical Research begins

ORCCAMIND established by NACCM/NIH to study alternative therapies

**OADC receives 3<sup>rd</sup> 5-year award from NIA (2000-2005) w/ highest national priority score**

The African American Dementia and Aging Project (AADAPT) begins

Cerebral Spinal Fluid (CSF) Bank Established

OADC re-established as The C. Rex and Ruth H. Layton Aging & Alzheimer's Disease Center

Galantamine/ Reminyl, FDA approved

Memantine/ Namenda, OADC clinical trial begins

Ed. Core develops Oregon Advisory Panel for Dementia Education of Professionals

AADAPT enrolls its 100<sup>th</sup> participant

Center researchers report unique MRI, clinical and genetic preclinical predictors of dementia

Memantine/ Namenda FDA approved

Oregon Partnership for Alzheimer's Research forms the Layton Center to administer Oregon Tax Check-Off Program

PANDA, PNW Dementia and Aging Neuropathology Group) established as collaboration between OADC and University of Washington Alzheimer's Center

OBAS expands to include oldest old of average health

NIA Roybal Center for Applied Research on Aging grant (2004-2009)

# Engineers discuss health technology in online study

A new Oregon Center for Aging and Technology (ORCATECH) research project targets a cohort of retired engineers and computer scientists. The study's survey and discussion is designed to evaluate their insight, attitudes and beliefs about current and emerging technologies aimed at facilitating independent living and health of older adults.

The subjects in this unique study will be individuals who log onto the EHS website and sign the online consent form. Although anyone can sign on to the website, ORCATECH is especially interested in finding technically skilled, retired persons who have an interest or expertise in the area of in-home health monitoring and/or have cared for or are currently providing care for another older adult.

Volunteers will participate in a social networking blog/online bulletin board that presents information about technology developments that enhance independent living. Participants visit the site to read about a new topic presented every month for 6 months and respond to survey questions each time. These surveys capture opinions about current and anticipated use of specific technologies and values-based concerns related to technology development. There is also an area for participants to engage in discussion about new ideas in home-based health technology.

For more information, and to find out how you can volunteer for the study, visit: <http://juno.orcatech.org/EHS/>. ❄



## Neurology fellow receives HIP graduate certificate

Layton Center Neurology Fellow Teresa Buracchio, M.D., recently received her Certificate in Human Investigations. The project she designed in this program, "effects of non-exercise activity thermogenesis on cognitive function in the elderly" proposes to examine the association between low-level daily physical activity (non-exercise physical activity) and its associated energy expenditure, and cognitive function. Her investigation, if funded, would use in-home monitoring data from the ISAAC study cohort. The Human Investigations Program (HIP) is designed to meet the growing need for clinical and translational research. This innovative training program provides education in research methods and the basic sciences for students who already hold M.D.'s or other doctorate degrees. ❄

15<sup>th</sup> Anniversary of the Layton Aging and Alzheimer's Disease Center



OADC receives 4<sup>th</sup> 5-year award from NIA (2005-2010) with highest national priority score

Fred Miller receives Faculty Award from OHSU Center for Diversity and Multicultural Affairs

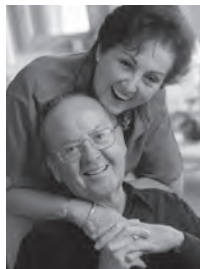
Biomedical Research Partnership (BRP/ISSAC) study begins

Oregon Brain Institute (OBI) formed to provide interdisciplinary and public support

Biomarkers and Genetics Core formed, to provide DNA, genotypes, plasma and CSF to over a dozen investigators

Center for Health and Healing opens, providing new assessment clinics and outpatient research unit

1<sup>st</sup> Aging & Memory in African American Community Conference



Ruth H. and C. Rex Layton



Center director Dr. Jeffrey Kaye, MD

2<sup>nd</sup> Aging & Memory in African American Community Conference on memory loss, wellness and community memory

NIA awards continued funding for Roybal Center, (2009-2014)

OADC receives 5<sup>th</sup> 5-year award from NIA (2010-2015) with highest national priority score

Mirabella Retirement community to open in fall, dedicated to aging research in partnership with Pacific Retirement Services

Layton family pledges to endorse a Layton Neurosciences Research Professorship beginning in 2011.

## Rose Villa residents embrace technology

At least two residents of the Rose Villa retirement community in Milwaukie, Oregon keep up with the times.



Kathryn Thompson

Kathryn Thompson had some familiarity with computers before she joined the Intelligent Systems for Assessing Aging Changes (ISAAC) study, three and a half years ago. She had previously received and learned how to use two “hand-me-down” computers from her son, but these had become obsolete. The ISAAC

computer she now has replaced those older models. The computer equipment in Kathryn’s home is set up by ORCATECH, a collaborative research center in the Layton Center at the Oregon Health & Science University (OHSU). ISAAC is a community-based program that uses motion sensors and computers to assess the activity and health of residents on a continuous basis in their own homes.

For the study, Kathryn completes a weekly health questionnaire and regularly meets with Colette Duncan, who conducts home visits for memory testing. Mrs. Thompson also plays computer games designed to support and test cognitive health over time.

When Kathryn’s son encouraged her to document her memories of life as a child during the Great Depression, she took on the project with the help of her ISAAC computer. Over the course of two years, she compiled material from several sources. The resulting history combines information from her mother’s writings, on-line genealogies, picture albums offered by several family members and, of course, Kathryn’s own memories. Kathryn wrote and designed the final document herself, on the computer. She needed only a bit of help from the Rose Villa computer lab staff with scanning pictures.

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Elaine Bloomquist is another Rose Villa resident who joined the ISAAC study at its inception. At the time, she was already enrolled in another OHSU research study. Elaine is particularly interested in research that could result in better and earlier detection of Alzheimer’s disease. Her motivation comes from personal experience: She cared for her husband as he slowly declined due to the disease. She knows that early detection helps people to adopt strategies that may slow its progression. She and her husband benefited from being able to plan how they would live with the disease.

Though Elaine had some familiarity with using computers before enrolling in the ISAAC study, she attended the training classes offered at the beginning of the project. Now Elaine uses the internet regularly, mostly to research family health concerns. She excels in finding information through Google. Web MD and the Mayo Clinic web sites are her favorites for their ease of use in finding in-depth information. Elaine says that access to information about current research “made us realize hopeful aspects” of living with conditions affecting family members.

Many residents of Rose Villa and Willamette View, neighboring retirement communities along the Willamette River, participate in the research program.

The community-based, longitudinal study is designed to allow ORCATECH researchers to gather information about normal aging. The monitoring system

provides baseline data about how participants change over time and also tests monitoring equipment that may someday be commonplace in the homes of older adults.

Both Elaine and Kathryn find that their involvement in aging research provides an opportunity to keep up with current technologies, access the latest health information and engage with family and community. Plus, simply going about their daily lives as ISAAC participants contributes to knowledge that will help future generations. ❄



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