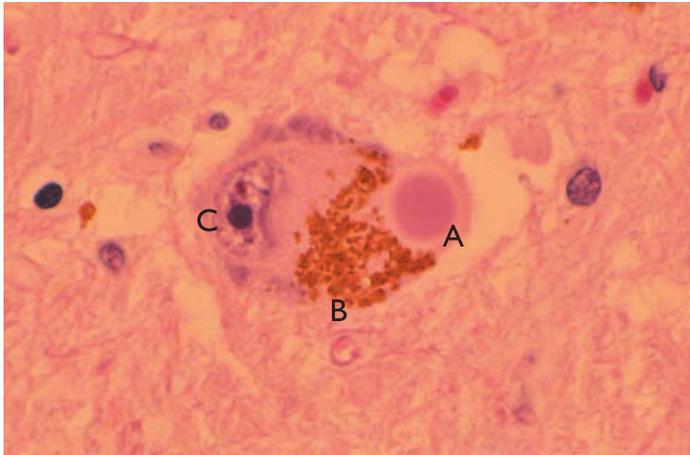


# Confronting a Century of Lewy Body Confusion

By James Leverenz, MD, and Andrew David



(A) The large, pink circle is a Lewy body within a brain cell. (B) The brown section to the left of the Lewy body is normal brain pigmentation. (C) The nucleus, the cell's control center, is to the far left of the cell.



Back row: Dr. Lewy is on the far right; Dr. Alzheimer is three from the right.

In 1912, a young scientist working in the University of Munich Department of Psychiatry made a discovery that would simultaneously transform our understanding of dementia and lead to great confusion among patients, family members, and even medical professionals.

While working in the lab of Aloysius ("Alois") Alzheimer—the scientist who is immortalized in the lexicon of human disease for his manuscript describing the first recorded case of Alzheimer's disease—F. H. Lewy ob-

served several unique abnormalities in the brain cells of people with Parkinson's disease.

Then, seven years later, Konstantin Trétiakoff, a Russian scientist working in Paris, bumped up against these brain abnormalities in his own research and referred to them as Lewy bodies in honor of Dr. Lewy's original discovery. However, even then there was confusion about how these Lewy bodies worked in the brain—Dr. Lewy thought the Lewy bodies congregated in a brain area known as the pallidum and that this was the site of parkinsonism in the brain, whereas Dr. Trétiakoff thought that the substantia nigra was the main brain area affected by parkinsonism.

It turns out that Dr. Trétiakoff was right, but there's still a lot of confusion around these brain abnormalities. So what do we know for sure about these Lewy bodies? For starters, Lewy bodies can only be observed in the brain

*continued on page 2*

## In This Issue

Confronting a Century of Lewy Body Confusion	1
New Website, New Resources	3
From Bingo to Brain Scans	4
Alzheimer's Association Brainstorming Conference	6
Sleep and Memory	9
National Alzheimer's Project Act	10
Focus on the Future: Current ADRC Projects	11
African Americans and Alzheimer's Disease: Dr. Solomon Carter Fuller	14



cells of patients who have died and undergone brain autopsy. In terms of their appearance, Lewy bodies are too small to see with the naked eye, but through the lens of a microscope, they typically appear as round blotches of color surrounded by a halo of a lighter color (see photo on page 1). We also have learned that

Lewy bodies are a buildup of a protein called alpha-synuclein, though the reason that these protein aggregations form in some brain cells and not others is still unclear and a matter of ongoing research.

Today, the confusion about Lewy bodies is often associated with how exactly they relate to particular forms of dementia. Scientists bandy about all kinds of names for Lewy body dementias. They speak of “dementia with Lewy bodies,” “diffuse Lewy body disease,” “Lewy body variant Alzheimer’s disease,” and “Parkinson’s disease dementia,” to name a few. But even the clinicians who care for people with Lewy body dementias and the

researchers who attempt to find new treatments for these disorders are sometimes a bit perplexed by the multitude of names and potentially different disorders.

Part of the reason for this confusion stems from the fact that Lewy bodies are found in multiple clinical disorders. When Dr. Lewy and his colleagues first studied these brain abnormalities, they only examined the associations between Lewy bodies and the movement disorder Parkinson’s disease. However, in the 1960s, Japanese investigators discovered Lewy bodies in the brain cells of deceased patients with dementia but no Parkinson’s disease. The Lewy bodies in these patients were found in multiple brain regions and hence their illnesses were referred to as “diffuse Lewy body disease.” To complicate matters further, investigators in the 1980s noted that up to half of the patients with Alzheimer’s disease also had Lewy bodies in their brain cells at autopsy; these patients came to be referred to as patients who had suffered from the “Lewy body variant of Alzheimer’s disease.” Finally, it is increasingly clear that the majority of patients with Parkinson’s disease also develop dementia later in their disease, and thus we have the term “Parkinson’s disease dementia.” Unfortunately, it is still unclear whether all of these disorders that are associated with dementia and Lewy bodies are entirely separate diseases, an overlap of multiple diseases, or all the same disease.

During the last fifteen years, investigators have tried to clarify the terms used for the various Lewy body disorders as a way of making sure that everyone is talking about the same thing when we speak of specific Lewy body disorders. We have also attempted to use terms that more precisely connect the world of clinical care to the world of research, especially research that involves autopsy findings like Lewy bodies. To this end, terms for disorders that lack a clear catalog of clinical symptoms, like “diffuse Lewy body disease,” are being used less frequently than terms for disorders that relate to specific clinical profiles, like “dementia with Lewy bodies.” For example, “dementia with Lewy bodies” is accepted as the way to describe patients whose earliest symptoms include a decline in thinking abilities (which is often accompanied by visual hallucinations and a sleep problem called REM sleep behavior disorder) and who later develop such Parkinson’s disease symptoms as tremor, increased muscle tone, slowness of movements, and gait problems. When the brains of these patients are

## Lewy Body Dementia Resources

UW Alzheimer’s Disease Research Center

(206) 764.2069 or (800) 317.5382

[www.uwadrc.org](http://www.uwadrc.org)

Pacific Northwest Udall Center

(206) 277.3956 or (866) 932.7380

[www.panuc.org](http://www.panuc.org)

Lewy Body Dementia Association

[www.lbda.org](http://www.lbda.org)

Lewy Body Dementia Support Groups

Contact the Alzheimer’s Association; (800) 848.7097

[www.alzwa.org](http://www.alzwa.org)

continued on page 3

# New Website, New Resources

By Lindsey Beach

The UW ADRC recently turned twenty-seven years old and to celebrate the occasion we are launching a brand new website. In the past, the ADRC website has been a place to find currently enrolling research studies and past issues of the *Dimensions* newsletter. The website will continue to provide these resources but will also provide overviews of research participation and procedures, explanations of research projects at the center, and a comprehensive calendar of upcoming community events.

Do you wonder what exactly cerebrospinal fluid is or how lumbar punctures help ADRC researchers learn more about Alzheimer's biomarkers? The answers can be found at the new website. In addition to being a more comprehensive source for information about the ADRC, the overall visual design and organization of the site have been improved to make it easier to navigate. We hope that the new website is a place where questions can be answered and new opportunities can be discovered.

Visit [www.uwadrc.org](http://www.uwadrc.org) in summer of 2011 to see the new website. We look forward to hearing your feedback on the improvements. Please contact us at [lindsey.beach@va.gov](mailto:lindsey.beach@va.gov).



continued from page 2

examined, they show clear signs of Lewy body brain cell changes and, over half the time, brain cell changes that are characteristic of Alzheimer's disease (or the "Lewy body variant of Alzheimer's disease"). Conversely, patients whose difficulties begin with the motor symptoms of Parkinson's disease and only develop dementia later in their illness are identified as having "Parkinson's disease dementia." Like the dementia with Lewy bodies patients, these patients also typically show evidence of Lewy bodies at autopsy, but only a small number of these individuals have significant changes that are associated with Alzheimer's disease.

Given that up to half of Alzheimer's disease patients have the "Lewy body variant" and that most Parkinson's disease patients develop dementia, we can estimate that 1 to 2 million Americans have one form or another of the Lewy body dementias. As our society ages, this number will only continue to increase. And so, F. H. Lewy's century-old discovery is an important one—one that we must do our best to understand and learn to prevent.

So where do we go from here? Researchers at both the UW ADRC and the recently funded Pacific Northwest Udall Center (PANUC) have begun a series of studies that examine the Lewy body dementias. Researchers at these centers are interested in learning about the effects of these diseases on how patients move and think. They are also interested in determining what changes occur in the brain when patients encounter particular problems or stresses.

These studies of Lewy body dementias examine brain changes using advanced brain imaging techniques, cutting-edge methods of measuring brain chemicals in blood and cerebrospinal fluid, and sophisticated genetics practices. We anticipate that by applying these techniques we might further dispel the confusion surrounding Lewy bodies and arrive at a better understanding of how these Lewy body dementias affect the brain. From this knowledge, we hope to develop better treatments for the devastating symptoms of dementia and, one day, to develop a cure.

# From Bingo to Brain Scans: A Couple's Campaign to Give Back

By Lindsey Beach

One of the first things I noticed after being warmly welcomed into the home of Siegfried and Elvira Kuchta was a photograph on their fireplace mantel. As I spoke to Siegfried and Elvira, I learned that the photograph was of Elvira's parents and that it serves as a daily reminder of why the Kuchtas have worked so tirelessly over the last several years raising funds to help support Alzheimer's research. Siegfried and Elvira shared how both of Elvira's parents were affected by dementia and how the process of watching the disease progress and experiencing the challenges of caregiving spurred them to become involved personally with the campaign to prevent Alzheimer's disease.

The majority of the Kuchtas' fund-raising has happened in the context of their local Eagles chapter, an organization committed to community involvement and helping people with chronic illnesses. At a national Eagles conference, Siegfried learned about the

organization's efforts in raising funds for Alzheimer's research. Due to their past experience with the disease, Siegfried and Elvira decided to host an Oktoberfest dinner and dance, where they cooked and served authentic German food to raise over \$1,000 for the Alzheimer's fund. Elvira also began to sell teddy bears to other Eagles members and friends. She sold over two hundred bears, with the profits also contributing to the fund. Meanwhile, the Kuchtas donated the tips and profits from weekly meals they cooked and served at the Eagle's Monday bingo nights.

Their fund-raising was very successful, and after some time, the Kuchtas had raised over \$2,500. With the help of other Eagles members, their fund-raising efforts were matched by the national organization, resulting in \$5,000 going to continued Alzheimer's research efforts. At the fall Eagles conference in Long Beach, Washington, this money was presented as a grant to ADRC junior researcher and neurologist Dr. Cindy Mayer, who will use the funds to further her

research in the use of neuroimaging, or brain scans, to improve our understanding of dementia.

*continued on page 5*



*Top photo: Elvira and Siegfried Kuchta relaxing in their Tacoma home.  
Bottom photo: A portrait of Elvira's parents in the Kuchta's home.*



“With the help of other Eagles members, Elvira and Siegfried's fundraising efforts were matched by the national organization, resulting in \$5,000 going to continued Alzheimer's research efforts.”

continued from page 4

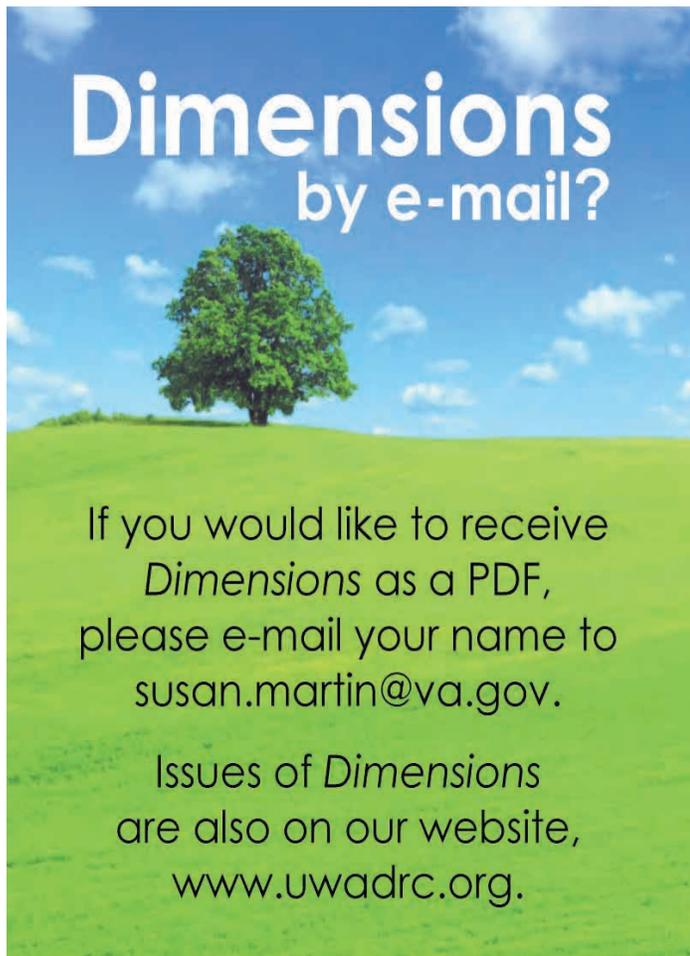
One of the key elements to ongoing and productive research is the training and equipping of the next generation of investigators in their work. The funds raised by the Kutchas and donated through the Eagle grants serve this very specific need within the ADRC's research program. These grants have enabled ADRC junior researchers to purchase neuroimaging software and educational materials; they have also served as start-up funds to begin new research projects. The continued, ongoing support of the Eagles organization and committed volunteers, like Elvira and Siegfried, truly make a difference.

Elvira and Siegfried have plans to visit Elvira's family in Austria and to enjoy the German countryside, but they're also excited to continue raising funds to help find more effective treatments and a prevention for Alzheimer's disease. The UW ADRC and Dr. Mayer are truly grateful for the Kuchtas' fund-raising efforts. This grant, along with the other forty-nine generous Eagle grants received since 1992, has enabled the UW ADRC to fund the next generation of promising dementia researchers.

## Alzheimer's Disease Research Center, University of Washington, and VA Puget Sound Health Care System Genetic Studies of Dementia

The Genetics Program of the Alzheimer's Disease Research Center at the University of Washington and the VA Puget Sound Health Care System is studying the role of genetics in dementia. It seeks to identify the genes responsible for various forms of dementia. Families are being sought with two or more living affected individuals. Participation could involve an interview, examination, review of medical records, and a blood sample.

For further information, please contact  
Ellen Steinbart, RN  
(206)764.2112 or (800)745.4511.



# Dimensions by e-mail?

If you would like to receive  
*Dimensions* as a PDF,  
please e-mail your name to  
[susan.martin@va.gov](mailto:susan.martin@va.gov).

Issues of *Dimensions*  
are also on our website,  
[www.uwadrc.org](http://www.uwadrc.org).



## Want to learn more? Talk to us!

ADRC researchers and staff members regularly speak at support groups, present at retirement facilities, and host tables at public events. If you would like to learn more about Alzheimer's disease, brain aging, or research updates, we are only a phone call away.

**For more information please contact Lindsey Beach:**  
(206) 764.2984 or [lindsey.beach@va.gov](mailto:lindsey.beach@va.gov)

# Brainstorming: The Twenty-Sixth Annual Alzheimer's Association Regional Conference

By Julie Shatzer, MSW  
*Alzheimer's Association*

The Alzheimer's Association Western and Central Washington State Chapter is proud to offer the Twenty-Sixth Annual Alzheimer's Regional Conference, "Brainstorming," on March 31 and April 1, 2011, at the Washington State Convention Center in Seattle.

On March 31, James Leverenz, MD, director of the Education and Information Core and staff neurologist at the UW ADRC, anchors the preconference symposia. Dr. Leverenz's full-day workshop will compare and contrast Lewy body dementia, Parkinson's dementia, and frontotemporal dementia, providing expertise that ranges from the early signs of these disorders to care issues and treatment associated with the final stages of the disorders. The preconference symposium will also include a full-day workshop for marketers that explores effective tips, tactics, and strategies for "Marketing to Today's Caregiver and Boomer." This workshop will equip participants with helpful approaches to print campaigns, social media, and messaging that market specifically for baby boomers, as well as knowledge about building referral sources and removing barriers to care.



Later that night, from six o'clock to eight o'clock, the Alzheimer's Association will host the "Future of Alzheimer's Disease," an event for physicians at the Virginia Mason Medical Center Auditorium. Ronald Petersen, MD, PhD, director of the Mayo Alzheimer's Disease Research Center, will discuss the movement to revise the clinical criteria for Alzheimer's disease and the implications it may have for clinical practice, research, and public health care planning. Dr. Petersen will be joined by Dr. Leverenz and Kristoffer Rhoads, PhD, director of the Memory Disorders Clinic at the Virginia Mason Medical Center, who will both discuss the local impacts of the

initiative on research and clinical practice.

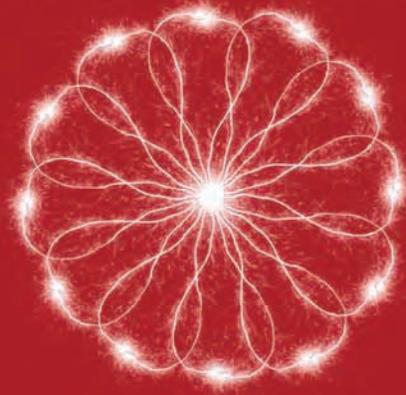
Then, on April 1, Dr. Petersen will begin the conference by providing a keynote address that will be followed by workshops focusing on activities, advanced practice/research, family caregivers/direct care providers, leadership, and early-stage dementia. The workshops will highlight national and local research and evidence-based programs. Gary Glazner will teach activity professionals how to spark memories using techniques from the internationally recognized Alzheimer's Poetry Project. G. Allen Powers, MD, who authored *Dementia Beyond Drugs*, will explain the techniques, concepts, and benefits of the new Experiential Model for residential care. National trainer and author, Gary Martin, PhD, will provide an evidence-based model for de-escalating challenging behaviors. Laurie Orlov, a technology analyst, will review emerging technologies that foster safety, independence, and social connections in both home and residential settings. Dr. Rhoads will discuss early-stage dementia by explaining depression, apathy, discouragement, and how activity, diet, and socialization affect mood and depression. Rebecca

Logsdon, PhD, will review a variety of exercise programs appropriate for people with dementia. Linda Whiteside will moderate a panel of professionals and family members to address the difficulties of dementia and driving.

This conference offers something for everyone. Save the date and register to join us!

To register or learn more about the speakers or the program, please visit [www.alzwa.org](http://www.alzwa.org) or call Julie Shatzer, MSW, at (800) 848.7097.

## BRAINSTORMING



alzheimer's  association®

**Keynote:** Ron Petersen, MD, PhD  
Mayo ADRC Director

**When:** March 31 & April 1, 2011

**Where:** Washington State Convention Center, Seattle

**Visit:** [www.alzwa.org](http://www.alzwa.org) for details and registration

### Preconference Symposia (March 31)

- From Research to Practice (full day)
- Marketing to Today's Caregiver & Boomer (full day)

### Conference Workshops (April 1)

- Era of New Technology
- Biomarkers: A Window into the Brain and Alzheimer's
- Demolition Derby: When Driving and Dementia Collide
- Dementia Beyond Drugs: Changing the Culture of Care
- Sparking Memories (Alzheimer's Poetry Project)
- De-escalation: Behavior-by-Behavior
- Cautious Optimism: New Treatments

Come by and visit the ADRC's table at the conference!

## ADRC Brainstorming Presentations, Friday, April 1

### Session A

*Biomarkers: A Window into the Brain and Alzheimer's,*  
Elaine Peskind, MD

What is spinal fluid? What are biomarkers? Dr. Peskind will explain how spinal fluid biomarkers provide a "window into the brain" that can be used to diagnose Alzheimer's disease and even show who may be at risk for the disease. She'll present how biomarkers are being used to show the brain's response to potential treatments for Alzheimer's disease.

*Demolition Derby: When Driving and Dementia Collide,*  
Panel with Murray Raskind, MD

"Demolition Derby" is the perfect metaphor for the scrapes, near misses, and collisions persons with dementia and their families encounter during their journey. This panel discussion will explore how professionals—including a physician, an elder law attorney, a family caregiver, an occupational therapist, and a representative from the Department of Licensing—can assist in making and implementing wise decisions about driving with dementia.

### Session B

*Connections: Concussions, PTSD, and Alzheimer's,*  
Elaine Peskind, MD

How are traumatic brain injury and posttraumatic stress disorder (PTSD) related to dementia? Why do professional football players have a higher risk of dementia? Will our young veterans who have had traumatic brain injury from explosions also be at higher risk for dementia? Dr. Peskind will present recent results from her research on brain imaging and mild traumatic brain injury in veterans as well as evidence that PTSD is associated with an increased risk of dementia.

### Session C

*Cautious Optimism: New Treatments for Alzheimer's Disease,*  
James Leverenz, MD

Dr. Leverenz will discuss the recent failures and successes of new disease-modifying and symptom-management treatments. He'll review the current trends as well as new avenues in treatment including clinical trials of Dimebon, statins, insulin, and Prazosin.



# AT A LOSS ABOUT MEMORY LOSS?

Find the hope, help & support you are looking for.

## BENEFITS OF PARTICIPATING IN RESEARCH:

- A full, FREE memory assessment and medical evaluation
- Opportunities to participate in new research studies
- Updates on the latest research & findings
- Referrals to other helpful resources
- Knowing that your participation helps future generations

## INTERESTED IN VOLUNTEERING?

We are looking for a wide range of participants.

Here are some of the eligibility requirements for individuals:

- A diagnosis of Alzheimer's disease, or
- Mild memory loss, or
- No memory problems (ages 45—64), or
- A family history of Alzheimer's disease,
- &**
- Living at home
- For individuals with memory loss, a companion who can come with them to all research visits

Call us for more information:

206.764.2069 or 1.800.317.5382

The ADRC is located at the Seattle VA Medical Center on North Beacon Hill.

Content is being used for illustrative purposes only and any person depicted in the content is a model.



# Sleep and Memory

By Michael Rafii, MD

Associate Medical Core Director

Alzheimer's Disease Cooperative Study

The best way to not forget a newly learned memory may be to take a quick nap after initially learning the new material. In experiments, researchers in Germany showed that the brain is better during sleep than during wakefulness at resisting attempts to scramble or corrupt a recent memory.

Their study, published in *Nature Neuroscience*, provides new insights into the hugely complex process by which we store and retrieve deliberately acquired information-learning, in short. Earlier research showed that fresh memories, stored temporarily in a region of the brain called the hippocampus, do not gel immediately. It was also known that reactivation of those memories soon after learning them plays a crucial role in their transfer to more permanent storage in the brain's "hard drive," the neocortex. During wakefulness, however, this period of reactivation renders the memories more fragile. Learning a second item at this juncture, for example, will likely make it harder to commit the first one to deep memory. Bjorn Rasch of the University of Lubeck in Germany and

three colleagues assumed that the same thing happens when we sleep, so they designed an experiment to find out if they were right.

Twenty-four volunteers were asked to memorize fifteen pairs of cards showing pictures of animals and everyday objects. While performing the exercise, they were exposed to a slightly unpleasant odor. Forty minutes later, twelve of the subjects who had stayed awake were asked to learn a second, slightly different pattern of cards. Just before starting, they were again made to smell the same odor, designed to trigger their memory of the

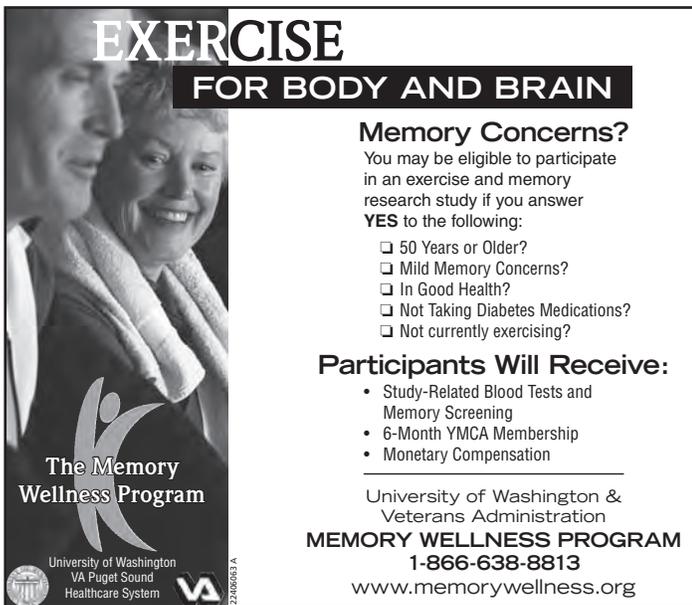
“Interestingly, the sleep group performed significantly better, retaining on average 85 percent of the patterns, compared to 60 percent for those who had remained awake.”

first exercise. The twelve other subjects, meanwhile, did the second exercise after a brief snooze, during which they were exposed to the odor while in a state called slow-wave sleep. Both groups were then tested on the original task. Interestingly, the sleep group performed significantly better, remembering on average 85 percent of the patterns, compared to 60 percent of the patterns for those who had remained awake. After only forty minutes of sleep, significant chunks of memory were already “downloaded” and stored where they could no longer be disrupted by new information that is encoded in the hippocampus.

It is thought that sleep problems negatively affect the brain's ability to consolidate short-term memories and may exaggerate the short-term forgetfulness seen as part of age-associated memory decline.

This piece is reprinted from the *Alzheimer's Disease Information Network Monthly E-Newsletter*, February 2011. The article is based on the findings from Susanne Diekelmann, Christian Büchel, Jan Born, and Björn Rasch, “Labile or stable: opposing consequences for memory when reactivated during waking and sleep,” *Nature Neuroscience*, January 23, 2011.





**EXERCISE  
FOR BODY AND BRAIN**

**Memory Concerns?**  
You may be eligible to participate in an exercise and memory research study if you answer **YES** to the following:

- 50 Years or Older?
- Mild Memory Concerns?
- In Good Health?
- Not Taking Diabetes Medications?
- Not currently exercising?

**Participants Will Receive:**

- Study-Related Blood Tests and Memory Screening
- 6-Month YMCA Membership
- Monetary Compensation

---

University of Washington & Veterans Administration  
**MEMORY WELLNESS PROGRAM**  
1-866-638-8813  
www.memorywellness.org

The Memory Wellness Program  
University of Washington VA Puget Sound Healthcare System

## National Alzheimer's Project Act Passed

Recently, members of the U.S. House and Senate passed the National Alzheimer's Project Act (NAPA), and the bill went on to be signed by President Obama. Senators Evan Bayh (D-IN) and Susan Collins (R-ME) both introduced and championed this important legislation in the Senate. NAPA creates the first coordinated national strategy to confront Alzheimer's disease. The advisory council for the bill will also draft an annual report on federally financed programs involving research, treatment, nursing homes, and home care, recommending which to expand and which to eliminate. It will also ensure that members of ethnic and racial groups at higher risk for Alzheimer's be included in research and treatment.

Given the scale of the epidemic of Alzheimer's and the growing number of Americans directly affected every day by Alzheimer's, NAPA will provide an essential framework within the government that recognizes that the Alzheimer's crisis is no longer emerging but is here.

Building on the work of the Alzheimer's Association and the recommendations of the Alzheimer's Study Group, an independent, bipartisan panel created to evaluate the government's current efforts to combat the disease, NAPA will lead to the development of a national strategy to overcome the Alzheimer's disease epidemic. It will also establish an interagency council to work with the Secretary of Health and Human Services to give a full assessment of what needs to be done to address the threat of Alzheimer's on multiple fronts including care, research, and support.

"Alzheimer's leaves American families, Medicare, Medicaid, and our health care system defenseless against skyrocketing costs and leaves each of us vulnerable to the wide ranging effects of this devastating disease. We need transformative, cost-effective strategic solutions to tackle a national public health emergency with widespread social and economic consequences. NAPA will help put the nation on the right track and we commend the Obama administration for recognizing this," said Robert J. Egge, Alzheimer's Association vice president of public policy.

*Adapted from 12/8/2010 and 1/4/2011  
Alzheimer's Association Press Releases  
Alzheimer's Association Helpline (800)272.3900 or  
www.alz.org*



### Difficult Behaviors and Alzheimer's disease

The Alzheimer's Disease Research Center is studying a new use for an old medication. We are currently investigating the use of a blood pressure medication, prazosin, for its effectiveness in the treatment of behavioral problems. Potential participants must have Alzheimer's disease or a related dementia and be living at home with a caregiver willing to accompany them to the research clinic in Seattle, stable medically, and stable on any current medications. Each study participant will have a 50:50 chance of being on the medication, prazosin, or on placebo (a sugar pill) for the first half of the study. In the second half all participants receive prazosin. All participation is free of charge.

**For more information, call  
1-800-317-5382**

**W** UNIVERSITY of WASHINGTON



# A Focus on the Future: Current ADRC Projects

By James Leverenz, MD, and Lindsey Beach

The ADRC strives to identify Alzheimer's biomarkers and to improve Alzheimer's treatments, and we currently have three important projects underway that look to fulfill these two primary goals. These projects are directly dependent on the clinical information we gather from research participants at annual ADRC Registry follow-up visits and lumbar punctures. Below is an overview of these ongoing ADRC projects; we hope this overview will give you a clear snapshot of the questions our center is asking and the answers we are pursuing.



## **Cerebrospinal Fluid (CSF) Proteome of Geriatric Dementia: CSF Protein Profiling of Central Nervous System (CNS) Insulin Activity**

**Project Leader:** Thomas Montine, PhD  
Alvord Professor of Neuropathology,  
UW, Department of Pathology,  
Division of Neuropathology

Recent small patient trials have suggested that improving insulin activity in the brain can improve or protect thinking abilities in patients with Alzheimer's disease (AD) or mild cognitive impairment (MCI). This project has three main goals to better understand these findings. The first goal is to identify markers in CSF that change when brain insulin activity is increased. The second goal is to examine these same markers in conditions, such as MCI and AD, where brain insulin activity appears to be impaired. And the third goal is to examine the presence of these markers in brain tissue obtained from the ADRC autopsy program. The overall objective of the project is to improve our understanding of the biological processes that underlie the effect of insulin on brain functioning as people age.



## **Therapeutic Effects of Intra-Nasal Insulin Detemir**

**Project Leader:** Suzanne Craft, MD  
Professor, UW, Department of Psychiatry  
and Behavioral Sciences

This project also focuses on the insulin effects in the brain of aging and Alzheimer's disease (AD). It is a clinical trial, which is a study that looks at treatment responses in living patients. The project examines how insulin that is administered through the nose in the form

of a spray may affect the thinking abilities of patients with mild cognitive impairment and AD. In addition to examining thinking abilities, the project also observes biomarkers associated with AD to see how they respond to the nasal spray treatment.



## **Modulation of Abeta Peptide Accumulation and Neuron Damage In Vivo with Adult Bone Marrow Transplants**

**Project Leader:** Christopher Keene, MD, PhD  
Assistant Professor, UW, Department of  
Pathology, Division of Neuropathology

This project uses an animal model to develop better treatments for Alzheimer's disease (AD). More particularly, the project tests a new, unique method for reducing the accumulation of the amyloid-beta protein in the brains of mice. The investigators are attempting to refine and better understand a method known as a mini-bone marrow transplant, a method that appears to successfully remove amyloid-beta protein from the brains of mice. The overall goal of the project is to learn how these mini-bone marrow transplants have an effect on amyloid-beta in the brain and how this technique might ultimately be applied to patients with AD.

## **Upcoming ADRC Pilot Projects**

### **Aerobic and Resistance Training in Prediabetic African Americans**

**Project Leader:** Jeannine Skinner, PhD  
UW Memory Wellness Center

Dr. Skinner's project will compare the effects of exercise and health education on the thinking abilities, insulin sensitivity, and levels of Alzheimer's biomarkers in a group of African Americans with prediabetes. Learn more about Dr. Skinner's project in the next issue of Dimensions.

### **Quantification of Abeta and tau in CSF by LC-MS/MS**

**Project Leader:** Andrew Hoofnagle, MD, PhD  
Assistant Professor, UW Department of Laboratory Medicine

This project aims to develop a new type of biomarker analysis to help translate already-known Alzheimer's biomarkers into practical, day-to-day diagnostic tests that can be reliably used in caring for people with Alzheimer's.

## IN THE NEWS

### **Generation Alzheimer's: The Defining Disease of the Baby Boomers**

This year, the first baby boomers turn sixty-five. While Alzheimer's is not normal aging, age is the greatest risk factor for the disease. This report conveys the burden of Alzheimer's and dementia on individuals, families, the government, and the nation's healthcare system.

Access the free report at [www.alz.org/boomers](http://www.alz.org/boomers)

### **Alzheimer's, Parkinson's, and Diabetes Mellitus: Unfolding Amyloid Secrets**

Scientists from the University of Leeds have made a fundamental step in the search for therapies for amyloid-related diseases such as Alzheimer's, Parkinson's, and diabetes mellitus. By pin pointing the reaction that kick-starts the formation of amyloid fibers, scientists can now seek to further understand how these fibrils develop and cause disease.

[www.sciencedaily.com/releases/2011/01/110120124953.htm](http://www.sciencedaily.com/releases/2011/01/110120124953.htm)

### **Update on the AD Religious Studies**

Since 1993, substantive findings in Alzheimer's disease (AD) research have come from two longitudinal studies involving monastic orders. Neither the University of Minnesota's Nun Study nor Rush University's Religious Orders Study, are likely to directly result in a cure for AD, but, both studies continue to make breakthroughs in the identification and investigation of potential AD prevention strategies.

[http://adcs.org/research/eNewsLetter/ADIN\\_E-Newsletter\\_February\\_2011.pdf](http://adcs.org/research/eNewsLetter/ADIN_E-Newsletter_February_2011.pdf)

### **2009 Progress Report on Alzheimer's Disease: Translating New Knowledge**

The US investment in Alzheimer's disease (AD) research through the National Institutes of Health (NIH) has resulted in accelerating progress on several research fronts and has laid the groundwork for future discovery. This report highlights key AD research findings and activities that were conducted or supported by public funding for the National Institute on Aging (NIA) and other NIH institutes and centers in 2009.

<http://www.nia.nih.gov/Alzheimers/Publications/ADProgress2009/>



Walk to end Alzheimer's is the movement to reclaim the future for millions. Together, we are an unstoppable force against Alzheimer's. Join us.

**You are invited to walk with us this year!**

Mark your calendars for September 10, 2011, and join the ADRC's team, the RESEARCH BIO-MARCHERS! We are looking forward to having a vibrant group of research participants and staff. We will also have free T-shirts.

Register for our team at <http://walk.kintera.org/pnw/researchbiomarchers>.



Effects of Simvastatin on Biomarkers

## Prevention Strategy for Alzheimer's Disease

### New Study Seeking Volunteers

#### You may be eligible if:

- ➔ You are between the ages of 45 and 64
- ➔ You do not have Alzheimer's disease or memory problems
- ➔ You are not currently taking a prescribed medication for high cholesterol
- ➔ You are in generally good physical health

#### Participants will receive:

- ➔ A full free health and memory assessment by experts in the field
- ➔ Updates on the latest research

The University of Washington Alzheimer's Disease Research Center is currently investigating the use of a commonly used cholesterol medication, simvastatin, for its potential to prevent Alzheimer's. Our pilot study showed that simvastatin could slow "pre-Alzheimer's" changes in healthy adults years or decades before they might develop Alzheimer's disease.

Participation consists of nine research visits over 12 months. Each study participant will have a 50:50 chance of being on the medication, simvastatin, or on placebo (a sugar pill). Participants will be compensated for their time.

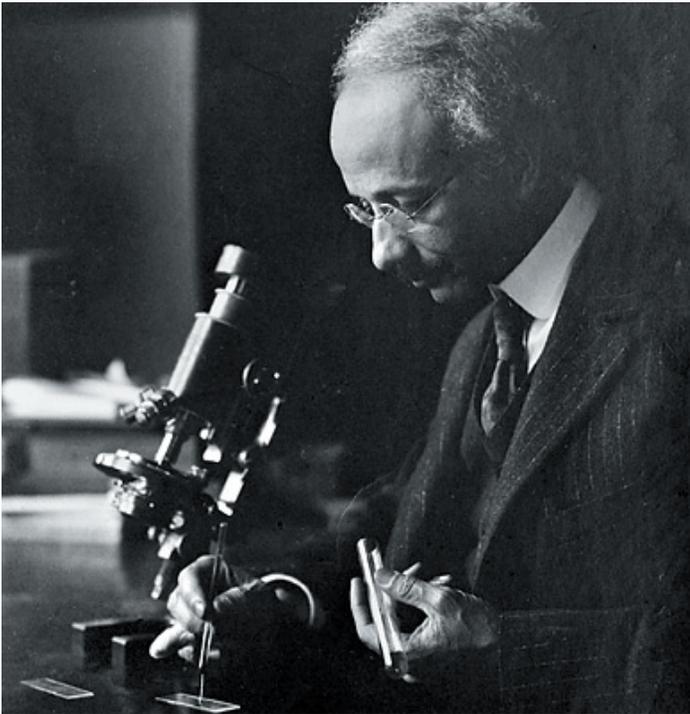
Join Us in Helping to Find Treatments that Work for Alzheimer's Disease

**For more information call:  
1-800-317-5382 or 206-764-2069**

Alzheimer's Disease Research Center  
University of Washington and  
Veterans Affairs Puget Sound Health Care System



# African Americans and Alzheimer's Disease: Dr. Solomon Carter Fuller



Solomon Carter Fuller, born in 1872, was a neurologist and the United States's first African American psychiatrist. He played a key role in the development of psychiatry in the 1900s and is well known for his research on dementia. Dr. Fuller is credited with helping make the United States the leader in psychiatry that it is today.

Dr. Fuller's grandfather had been a slave in Virginia who purchased his freedom and moved his family to Liberia. At the age of seventeen, Fuller left Liberia to attend Livingstone College in North Carolina. He studied medicine at Long Island College Hospital and Boston University School of Medicine where he received his MD in 1897. Dr. Fuller then went to the University of Munich where he studied under Emil Kraepelin, the founder of modern psychiatric genetics, and Alois Alzheimer.

Upon graduation, Dr. Fuller became a pathologist at Westborough State Hospital in Massachusetts where he worked for twenty-two years. Dr. Fuller also joined the medical faculty at Boston University School of Medicine and taught for thirty-four years, eventually becoming an emeritus professor of neurology.

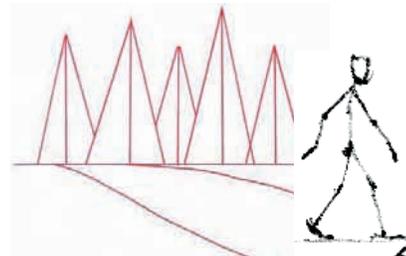
Fuller became known for his work on Alzheimer's disease and on the biological causes of disorders such as

schizophrenia and manic depressive psychosis (bipolar disorder). He published the first comprehensive clinical review of all Alzheimer's cases known at the time and was also the first person to translate much of Alois Alzheimer's work on Alzheimer's disease from German to English.

Today, in recognition of Dr. Fuller's achievements, the mental health facility at Boston University is now officially known as the Dr. Solomon Carter Fuller Mental Health Center. And in 1972, the American Psychiatric Association and the Black Psychiatrists of America established the Solomon Carter Fuller Institute.

*Adapted from the US Department of Health & Human Services, Office of Minority Health website.*

Learn more about Dr. Solomon Carter Fuller here:  
<http://pn.psychiatryonline.org/content/37/17/19.full>



**Feeling past your peak?**  
*(It could be a symptom of low hormone levels)*

We need the help of Men 60 and older.

The University of Washington and VAPSHCS is doing an investigational research study on Hormone levels and cognition.

**One 2-3 hour visit could help to make a difference**

You may also qualify for a 6 month hormone treatment study

VISITS INCLUDE HORMONE LEVEL SCREENING AND PSA BLOOD TEST

**Please Contact us!**

**206.277.1155 or toll-free 1.866.577.1913**

**Email: wellness@u.washington.edu**

(the confidentiality of email cannot be guaranteed)

**[www.uwmemoryhealth.org](http://www.uwmemoryhealth.org)**

## SAVE THE DATE

### **BAND (Brain Aging and NeuroDegeneration) Seminar Series**

*Last Monday of the month, 5:00 pm - 6:00 pm  
Harborview Medical Center, Research & Training Building, Auditorium*

Presented by the UW ADRC and the Pacific Northwest Udall Center of Excellence in Parkinson's Disease Research, physicians and scientists will discuss mechanisms of brain aging, neurodegenerative diseases, and developments in interventions.

### **The Future of Alzheimer's Disease**

*Thursday, March 31, 2011, 6:00 pm - 8:00 pm  
Virginia Mason Medical Center Auditorium, Seattle*

Are you a healthcare practitioner who diagnoses dementia? If so, plan to hear Drs. Peterson, Leverenz, and Rhoads discuss the initiative to revise the clinical criteria for diagnosing Alzheimer's disease and its implications on clinical practice and public health care planning. Please register at (800)848.7097 ext 245 or [julie.shatzer@alz.org](mailto:julie.shatzer@alz.org).

### **The University of Washington ADRC Support Fund**

The support fund is used to help support new junior faculty researchers with strong credentials in the field of Alzheimer's disease and also to provide direct support for ongoing research projects of the ADRC. Community support of the ADRC is a valued contribution to the quest to find the causes of and treatments for Alzheimer's disease and related disorders.

For more information regarding the Alzheimer's Disease Research Center Program Support Fund, please contact Susan Martin, ADRC Program Coordinator, at (206) 764.2702 or (800) 329.8387, ext. 62702 or by e-mail at [susan.martin@va.gov](mailto:susan.martin@va.gov). Checks should be made out to ADRC and addressed to

VAPSHCS (S-116 6 East)  
Attn: Susan Martin  
1660 S. Columbian Way  
Seattle, WA 98108

### **Dementia Challenges – Behaviors, Interventions, and Strategies**

*Friday, April 29, 2011, 8:15 am - 4:30 pm  
St. Luke's Health Education Center, Bellingham, WA*

At this upcoming spring workshop, learn about intervention and activity-based approaches to behavioral challenges caused by dementia. The workshop is presented by the Alzheimer's Society of Washington and features training by Teepa Snow, MS, OTR/L, FAOTA. Information and registration available at (360)671.3316 or (800)493.3959.

### **Challenges in Caregiving: Giving Care, Taking Care**

*Monday, June 6, 2011, 9:00 am - 5:00 pm  
Tukwila Community Center, Tukwila, WA*

This full-day training conference will have many helpful workshops based on caregiver needs and is a great opportunity to learn practical caregiving skills and strategies. Pre registration is required and space is limited. Call (800)422.3263 or (360)725.2544 to receive a brochure and registration form.



**Director** Murray A. Raskind, MD

**Associate Director and Director, Clinical Core** Elaine R. Peskind, MD

**Education and Information Core Director** James B. Leverenz, MD

**Administrator** Molly Chinn

**Founding Director** George M. Martin, MD

The UW ADRC is affiliated with the University of Washington and the Veterans Affairs Puget Sound Health Care System and has been funded by the National Institute on Aging since 1985.

The UW ADRC is committed to conducting cutting-edge research in the field of biomarker technology and identification as well as working to improve treatments for Alzheimer's disease. We hope that enhanced treatments will improve the livelihood of patients and caregivers and that ultimately a prevention will protect future generations from the disease. The ADRC also provides community and professional education. The UW ADRC is supported by the Friends of Alzheimer's Disease Research, the Alzheimer's Association, and members of the public.

For more information, contact  
Molly Chinn, (206) 277.3281, [wamble@u.washington.edu](mailto:wamble@u.washington.edu)

[www.uwadrc.org](http://www.uwadrc.org)

**Dimensions Managing Editor** Lindsey Beach

**Dimensions Editor** Andrew David

**Dimensions Associate Editor** Kirsten Rohde, RN, BSN

**Dimensions Graphic Designer** Natalia Czajkiewicz

For more information about *Dimensions*, contact  
Lindsey Beach, (206) 764.2984, [lindsey.beach@va.gov](mailto:lindsey.beach@va.gov)

# DIMENSIONS

UW Alzheimer's Disease Research Center  
VA Puget Sound Health Care System  
S-116 6 East, 1660 S. Columbian Way  
Seattle, WA 98108

Nonprofit Organization  
U.S. POSTAGE PAID  
Seattle, WA  
Permit No. 62

Return Service Requested



See Inside  
for Research Studies  
Seeking Volunteers

## In This Issue

Confronting a Century of Lewy Body Confusion	1
New Website, New Resources	3
From Bingo to Brain Scans	4
Alzheimer's Association Brainstorming Conference	6
Sleep and Memory	9
National Alzheimer's Project Act	10
Focus on the Future: Current ADRC Projects	11
African Americans and Alzheimer's Disease: Dr. Solomon Carter Fuller	14

