

THE AGING BRAIN

Bulletin

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Stress and its Influence on Alzheimer's Disease

KIM GREEN, PH.D.

Aging is an inevitable journey for everyone, and includes many obstacles and different paths to take. How we live our lives can have enormous impact on whether we grow old gracefully, or succumb along the way. Good physical health, through diet and exercise, will allow people to remain active well into their twilight years, but as lifespan increases it is also important to take care of and maintain brain health as well. Fortunately, it appears that what is good for the heart is also good for the brain, and thus by keeping active, both physically and mentally, and maintaining a healthy diet rich in omega 3 fatty acids, a person can have the best chance of aging successfully, and avoid both heart disease and brain disease.



and cognitive abilities, rendering them unable to recognize family members, or care for themselves. But what is it that causes Alzheimer's disease? Why do some people develop Alzheimer's disease and not others? By asking, and then understanding these questions, we, as scientists, can develop therapies and strategies to help people avoid developing the disease in old age.



Kim Green received his Bachelors degree in Medical Science in 1999 from the University of Birmingham in the United Kingdom. He then pursued his Ph.D. at the University of Leeds, also in the UK. He arrived in California to start Post-doctoral work for Professor Frank LaFerla in 2003, in the Institute for Brain Aging and Dementia, at the University of California, Irvine.

The major brain disease of the elderly is Alzheimer's disease. It affects 1 in 20 people aged 65 and over, and its incidence increases with age such that around half of people aged 85 and over have the disease. Alzheimer's disease is a devastating disorder that robs a person of their memories

Here within the Institute for Brain Aging and Dementia, we have devoted considerable resources to identifying the causes of Alzheimer's disease, and finding ways to circumvent these causes. We have identified how the stress hormone cortisol can play a role in the development of Alzheimer's disease. Cortisol is a steroid hormone that is produced in the adrenal gland in response to times of stress. In the short term, following a stressful experience, cortisol levels rapidly increase in the blood stream, and its presence is helpful

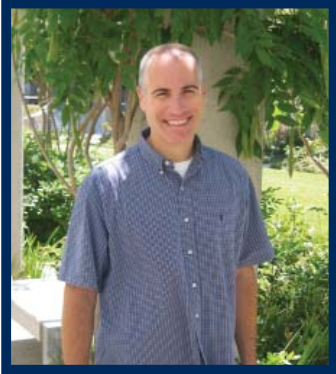
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THE AGING BRAIN is the newsletter publication of the UCI Institute for Brain Aging and Dementia in collaboration with the Alzheimer's Disease Research Center (ADRC) and the Alzheimer's Disease Research Centers of California (ARCC). The ADRC is funded by a grant from the National Institute on Aging and supports and promotes interdisciplinary research on Alzheimer's disease. The ARCC is funded by the California Department of Public Health. The ARCC provides expert clinical assessments and diagnosis of memory complaints related to Alzheimer's disease and other dementias.

From the Director...

Frank LaFerla, Ph.D.



Since its inception over a decade ago, the Institute for Brain Aging and Dementia has been led by Dr. Carl Cotman, who began his career at UC Irvine in 1968. His landmark studies have advanced the understanding of

Alzheimer's disease, and brought distinction to the campus. It was his vision and commitment that built the Institute and led to many successes, including prestigious designations by the National Institutes of Health as one of only 29 Alzheimer's Disease Research Centers (ADRCs) across the country and one of 10 Alzheimer's Research Centers of California (ARCC) funded by the California Department of Public Health.

It may not be obvious to many members of the local community, but these designations enable the Institute to support an active dementia clinic that maintains approximately 2,500 patient records and allows our clinical program to evaluate more than 400 patients/subjects per year for memory assessments and research studies. In addition, the Institute conducts a number of clinical trials to evaluate potential new treatments for Alzheimer's disease.

...the Institute seeks to bridge or "translate" scientific-based discoveries and introduce them in meaningful ways into the clinical program.

It's our strong interaction with the local community through our clinical program and community outreach educational efforts that distinguishes the Institute for Brain Aging and Dementia from many other campus research units that focus exclusively on basic research. Besides maintaining an active research focus into understanding the causes of Alzheimer's disease and the factors affecting its progression, the Institute seeks to bridge or "translate" scientific-based discoveries and introduce them in meaningful ways into the clinical program.

Becoming the Director is an exciting personal challenge, particularly when one considers the outstanding and renowned faculty that comprise the Institute and the dedicated and exceptional staff that allow us to run so smoothly. Change provides an opportunity for new growth and paths. In partnership with the local community, the Institute will achieve new horizons. Because defeating Alzheimer's disease is going to require a partnership between researchers and the community, I invite you to visit our website at www.alz.uci.edu for more information and opportunities to help and participate. Alternatively, you may also call (949) 824-8135 for further information. I look forward to working with you as we do battle against this insidious disorder.

In partnership with the local community, the Institute will achieve new horizons.

In my short time as Director, some exciting new developments have occurred. First, I am happy to announce that Ms. Linda Scheck, former executive director of the Orange County Alzheimer's Association, has accepted the position of Director of Community Relations for the Institute. We are excited to have Linda on our team, as she brings tremendous expertise and a warm personal touch to this position. Second, the Institute will partner with the Center for the Neurobiology of Learning and Memory to co-sponsor the Distinguished Lectures Series held at the Barclay Theater. This event is open to the public and admission is free.

Another change pertains to this newsletter itself, which has a new name and look, and will feature some new columns (including this one From the Director) and more frequent printings. I hope you enjoy! Lastly, we have completely redesigned our website to give it a new look and feel, visit us online at www.alz.uci.edu. Please visit it often as we plan to update it regularly. We have many exciting new plans in development and look forward to announcing them publicly over the next few months. Please stay tuned.

Frank LaFerla, Ph.D.
Director

TIPS: Reducing Caregiving Stress

By: Karen L. Twichell, Author/Speaker/Caregiver
www.caregiversjourney.com

We have families and jobs and commitments of all kinds. Suddenly we are thrown into the role of family caregiver and we try to take it on as simply an added task. But the task gets more demanding and we get more stressed as a result. Recognizing caregiver stress is the first step in managing it. Caregiver stress can have a negative effect on our health. Here are a few signs to watch for:



- Depression
- Irritability
- Sleeplessness
- Fatigue
- Frequent headaches, colds or flu

We tend to put ourselves last on the list for everything. We must recognize that by taking a little time to care for ourselves we will be healthier and happier caregivers. We often get sick because we put off our own health care.

"Memory is the diary that we carry about with us."

- Oscar Wilde

We may skip our annual mammogram or PSA test. We may decide our teeth don't need to be cleaned this year. These decisions can result in much larger issues later on. Promise yourself that you will consider these ways to reduce your stress level:

- Schedule your annual physical exam
- Eat well – don't use caregiving as an excuse for too much fast food
- Exercise – find something fun to do at least three times a week
- Do something for yourself – a massage or a movie
- Join a support group

Take care of yourself so that you can continue to take care of your loved ones.



Things YOU Can Do for Healthy Aging

By: Susan Randhawa, M.S.W.

Here are a few reminders of some proven and promising ways to help maintain cognitive health.

Diet – Healthy food builds healthy bodies. Suggestions: Reduce consumption of highly processed foods, foods high in sugar and saturated fats. Read labels and avoid foods with greater than 10% saturated fat content. Increase your intake of whole grains, fresh fruits and green leafy vegetables. If you are a meat eater, choose lean cuts and remove the fat filled skin from chicken/turkey (poultry skin contains up to 30% fat).

Exercise – Choose an activity that you enjoy so it will be easier to exercise regularly. Suggestions: Consider stretching, brisk walking, swimming, dancing, or strength training. Exercise is recommended at least 3 times a week for 15-30 minutes duration. If you are a technology wiz, you may enjoy the Wii Sports System™ that links to your

TV and provides games and sports activities that you can play in the comfort of your own home! Challenge the system to a round of baseball, golf, bowling, tennis, boxing and more. You use the system remote to mimic the physical motion, and you can work at your own pace!

Mental Stimulation – My cousin's dentist once said, (after my cousin admitted she had not been flossing), "Well, if you don't want to floss all your teeth, just floss the ones you want to keep." The good news is that maintaining one's brain is more fun than flossing!! Suggestions: Get together with friends or family and enjoy a game of Scrabble™, or UPWORDS™, or Bridge, or Balderdash™! If you are not the social butterfly type, do not despair; cozying up with a good book or crossword puzzle appears to bring equally beneficial results.

Here's to your health!



Meet the Researcher Behind the Science

JORGE BUSCIGLIO, PH.D



Jorge Busciglio, Ph.D. studies Down's Syndrome and Alzheimer's Disease

One of the Institute's faculty members, Dr. Jorge Busciglio received his Ph.D from the National University of Cordoba, Argentina. He came to UCI in 2003 and is an Associate Professor of Neurobiology and Behavior, in the School of Biological Sciences. Dr. Busciglio's interests are in Alzheimer's disease, Down syndrome, neurodegeneration, axonal transport, oxidative stress, mitochondrial dysfunction. The focus of his research is to understand the molecular bases of neuronal dysfunction and death in Down syndrome and Alzheimer's disease. His three primary areas of focus are:

Molecular mechanisms underlying Down Syndrome pathology - Dr. Busciglio's lab is interested in exploring the impact of Down Syndrome on mitochondrial function as a mechanistic framework to understand the tremendous vulnerability of Down Syndrome subjects to develop selective neuronal degeneration and Alzheimer's Disease as they become adults.

Cell and molecular pathways involved in amyloid β ($A\beta$) neurotoxicity - The lab continues to work on a comprehensive analysis of the molecular mechanisms of oligomeric targeting. The results demonstrate that synaptic activity regulates the formation and accumulation of soluble $A\beta$ oligomers at synaptic sites in both rat organotypic slices and human primary neurons, and the first to establish the existence of heterogeneous oligomeric structures associated with synapses in Alzheimer's Disease brains using a variety of conformation-specific antibodies.

The role of axonal transport deficits in Alzheimer's Disease - Neurons are highly polarized cells, which depend on transport mechanisms for proper function. There is an emerging consensus that deficits in axonal transport play major roles in several neurodegenerative diseases including Huntington's disease, ALS and Alzheimer's Disease.

Dr. Busciglio was named the 2004-2005 National Academies Education Fellow in the Life Sciences, and was awarded the Teaching Excellence Award from the School of Biological Sciences in 2005.

Meet the Director of Community Relations

LINDA SCHECK



Linda Scheck, Director of Community Relations

Ever since my father-in-law was diagnosed with Alzheimer's disease in the early 1980's, my family and I have grappled with the wide variety of stresses that a diagnosis of dementia brings.

As the daughter-in-law, I was asked to play many roles. I was part of the family facing the losses and confusion many encounter when Alzheimer's disease strikes a loved one. I became a helpful, but often bewildered caregiver and the manager of the family decision making. Even after he passed away, I continued to support my mother-in-law as she faced the complexity of her losses. As a wife and mother, I helped my husband and our young children ponder the impact of dementia in our family. It has never really ever left us.

Then in 1987, there was an opportunity to join the Alzheimer's Association of Orange County, where I remained for nearly sixteen years, the later half as the Executive Director. We provided excellent support and education to families and patients facing dementia.

It is a privilege, now, to be able to join the Institute for Brain Aging and Dementia as Community Relations Director. I look forward to sharing with this community the unique and exciting research that is taking place here. A team of remarkable people dedicate their extraordinary knowledge, training and curiosity to discovering and understanding the factors that affect the progression of Alzheimer's disease. The Institute is one of the few translational research units seeking to bridge science-based discoveries in the lab with a strong clinical program that touches families and caregivers.

I look forward to meeting you. Please feel free to contact me at 949-824-3251 or at lscheck@uci.edu.

Our vision for the Institute for Brain Aging and Dementia is to develop approaches for lessening the impact of memory related disorders. Tackling these complex issues requires a multi-disciplinary approach, which is reflected in the diversity of our faculty, who have primary appointments in the School of Biological Sciences, Computing Sciences, Engineering, Medicine, Nursing Sciences, and Social Sciences.

Continued from page 1 - Stress and its Influence on Alzheimer's Disease

– improving short-term memory formation and adapting the body's physiology to deal with the situation effectively. However, long-term stress leads to prolonged elevated levels of cortisol within the blood stream, which can have serious deleterious effects.

It was found, over twenty years ago, that patients with Alzheimer's disease had elevated levels of cortisol in their blood streams, compared to healthy patients. This elevation correlated with the degree of memory impairments that the patients had and appeared early on in the disease progression. We were interested in whether or not these early increases in circulating cortisol could be contributing to the development of Alzheimer's disease, by leading to the pathologies that are found in the AD brain. It is the accumulation of sticky proteins in the brain, leading to a loss of neuronal function, which underlies the dementia and memory loss seen in Alzheimer's disease.

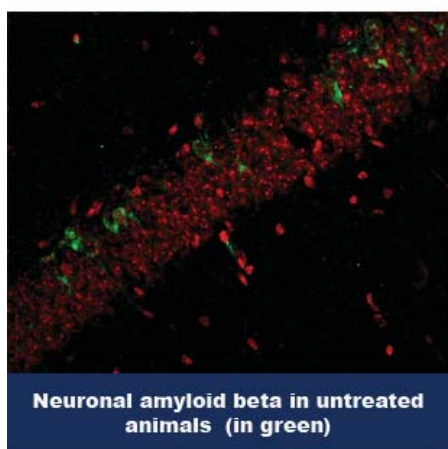
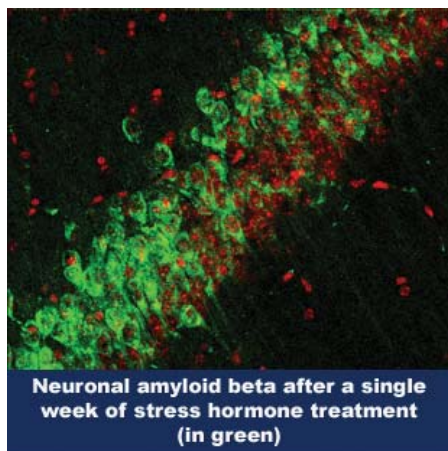
Typically two sticky proteins are present in the Alzheimer's disease brain – the first is the amyloid-beta peptide (A β), which stick together inbetween neurons and form the extracellular plaques. The second sticky protein is known as tau, which becomes modified in the Alzheimer's disease brain causing it to stick together inside neurons and disrupt normal neuronal function. The net result of these sticky proteins is a cascade of events leading to widespread synaptic and neuronal loss in the brain, which causes the dementia and memory loss.

We showed that cells treated with cortisol produced dramatically larger amounts of this A β peptide – which can accumulate to form the A β plaques. In order to test whether increased cortisol could have a similar effect in

animals and by extension people we turned to a genetically altered mouse, which had been engineered to develop Alzheimer's disease pathology in its brain as it aged. We took young animals, before they were old enough to have Alzheimer's disease pathology, and we injected them with a rodent equivalent of cortisol every day for 1 week. After just a single week we looked inside the brains of these animals and found that levels of both A β peptide and tau protein were tremendously elevated. This showed us that increases in circulating cortisol in humans is able to increase the pathology present in the brain – and thus could make people develop Alzheimer's disease faster.

So how can we use these findings to help people reduce their risk of developing Alzheimer's disease in old age? Firstly, cortisol levels are increased by stress – a study has also shown that people with stressful lives are around 2-3 times more likely to develop Alzheimer's disease than others. So avoiding stress is paramount. In addition, these results can be used by scientists to develop drugs to block either the production of cortisol, or to prevent its effects once it is produced. This could lead to a slowing of the disease if it proves successful.

Stress reduction, combined with a healthy lifestyle and diet will help people age successfully and avoid disease. ■

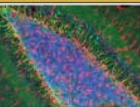


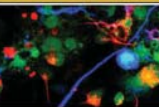


New Institute Website Launched

INSTITUTE for BRAIN AGING and DEMENTIA
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Text Size aa aA Giving

Adding Life To Years

Home

Institute

Contribute

Patients & Caregivers

AD Research Center

Studies Seeking Participants

Education

Calendar

WELCOME TO IBAD

The Institute for Brain Aging and Dementia (IBAD) at the University of California, Irvine is internationally recognized for its research accomplishments in disorders of the brain, particularly those that are age-related. The Institute is UCI's center for aging and dementia research, with our faculty seeking to understand the causes leading to neurological disorders such as Alzheimer's disease, frontotemporal dementia, Lewy body dementia, and Huntington's disease. We aim to identify the life-style factors that promote wellness and "successful aging." For those suffering from age-related memory problems, our goal is to diagnose disease, identify means for effectively treating it, and provide help to families and caregivers.

WHAT'S NEW?

- Frank LaFerla, Chancellor's Professor of Neurobiology and Behavior has been appointed as the new Incoming Director of the Institute for Brain Aging and Dementia. Professor LaFerla takes over for Carl W. Cotman, who was the founding director of IBAD. [Click here to learn more about Professor LaFerla's research.](#)
- Linda Scheck appointed director of community relations for IBAD. As the former executive director of the Orange County Chapter of the Alzheimer's Association, Linda has a long history of working on behalf of Alzheimer's disease individuals and their families, and well understands the families and their needs, bringing tremendous expertise and a warm personal touch.

Quicklinks

[Give to the Institute](#)

[Clinical Trials](#)

[Current Newsletter](#)

[Calendar of Events](#)

[Research Highlights](#)

Brain Aging

[Current Newsletter](#)

New look! More information!

View our new website and visit us online at

www.alz.uci.edu

RESEARCH

Help Us Find the Answers...

Research studies can be meaningful and valuable in the understanding of diseases from prevention to treatment. For more information, please call the study coordinators listed.

COGNITIVE NEUROSCIENCE OF AGING RESEARCH: EEG AND fMRI STUDIES

Volunteers are needed for studies that investigate brain activity and memory. In this project, you will have your brain activity monitored either through the recording of electrical activity (EEG) or through an imaging method called functional magnetic resonance imaging (fMRI) while performing simple tasks. Studies involve either one or two visits to the laboratory, each taking between 1- 2½ hours. You will be reimbursed for travel expenses and receive compensation for your participation.

In order to take part you must be:

- Be between 63-77 or 85-99 years of age
- Be right-handed
- Be a fluent English speaker
- Be in good general health

If you would like to take part, or receive further information about the study, please phone or email us at Phone: 949-824-8861 or eMail: fnim@uci.edu

fMRI STUDY MEASURING BRAIN STRUCTURE AND MEMORY PERFORMANCE IN NORMAL OLDER ADULTS AND MCI

In our lab, we are studying the relationship between changes in brain structures as they relate to memory performance. One way that we can look at changes in these brain structures is to observe changes in memory that occur in normal aging as well as those changes associated with disorders of aging, such as mild cognitive impairment and Alzheimer's disease. We use fMRI (functional magnetic resonance imaging) to observe changes in activity in the brain while individuals perform memory tasks. By comparing the changes in activity to memory performance, we can observe which areas of the brain are involved in different kinds of memory operations.

- | | |
|-------|---|
| Who: | Successful aging program participants
Mild cognitive impairment diagnosis
Questionable cognitive impairment |
| Time: | 2 visits, each 1-2 hours each |
| Risk: | Minimal, but we will conduct a thorough screening for MRI compatibility |

Compensation for the first session is \$15 per hour. Compensation for the second session is \$25 per hour. Both sessions are located on the UCI main campus. If you are interested in participating or have any questions, please call the Stark Lab at (949) 824-4230 and ask for Shauna Stark.

ORANGE COUNTY AGING PROJECT

Are you a healthy adult over the age of 75? Volunteers are needed for a study on gene patterns and thinking in older adults. In this project, you will have your thinking and memory tested and some of your blood will be drawn.

Studies will involve 3-5 visits over the period of several years, with each taking between 1 and 2 hours. You will be given a free breakfast each visit.

In order to take part you must be:

- over 75 years of age
- a fluent English speaker
- in good general health
- currently living in the Irvine/Orange County area
- not currently taking medication for your memory

If you would like to participate, or receive further information about the study, please phone or email Dr. Dan Berlau at: 949-824-9124 or aging@uci.edu

RESEARCH STUDY: EVALUATING EMOTIONAL MEMORY

Researchers at UC Irvine are trying to better understand how memory works in older adults with dementia. The study will focus on emotional memories and why some individuals can recall events better than others.

Study qualifications:

- are age 60+
- are English-speaking
- community-dwelling
- have a confirmed diagnosis of Alzheimer's disease or related dementia
- have an informant willing to participate in the study

What is involved: The study will take place one time in your home for about 1.5 hours. The research consists of answering questions and completing memory activities. Those who participate will be compensated with \$30. For more information or to sign up call: Maureen Barnett at (714) 456-8697.

RESEARCH STUDY: OLDER ADULT RELATIONSHIPS AND SAFETY SURVEY

The UCI Program in Geriatrics is conducting a study that will develop a new survey to help understand how older Americans are treated by those they hold in a position of trust. The study will be conducted as a home visit, and will consist of an interview and a questionnaire. If you participate, you will be paid \$30.00. The specific criteria used to determine eligibility are:

- At least age 65 or older
- Older adults with memory problems are especially welcome to participate with a family member if needed
- English-speaking non-Hispanic Whites
- English or Spanish-speaking Mexicans or Mexican Americans
- Live in a community, rather than in an institution

If you think you may be interested in becoming a participant in this study, please contact a research assistant: Maria Corona at 714-456-8195.



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INSTITUTE *for* BRAIN AGING *and* DEMENTIA

LEADERSHIP

Director Frank M. LaFerla, Ph.D.

Founding Director Carl W. Cotman, Ph.D.

Clinical Director Claudia H. Kawas, M.D.

Administrator Andrea J. Wasserman

Community Relations Linda Scheck

Financial Officer Luter Liu

Assistant to Director Angela T. Monroe

Neurologists William Cable, M.D.

Gaby Thai, M.D.

Senior Neuropsychologist Malcolm B. Dick, Ph.D.

Community Health Manager Shirley Sirivong

Clinical Trials Director Ruth A. Mulnard, R.N., D.N.Sc.

Tissue Repository Director Elizabeth Head, Ph.D.

Neuropathologist Ronald C. Kim, M.D.

Biostatistician Daniel L. Gillen, Ph.D.

INSTITUTE MEMBERS

Michael G. Agadjanyan

Aileen J. Anderson

Mathew M. Blurton-Jones

Jorge A. Busciglio

Lawrence F. Cahill

Maria M. Corrada

Carl W. Cotman

Steven C. Cramer

David H. Cribbs

Malcolm C. Dick

Christine M. Gall

Daniel L. Gillen

Charles J. Glabe

Claudia H. Kawas

Ronald C. Kim

Frank M. LaFerla

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Gary Lynch

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Ruth A. Mulnard

Michael D. Rugg

Steven S. Schreiber

Craig E.L. Stark

Arnold Starr

Joan S. Steffan

Lydia Su

Andrea J. Tenner

Leslie M. Thompson

Douglas C. Wallace

John H. Weiss

The Mission of the Institute is to advance research in Alzheimer's disease, with the goal of understanding and discovering its causes and the factors that affect its progression. The Institute is one of the few translational research units on campus, seeking to bridge science-based discoveries to complement the clinical program. Our goal is to diagnose the disease, identify means for effectively treating it, and provide help to families and caregivers.

www.alz.uci.edu



CLINICAL TRIALS

STUDIES SEEKING PARTICIPANTS

FOR MORE INFORMATION, PLEASE CONTACT US AT
(949) 824-5733 OR VISIT OUR WEBSITE AT:
www.alz.uci.edu/studies/clinicaltrials.html

RAGE Inhibitor (RI) *Clinical Trial*

A randomized, placebo-controlled, 21-month study with 18 months of study medication.

RAGE is known to be involved in amyloid plaque formation, and studies have suggested that it is intimately involved in the pathogenesis of AD.

This study is recruiting participants who:

- Have a diagnosis of probable AD
- Are 50 years of age or older
- Have a study partner – friend or relative who can accompany the participant to all clinic visits and answer questions about him/her
- There are 11 total visits to the UC Irvine campus. Visits are every 2-6 weeks

Nicotinamide (NA) *Clinical Trial*

A double-blind, placebo-controlled 7-month study to find out more about Nicotinamide and its effects on Alzheimer's disease progression.

Nicotinamide (NA) is a class of drugs known as a HDAC inhibitor, a dietary supplement that is being studied to determine whether chronic use is safe and effective in improving brain function in subjects with mild to moderate Alzheimer's disease (AD).

This study is recruiting participants who:

- Have a diagnosis of probable AD
- Are 50 years of age or older
- Have a study partner – friend or relative who can accompany the participant to all clinic visits and answer questions about him/her
- There are 7 total visits to the UC Irvine campus. Visits are every 2-6 weeks



Caregiver Concerns

We realize the strains and challenges that caregivers often experience, and hope to address some of questions or concerns that may arise .

QUESTION: My father becomes very anxious and agitated when I leave the room, making it difficult for me to shower or to attend to any personal matters. Any advice or help?

SUGGESTED TIP: This is certainly a common problem for many families with an Alzheimer's patient. Some families have found that playing a DVD or tape of past family events (birthday parties, weddings, etc.) can go a long way towards keeping a patient calm and buying the caregiver enough time to shower or attend to other matters.

2008 Annual Conference: Risk Factors and Commonalities with Other Age-Related Diseases

The 2008 Regional Alzheimer's Disease Research Conference was held on October 23rd and 24th, hosted by the UCI Institute for Brain Aging and Dementia in partnership with the Alzheimer's Association - Orange County Chapter and the Alzheimer's Family Services Center. Aptly titled "Risk Factors and Commonalities with Other Age-Related Diseases", presentations focused on a spectrum of topics of great interest to the Alzheimer's disease community, families, care providers, and researchers.

Guest speakers from Columbia University, University of Virginia, UC Davis, UC San Francisco, UC Irvine, and numerous other academic institutions graced our stage at the Irvine Hilton, and educated an eager audience of researchers, caregivers, and patients about the newest discoveries in Alzheimer's disease research.

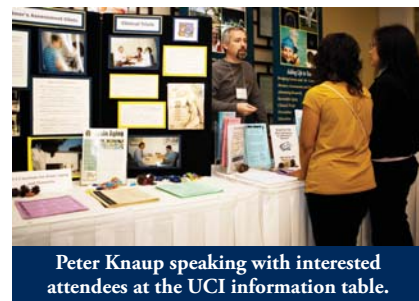


Several speakers carefully explained how conditions like diabetes, cardiovascular health, and obesity play a role in the risk, onset, development, and progression of Alzheimer's disease. As we look closely at the complexity of these comorbid conditions, it is also helpful to look at how to optimize treatment and how side effects from such treatments can affect those with dementia. Highlights also included new and exciting therapies, like nicotinamide and its promising effects in clinical trials. Prevention and risk reduction through physical and mental activity were

also discussed, stressing that there are natural and healthy measures that individuals should take in addition to pharmacological approaches. Updates on new imaging and innovative technologies developed for early detection were also shared to demonstrate the value of diagnostic tools. Key concerns like the complications that can arise from hospitalization for individuals with dementia and practical tips for caregivers were extremely informational. In addition, audiences were given public policy updates about the steps that the state and federal governments need to take to advocate in the battle against Alzheimer's disease, and how we can help to make a difference.



With almost 400 people in attendance, the 2008 Alzheimer's Disease Research Conference proved to be a great success. Having visitors from all over California and even out of the country participate in our conference was a great delight. We were able to share experiences and perspectives with an underlying purpose of creating unity and hope.



Plans for 2009 are underway, to find out more, visit us online at www.alz.uci.edu for updates!



IN THE NEWS

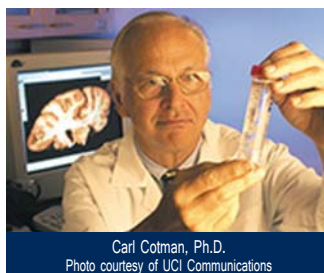
New discoveries, achievements, and updates from the Institute for Brain Aging and Dementia

INTERNATIONAL CONFERENCE ON ALZHEIMER'S

The 11th International Conference on Alzheimer's Disease (ICAD) was held in Chicago from July 26-31. This year's meeting was the largest ever as nearly 5,400 participants attended. Frank LaFerla gave the opening plenary lecture. One of the biggest news items to emerge from the conference pertains to the conference itself, as it was announced that ICAD will now become an annual event. The next conference will take place in Vienna, Austria in July 11-16 2009.

LIFETIME ACHIEVEMENT AWARD

Carl W. Cotman, founding director of the Institute, was the 2008 Recipient of the Khalid Iqbal and Bengt Winblad Lifetime Achievement Award, which was presented at the 11th annual ICAD meeting conference held in Chicago. This prestigious award recognizes the distinguished work of Alzheimer's researchers.



Carl Cotman, Ph.D.
Photo courtesy of UCI Communications

THE 90+ STUDY

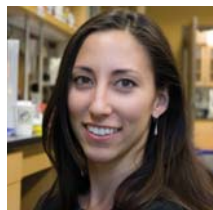
New research found women over 90 are significantly more likely to have dementia than men of the same age. In an analysis of 911 people aged 90 and older, 28% of men and 45% of women had dementia. The study also found that the likelihood of having dementia doubled every five years in women but not in men. The 90-plus age group is the fastest growing segment of the population. This study highlights how common this disorder is in the very elderly and warns about the upcoming public health challenge of caring for the increasing number of very old people with dementia. The research appeared in the July 2 online issue of *Neurology*, the medical journal of the American Academy of Neurology and received significant media attention including a writeup in *The New York Times*.



Maria Corrada-Bravo, Sc.D.
The 90+ Study

ARCS FELLOWSHIP

Maya Koike, a 3rd year Ph.D. graduate student in the laboratory of Professor LaFerla was the recipient of a prestigious national Achievement Rewards for College Scientists (ARCS) Foundation award. ARCS is a unique, non-profit, national volunteer organization of women dedicated to providing scholarships to academically outstanding United States citizens studying to complete their degrees in science, medicine and engineering, thereby contributing to the worldwide advancement of science and technology.



VITAMIN B3 AND ALZHEIMER'S

Institute scientists determined that an over-the-counter vitamin in high doses prevented memory loss in mice with Alzheimer's disease, and UC Irvine scientists now are conducting a clinical trial to determine its effect in humans. This discovery received world wide attention. To listen to an interview on National Public Radio, visit www.npr.org/templates/story/story.php?storyId=96747179. See details for the human clinical trial on page 6.



Kim Green, Ph.D.
photo courtesy of Daniel A. Anderson, UCI Communications

Did You Know?

Facts about Alzheimer's Disease

An estimated 5.2 million Americans of all ages have Alzheimer's disease in 2008. The Alzheimer's Association estimates that there are approximately 500,000 Americans under age 65 who have Alzheimer's or another dementia, and about 40 percent of them have Alzheimer's disease.

- One in eight persons age 65 and over (13%) has Alzheimer's disease.
- Every 71 seconds, someone in America develops Alzheimer's disease. By mid-century, someone will develop Alzheimer's every 33 seconds.
- One in six women and one in ten men who reach age 55 can expect to develop Alzheimer's in their remaining lifetime.
- More women will develop Alzheimer's because they live longer than men, on average.
- An increase in Alzheimer's research funding is critical in forestalling both the loss of life and the financial burden on the nation because today there are no survivors and there is no cure.

DEATHS FROM ALZHEIMER'S DISEASE

- Alzheimer's is the 7th leading cause of death in America.
- Alzheimer's is the 5th leading cause of death in people over 65 years old.
- From 2000 to 2005, the total number of deaths attributed to Alzheimer's disease has increased by 45%, while deaths from other chronic diseases in that same time frame has decreased.

Now is the time to address this escalating epidemic.

Information provided by the 2008 Alzheimer's Disease Facts and Figures, published by the National Alzheimer's Association

How to Support the Institute

As the Institute strives to develop new techniques to advance the understanding of Alzheimer's disease and related dementias, resources and financial support are often limited. Donations to the Institute allow clinical and basic science research activities to advance. In addition to direct gifts, memorial gifts and future gifts there is the Alliance Against Alzheimer's Disease.

The UCI Alliance Against Alzheimer's Disease is a circle of donors who give minimum annual gifts of \$1000+ to support research at the Institute for Brain Aging and Dementia. Alliance members enjoy a variety of benefits, including invitations to members-only research receptions, updates and more.

To join this growing support group, call 949-824-3251 to speak with Linda Scheck, Director of Community Relations. Help us make Alzheimer's disease just a memory!

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Stamping out Alzheimer's disease!

The United States Postal Service will issue a limited-edition stamp to help raise awareness about Alzheimer's disease. The somber

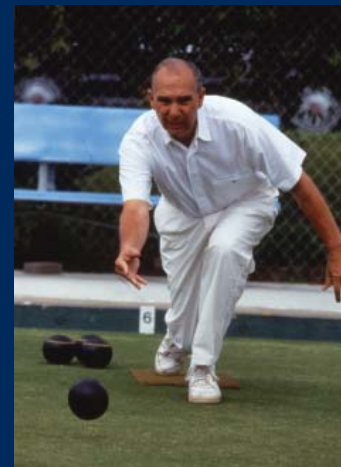


image featured on the stamp shows the gentle hand of a caregiver

supporting an elderly woman, and is meant to commemorate the caregivers, and "to draw attention to the importance of caregivers in the lives of those who have the disease." The Alzheimer's stamp is part of the Postal Service's Awareness stamp series. Although no official release date has been confirmed, the Alzheimer's stamp will be available for purchase in 2008.

How to Contribute

Help make a
difference...



1.) Checks should be made payable to UCI FOUNDATION and in the Memo section, please write: I.B.A.D.

2.) If the donation is being made in memory/honor of someone, please include a note with information as to where the acknowledgements should be sent.

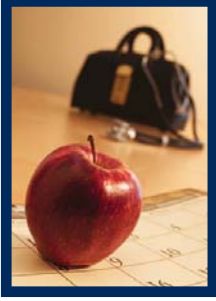
3.) Please mail all donations to:
UCI Institute for Brain Aging and Dementia
Attn: Linda Scheck
1113 Gillespie Neuroscience
Research Facility
Irvine, CA 92697-4540

There are many ways to support the clinical and basic science research activities at the UCI Institute for Brain Aging and Dementia. If you would like to receive more information on giving, please contact Linda Scheck at (949) 824-3251 or log on to:
www.alz.uci.edu/donate.html



INSTITUTE for BRAIN AGING *and* DEMENTIA

Calendar of Upcoming Events



2009 Family Educational Series - UC Irvine, University Club

Co-sponsored by the UCI Institute for Brain Aging and Dementia, Alzheimer's Association, Alzheimer's Family Services Center, and the Caregiver Resource Center. All sessions meet from 4:30-6:30pm at the University Club, UCI Campus. For more information or to make reservations, call (949) 824-8135.

- **March 10, 2009 - Alzheimer's Disease and Other Dementias: What Does the Diagnosis Mean?**
- **June 9, 2009 - Advances in Dementia Treatment: Current and Future Medications**
- **September 8, 2009 - Managing Everyday Challenges in Alzheimer's Disease: Behavioral Strategies and Community Resources**
- **December 8, 2009 - Reducing Your Risk for Alzheimer's Disease: Lifestyle Changes and More**

2009 Distinguished Lecture Series on Brain, Learning and Memory

January 20, March 25, May 13

SAVE THE DATES!

This Public Lecture Series is sponsored by UC Irvine's Office of the Executive Vice Chancellor and Provost and the UCI Institute for Brain Aging and Dementia, and is organized by the Center for the Neurobiology of Learning and Memory. Three public lectures have been held each year since 1995, and are held at the Irvine Barclay Theatre. Parking is provided in an adjacent structure for \$7. Lectures are free of charge. *No tickets or reservations are required.* You may simply come to the theatre on the night of the lecture.



Information about these educational offerings as well as others offered throughout the County are available on the UCI Institute for Brain Aging and Dementia website at: <http://www.alz.uci.edu/calendar>

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