INSTITUTE *for* BRAIN AGING *and* DEMENTIA

THE AGING BRAIN Bulletin

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In this Issue

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.

CLINICAL TRIALS – GATEWAY TO A CURE

Ruth A. Mulnard, DNSc, RN, FAAN

Clinical trials are the bridge in the drug development process, linking laboratory work on a new drug to humans, for whom the drug is ultimately intended. A clinical drug trial is a systematic testing of a drug in humans for the purpose of applying scientific discoveries to prevent, treat or cure a human disease. Clinical trials are typically conducted in sequential phases, progressing from Phase I (first exposure of the drug to humans) to Phase II (medium-sized safety study) to Phase III (large size efficacy study) to Phase IV (studies done after the drug is approved and marketed). To accomplish the Phase II and III studies, the drug being tested is usually compared to an inactive substance (called a placebo) by a process of randomly assigning eligible participants to each of the groups. These studies are called double-blind, because both the investigators and the participants are "blind" or unaware to whom the drug or placebo was assigned. At the end of the study, data comparisons are done between those who took the test drug and those who took the placebo.

For every investigational drug that is studied, specific inclusion and exclusion criteria are set in advance of starting the study. For example, specific criteria are set to specify a particular diagnosis (Alzheimer's disease - AD), stage of disease (mild versus moderate AD), or age range (50-89 years of age). In a similar way, exclusion criteria may prevent individuals with abnormal blood values on clinical labs or abnormal findings on brain scans from participating. Adherence to these strict criteria helps to assure that the drug is administered only to the targeted audience. Clearly, it would not be useful to give the drug to individuals with mild cognitive impairment when it is intended for AD. Not adhering to the exclusion criteria negatively impacts the precision of the study, making it impossible to know if the drug really worked in the end.

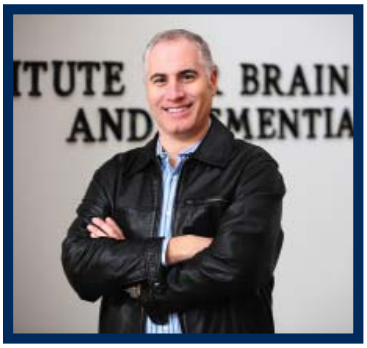
Many clinical trials conducted in the Institute are sponsored and funded by the federal government, specifically the National Institute on Aging (NIA). We are part of an esteemed group of NIA-

Continued on page 5

Ruth Mulnard, R.N., D.N.Sc.

Dr. Mulnard is an associate professor of Nursing and Director of the Institute's Clinical Trials Program.

From the Director... *Frank LaFerla, Ph.D.*



The cover story for this edition of the newsletter is focused on clinical trials for Alzheimer's disease. It's through efforts such as conducting clinical trials that the Institute for Brain Aging and Dementia investigators are able to "translate" scientific discoveries to the general population.

Translational science is one of the latest buzz words, but it simply means converting scientific discoveries into practical applications, with the goal of improving human health. In other words, it's about applying scientific discoveries made at the lab "bench" and progressing them to the clinical level to the patient's "bedside." The Institute is unique, being one of the few translational research units at the UCI campus. We really cherish and value the opportunity to serve the local community in this capacity.

Translational science simply means converting scientific discoveries into practical applications to improve human health...

Clinical trials are vital to the scientific process as they allow for the careful evaluation of new drugs or treatments under controlled conditions. What does that mean? Well, in simple terms, it means that the health status of the patients receiving the experimental drug are compared to those patients who receive a placebo (an inactive substance). The highest scientific standards are imposed to ensure that the resulting data are of high quality. There's an old saying, "garbage in, garbage out." Hence, every effort is made by all of the investigators to guarantee that the trial is appropriately designed, conducted and analyzed to allow safety and efficacy data to be collected.

Dr. Ruth Mulnard, a long time member of the Institute, has been running clinical trials on Alzheimer's disease for over 18 years. She is internationally recognized for her expertise in carrying out clinical trials and for maintaining the highest standards. Because of her efforts, the Institute is nationally ranked very highly in conducting clinical trials, and this is a fact of which we are particularly proud! Given the importance of clinical trials for helping to find a treatment for Alzheimer's disease, we thought it was an important topic to carefully explain to our readers. As she describes, researchers carefully decide which subjects to include or exclude in a clinical trial. For example, inclusion or exclusion criteria may include a certain minimum or maximum age, or excluding someone because of another medical condition such as high blood pressure.

...to do everything we can to fight the devastation that Alzheimer's disease brings...

As a not-for-profit organization, the Institute doesn't profit financially from the trials we perform, but we do profit scientifically from them. Whether a clinical trial achieves the desired outcome or not, we often learn about the utility of a compound. Sometimes it leads to disappointment, sometimes to confusion, requiring further experiments, but we will continue to conduct them until we hit the jackpot and find an effective treatment.

By conducting these clinical trials, the Institute offers hope to our community of affected patients, representing our commitment as researchers and clinicians to do everything we can to fight the devastation that Alzheimer's disease brings to the patients, their families and caregivers. We are particularly proud when basic research conducted at the Institute is translational and results in a clinical trial. For instance, recent work done in my lab with Dr. Kim Green on nicotinamide in our mouse model of Alzheimer's disease has led to a human clinical trial that is actively seeking participants, and is being directed by Dr. Steven Schreiber of the UCI Department of Neurology. This is translational science at its best, and showcases the depth and breadth of research at the Institute and stemmed from collaborating with other institute faculty including Drs. Leslie Thompson and Joan Steffan. For a listing of current clinical trials at the Institute, please see pages 6 and 7.

Frank

Frank LaFerla, Ph.D.
Chancellor's Professor and Director

IN THE NEWS

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

Faculty Elected as AAAS Fellow: Charles Glabe, Ph.D.


Charles Glabe, Ph.D.

Charles Glabe, a member of the Institute and professor of Molecular Biology and Biochemistry, was elected as Fellow of the American Association for the Advancement of Science. Fellows are recognized for meritorious efforts to advance science or its application, and election is an honor bestowed upon members by their peers. Dr. Glabe's research is focused on understanding how the Alzheimer's disease plaque protein ß-amyloid folds into abnormal, toxic conformations.


Wayne Poon, Ph.D.

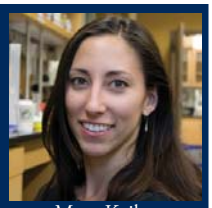
The Tissue Repository Gets a New Director

Wayne Poon, a researcher in the Institute, was recently appointed as director of the Tissue Repository, which distributes tissue to investigators throughout the world. Wayne received his Ph.D. in 2001 from UCLA in Biochemistry and Molecular Biology. He joined the Institute in 2002 as a postdoctoral fellow and has recently been appointed as a project scientist. His research is focused on elucidating the molecular mechanisms of amyloid toxicity. Best of luck to Wayne on his new position.

Institute Member Appointed to Huntington Study Group


Leslie Thompson, Ph.D.

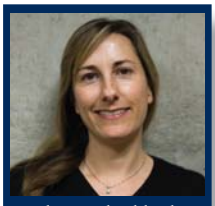
Leslie M. Thompson, Institute member and professor of Psychiatry and Human Behavior and Neurobiology and Behavior was appointed to the scientific review committee of the Huntington Study Group for a four year term. Huntington's disease is a genetic disorder leading to psychiatric, cognitive and motor problems, striking individuals in the prime of life and for which no treatment exists that changes the disease course. The HSG is a non-profit group of clinical investigators from medical centers in the US, Canada, Europe and Australia, dedicated to clinical research and clinical trials of Huntington's disease.


Maya Koike

Pre-Doctoral Fellowship Awarded to Institute Student

Maya Koike has been awarded a prestigious pre-doctoral fellowship from the National Institutes of Health. The fellowship program provides financial support for promising doctoral candidates who are performing dissertation research and training in scientific health-related fields. Maya is a 3rd year Ph.D. student in the laboratory of Professor LaFerla. She also recently won a national Achievement Rewards for College Scientists (ARCS) Foundation award. Maya's research is focused on understanding the impact that stroke has on the development of Alzheimer's disease. Way to go Maya!

Recipient of the "Carl W. Cotman Scholars Award"


Nicole Bertchtold, Ph.D.

Nicole Berchtold was the recipient of the inaugural "Carl W. Cotman Scholars Award" which recognizes outstanding young investigators of the Institute who have made a significant contribution to neurobiology. Nicole received her Ph.D. in 2000 and was the lead author on a study published in the Proceedings of the National Academy of Sciences that that describes changes in gene expression patterns in the brains of males and females.


Carrie Brumback Peltz

Fellowship Awarded to Postdoctoral Scholar

Carrie Brumback Peltz, a postdoctoral scholar working with Dr. Claudia Kawas was recently awarded a three-year fellowship grant from the Larry L. Hillblom Foundation. The funded project will examine multiple aspects of mild cognitive impairment (a possible intermediate stage between normal cognition and dementia) using data collected in The 90+ Study. Dr. Kawas initiated the The 90+ Study at the University of California, Irvine in 2003.

Meet the Researcher Behind the Science

CHARLES GLABE, PH.D

Dr. Charles Glabe, a native Californian, received his Ph.D. from the UC Davis in 1977 and completed his postdoctoral training at Johns Hopkins University School of Medicine and UCSF. He joined the faculty of UC Irvine in 1985, and is now a full professor of Molecular Biology and Biochemistry.

Dr. Glabe studies the protein called Aß or ß-amyloid that accumulates in amyloid plaques in the brains of Alzheimer's patients. Aß is very sinister and exists in different states, but only some states are toxic and able to kill neurons. His lab developed monoclonal antibodies that recognize distinct types of amyloid oligomers. Antibodies are specific for binding tightly to unique shapes, by a lock and key type of mechanism. His work is defining how many different types of amyloid oligomers exist and which ones are important in causing disease. His studies indicate there are several distinct types or "strains" of amyloid oligomers, raising the question of which of these oligomers is the primary toxic species in Alzheimer's disease and which ones we should target for therapeutic development. Monoclonal antibodies can provide answers to these questions and represent potential therapeutic agents. These antibodies can distinguish between different types of amyloid oligomers and amyloid fibrils, just like keys can distinguish between different locks. Monoclonal antibodies can block the formation of oligomers, which can be used to prevent cell death, to develop a vaccine against Alzheimer's disease and as diagnostic agents to screen for drugs that prevent oligomer formation. His antibodies have been distributed to over 100 investigators in over 20 countries. His antibodies and vaccines have been licensed by UCI to Kinexis, Inc. for their development as human therapeutic and diagnostic agents.

Dr. Glabe serves on several national and international advisory boards, including the NIH, the German Science Foundation, the American Health Assistance Foundation, and the Larry L. Hillblom Foundation.

Meet the Community Health Program Manager

SHIRLEY SIRIVONG

It is difficult to imagine how your life can be transformed when given the opportunity to work directly with seniors and families affected by Alzheimer's disease. Was it a calling or pure coincidence? My life has been changed, and I owe much of it to my experiences at the Institute for Brain Aging and Dementia.

Hired on as a part-time student assistant at the UCI Alzheimer's Assessment Clinic in 1994, I became very integrated with the staff and operations of the program. When hired full-time in 1999 as the patient care coordinator in the front office, I thoroughly appreciated the opportunity to provide support to the patients and families affected by the devastation brought on by neurodegenerative diseases. With each family I helped, I began to realize how much Alzheimer's disease impacted the aging population and the strain that families experience in caregiving.

Several years later when given the opportunity to play a role as the clinic manager and education coordinator, I eagerly jumped at the chance to assist even more families by organizing and coordinating education and outreach programs. I have met thousands of patients and families in all stages of the disease, all seeking help and answers. I enjoy working with some of the most compassionate professionals in this field, who provide support for senior needs in Orange County. I find myself "grateful" everyday to work in one of the most important areas of research.

We are faced with an Alzheimer's epidemic that not only affects the individuals diagnosed, but also creates difficult choices for families. Join me in our efforts to raise awareness, and extend a hand to those entrenched in the disease, caregivers, and all of us who will be here to support their needs through the advancement of research.

I hope to see many of you at our future and upcoming educational programs, and invite you to learn more about the work that we do at the Institute.

Continued from page 1 - Clinical Trials

supported research centers, called the Alzheimer's Disease Cooperative Study, working together to carry out trials across many institutions to draw conclusions about the drug much faster than if we worked in isolation. Other studies that we offer may be funded by private foundations or by private pharmaceutical companies.

Once an individual expresses interest in participating in a clinical trial, the first step is to review their medical records. This review focuses particularly on the individual's diagnosis, medical history and ongoing health concerns, and current medications to determine initial eligibility. Once determined, the individual is invited (with an informant) for a screening appointment that includes achieving informed consent, a physical and neurological examination, gathering of information on medical history, current health problems, current medications, and a blood draw to check on general health status. A baseline brain scan may also be required. Once these results are compiled, completely eligible individuals proceed to the baseline visit, which is the time when the study drug is usually started. Also during this baseline visit, other kinds of information may be collected via interview or paper and pencil testing procedures. Subsequent visits are timed at set intervals to allow adequate monitoring and protection of participants for the remainder of the study. Participants are always asked to report any changes they experience or side effects that might occur, as these could possibly be related to the study drug. Often at the conclusion of a double-blind study that involves a placebo group, the sponsor may offer an "open label" extension (which allows all participants to receive the active study medication for a period of time), but this is never a guarantee.

One special requirement that should be anticipated in clinical trials related to AD is the necessity for an "informant." The role of the informant is to attend all clinic visits to provide a reliable source of information about the individual's condition and how it changes during the course of the study, as well as to assist with medication administration.

If you are interested in being considered for a clinical trial opportunity, our recruitment team member may be reached at (949) 824-5733. You can also check our website at http://www.alz.uci.edu/studies/studiesseeking.html. Our clinical trial team includes: Drs. Arnold Starr and Gaby Thai (neurologists), Catherine McAdams-Ortiz (an adult and geriatric nurse practitioner who is the study coordinator), and Beatriz Yanez (recruitment coordinator and psychometrist). ▪

When a loved one with dementia passes away, families are overwhelmed with details. The ceremonial rituals surrounding a funeral, a memorial service or a celebration of life are uncomfortable for many of us at an already emotional time.

We are saying the "second good-bye" to someone important in our lives who may have slowly faded away from us over many, many years. We have strong feelings about the dementia that took our loved one.

There is a simple option available to help the immediate family memorialize their loved one that will also give friends and other family an opportunity to make a difference in the fight against Alzheimer's disease and other dementias.

Many families have a plan in place to ask others who would like to do so, to donate to research the causes and potential cure for Alzheimer's disease. A donation in lieu of flowers in memory of your relative can be a welcome choice for those who want to do something in a positive way.

Simply inform people when you share information about the ceremony that they may send a tax-deductible donation made out to the UCI Foundation, in memory of your loved one. Ask them to specify ***"Alzheimer's disease research"*** on the memo line of their check and mail it to UCI Institute for Brain Aging and Dementia, 1113 Gillespie Neuroscience Research Facility, Irvine, CA 92697-4540. We will thank them for their donation and we will inform you that a gift has been made in memory of your relative. If you would like envelopes with such information included, we will be happy to send a quantity of them to you if you call us in enough time. This simple action can make a huge difference in the fight against Alzheimer's disease.

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 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 a 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 55+
- 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.

Physiology and Cognition Research

We are recruiting for a study that would involve two sessions, each lasting 1.5-2 hours. In the first session you will be asked to give a small saliva sample and to participate in a fitness test on a stationary bicycle that will last approximately 12-14 minutes. During the second session you will be asked to view a short slide show of pictures and to rate each one according to how emotionally arousing you found it. You will also be asked to give several small saliva samples throughout the experiment.

Who: Normal individuals between the ages of 50 and 85 years old
Patients with Mild Cognitive Impairment (MCI)
Patients with Cognitive Impairment, No Dementia (CIND)
Where: The General Clinical Research Center (GCRC) at the UC Irvine Medical Center in Orange
When: Afternoon (between the hours of noon-6pm)
Time: Two visits, each 1.5-2 hours long

For more information or to sign up call: Sabrina Segal at (805) 338-9246.

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

GAMMAGARD LIQUID (GLAD) *Clinical Trial*

Gammagard liquid is a type of human immunoglobulin solution that is delivered through an intravenous infusion route to provide a passive immunization response that may assist with reduction in amyloid plaque formation in the brain. This study is a randomized, placebo-controlled 18-month treatment study with intravenous infusion of medication every two weeks. Once enrolled, the first three infusions are done on the UC Irvine campus. Other infusion visits can be done at home by an infusion nurse.

The GLAD study is seeking volunteers who:

- Have a diagnosis of probable AD
- Are 50 to 89 years of age
- Have a study partner – friend or relative who can accompany the participant to all clinic visits, answer questions, and remain with him/her for 3 hours after each infusion
- Are willing to take either study drug or placebo

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

Help Make A Difference

How to Contribute

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.

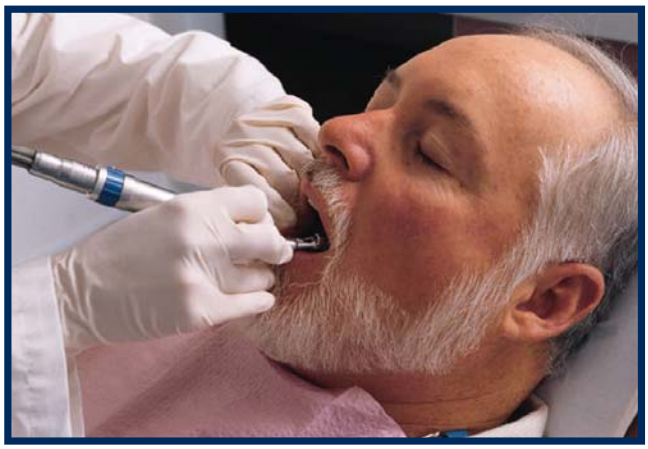
3.) Please mail all donations to:
UCI Institute for Brain Aging and Dementia
Attn: Linda Scheck
1113 Gillespie Neuroscience Research Facility
Irvine, CA 92697-4540

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

Oral Health and Alzheimer's Disease

By: William R. Chase, D.D.S.

Maintaining basic oral health for the Alzheimer's patient is difficult at best. As most adults age, the incidence of tooth decay increases. One reason for this is the natural shrinkage of the salivary glands due to aging. This shrinkage results in a diminished production of saliva, which serves to rinse the teeth of accumulating food particles. This problem, compounded by the inability to brush properly, may create extensive gum disease and tooth decay for this growing segment of our population.



Most of this new tooth decay occurs at the gum-line. Affected teeth could crack off at the gum-line with just minimal chewing force. Improper or a total lack of brushing may cause teeth to loosen up from the jawbone as well. Many times, this leads to the diseased tooth just falling freely from the mouth. The pain that may result from oral disease is not readily identified in the Alzheimer's patient. Both depression and increased excitability may be subtle signs of oral pain manifesting itself in the patient. It is imperative for patients to receive proper oral care. Here are a few important tips to consider:

1. *Keep the patient's mouth moist as much as possible with water and have them rinse frequently with a diluted solution of mouthwash. Do not allow them to swallow!*

2. *Brush the patient's teeth 2–3 times a day with a fluoride-containing tooth paste. (If the patient cannot tolerate brushing, take a moist wash cloth and rub the outsides of the teeth from front to back).*

3. *Inspect the patient's mouth regularly, looking for either loose teeth or black spots on their surfaces.*

4. *Have the patient examined by oral health care professionals semi-annually.*

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: It is becoming increasingly harder for my wife to dress herself and I find myself spending a lot of time trying to get her to decide which clothes to wear. Any advice or help?

SUGGESTED TIPS: Simple mundane tasks such as deciding which clothes to wear can be overwhelming for an individual suffering from dementia. There are a few little tricks you can do to help her, and also yourself. Try to develop a routine in which she gets dressed at the same time each day. Encourage independence as much as possible and allow for extra time so that she doesn't feel pressured. It is wise to choose comfortable, simple clothing. Blouses that button down the front are easier to put on than pullovers, and Velcro is easier than buttons or snaps. It is helpful for you to give her the option of picking an outfit from a limited number of choices you select ahead of time. For someone suffering from Alzheimer's disease, facing a closet full of clothes can be a daunting challenge, so limiting the selection to only two choices can help reduce the confusion. Organize the process. Keep the closet free of excess clothing and keep the closet doors closed while dressing reduces distraction. Having the clothes laid out ahead of time may make the choices easier for her. After she has made her selection, it is helpful for you to arrange the clothes in the order in which she is to put them on, and be prepared to provide step-by-step instructions or assistance.

The Gift that Gives Back:

What is a Charitable Gift Annuity?

By: Linda Scheck

Each year thousands of caring individuals use the charitable gift annuity to provide major financial support for charitable organizations, such as the Institute for Brain Aging and Dementia. In many cases, this time-tested technique has permitted gifts that otherwise might not have been made.

Betty, age 70, is a great example. Although she has always wanted to make a significant gift to the Institute, she felt that she could not afford to lose any income. Through a gift annuity arrangement, however, she was able to donate $10,000 to fund vital research she supports, which in turn, commits to paying her an income of $570 per year for as long as she lives. Moreover, her annuity payments will be favorably taxed. Betty's gift also will result in an immediate income tax savings because of the charitable deduction. For Betty, a charitable gift annuity presented an opportunity to do more for herself and the research institute in which she believes.

A charitable gift annuity is a simple contract between you and the UCI Institute for Brain Aging and Dementia. It allows you to transfer an asset (cash or marketable securities) to UCI in exchange for which the University makes guaranteed, fixed-payments (the "annuity") to you for life. You will be entitled to a charitable income tax deduction based on the difference between the present value of the stream of payments to you and the amount you have transferred to UCI.

The annual amount of the annuity to be paid depends on your age as the "annuitant." The older you are, the greater the annuity payment will be.

For example:

- **at age 70, the payment is 5.7%**
- **at age 75, the payment is 6.3%**
- **at age 80, the payment is 7.1%**
- **at age 90, the payment is 9.5%**

Robert, age 80, is another example. His charitable gift annuity of cash and stock in the amount of $50,000, results in an annual payment of $3,800 for as long as he lives and an estimated tax deduction of $24,805.

If you are interested in a lifetime of reliable income while supporting the important strides being made in our research to combat Alzheimer's disease, please consider a charitable gift annuity through the UCI Office of Legacy Planning.

Please call Linda Scheck, the Director of Community Relations, at 949-824-3251 for more information.

Liz Head, Ph.D.

Fond Farewell to a Long Time Institute Member

Dr. Elizabeth Head, a long time member of the Institute has accepted a position as an associate professor at the University of Kentucky. Liz has had so many successes during her career, including publishing over 100 papers. While at UCI, she was the director of the Tissue Repository. She will be greatly missed, but the collaborations she has established here will continue.

The Death of an Unforgettable Man

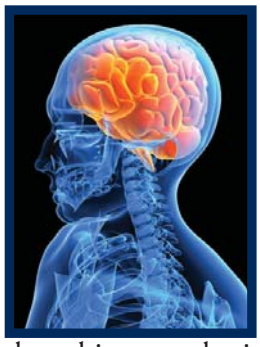
By: Larry Cahill, Ph.D.

In the early 1950's, a young man in his twenties named Henry Molaison, known until recently to brain scientists only as "H.M.," suffered from seizures so severe, and so resistant to the drugs of the day, that a neurosurgeon named William Scoville decided that surgery to remove the seizure-causing brain tissue was Henry's only viable option. Scoville removed a large part of what is called the temporal lobes, and in particular a brain region called the hippocampus. The surgery was quite successful in that it sharply reduced H.M.'s seizures. But it was not long before those around H.M. noticed that something was seriously wrong, something no one had anticipated. His intelligence and senses seemed fine, as did his memory for much of his life. He also retained the ability to hold information in memory for a little while (as we need, for example, to carry on a conversation). But as soon as his attention was diverted, he would lose all memory of what he had been doing. It was as if the surgery had selectively plucked out H.M.'s ability to make new long term memories. He could meet someone hundreds of times, and never consciously remember any of the meetings.

H.M.

Scoville invited a young neuropsychologist named Brenda Milner to carefully examine H.M. to help understand what exactly the surgery had done. Her studies of H.M., and of 9 other patients with similar, though not as drastic, surgeries, culminated in 1957 in what is generally considered the single most important paper in the history of the neurobiology of learning and memory. In this paper, Scoville and Milner described all the key features of what is known as the "amnesic syndrome." Damage to the hippocampus and the cortex immediately around it produces a profound, selective, and irreversible loss of the ability to transfer short term memories into long term conscious memories [a process called "consolidation," much like hitting the "save" button on a computer, which transfers information from a short term (RAM) to long term (hard drive) form.] Milner went on to first discover that this same brain damage spares other, generally non-conscious forms of memory (e.g., "motor memory"), providing the first clear indication that different kinds of memory are stored in different parts of the brain.

(As a result of the surgery,) H.M. lost his ability to make new long term memories.



Our views of memory and brain remain firmly rooted in what H.M. taught us.

Sadly, H.M. died in December 2008 at the age of 82. It is nearly impossible to overstate the importance of H.M. for our understanding of the neurobiology of memory. He took a field that, at the time, seemed to have reached a dead end, and reinvigorated it, permanently altering the landscape of the field. Our views of memory and brain remain firmly rooted in what H.M. taught us. How poignant it is to realize that he never knew what he had done for the world. ▪

Larry Cahill, Ph.D.

Dr. Larry Cahill, an associate professor at UCI, is an expert on learning and memory in humans. He also has a deep passion for the history of neuroscience.

Join the Alliance Against Alzheimer's Disease

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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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

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INSTITUTE LAUNCHES NEW SPANISH WEBSITE!

Over the next 20 years, it is estimated that the number of Hispanics with Alzheimer's disease will triple. To better serve the Latino community, the Institute is proud to announce the launch of its Spanish website.

WWW.ALZ.UCI.EDU/ESPANOL

Institute *for* Brain Aging *and* Dementia

Calendar of Upcoming Events

2009 Distinguished Lecture Series on Brain, Learning and Memory

May 12 - Featuring Dr. Nancy Wexler **SAVE THE DATE!**

The Institute has partnered with the Center for the Neurobiology of Learning and Memory to sponsor the Barclay Distinguished Public Lecture Series on Learning and Memory. Dr. Nancy Wexler of Columbia University will speak on May 13. Dr. Wexler's mother suffered from Huntington's disease and she herself is at risk for developing it. She has worked tirelessly, and was instrumental in discovering the location of the Huntington's disease gene on chromosome 4. This will prove to be a fascinating lecture and it is free of charge to the public. Parking is provided in an adjacent structure for $7. No tickets or reservations are required. You may simply come to the theater on the night of the lecture.

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.

- ***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***

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***