

# Memory and Aging

A NEWSLETTER ABOUT BRAIN HEALTH AND HEALTHY AGING SPRING 2015



Pictured left to right, front row: April Medina, Christina Hobbs, Gwen Gates, Katie Vieira and Catherine Marreiro; back row: Ethan Solomon, Junie Roquel. Not shown, Antoinette Lopez and Professors Bruce Reed and John Olichney.

## Alzheimer's Disease Center East Bay Clinic moves to Walnut Creek

**PEOPLE WITH ALZHEIMER'S DISEASE** and their families in the East Bay have a new and more convenient place to visit – the Alzheimer's Disease Center East Bay Clinic. Previously located at the United States Veteran's Administration Hospital in Martinez, the clinic recently has reopened and is housed a convenient and brand-new facility in Walnut Creek. The entirely new, state-of-the-art facilities, at 100 N. Wigit Lane, has the same committed faculty and staff, said Bruce Reed, associate director of the Center.

The clinic continues to offer comprehensive evaluations and opportunities to participate in clinical trials, including the A4 trial, a test of a new drug aimed at preventing memory loss in people who are at risk of Alzheimer's disease but who are not yet experiencing symptoms. The Alzheimer's Disease Clinic looks forward to serving the community in its new location!

## Sons of Italy fundraiser

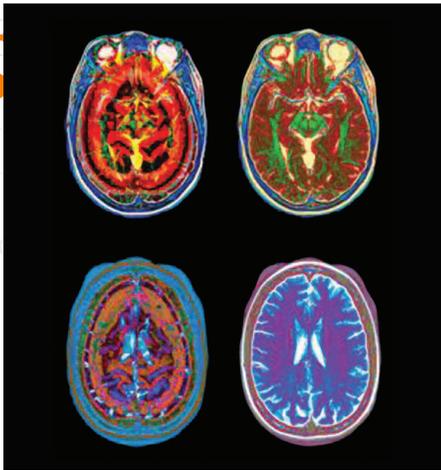
**ON SATURDAY, MAY 9, 2015,** the Vallejo Lodges of Sons of Italy in America will host their annual Wine Tasting and Silent Auction from 2–5 p.m. to benefit the UC Davis Alzheimer's Disease Center. The event includes wine, appetizers, door prizes and an auction with a variety of items to bid on. The location is the USA Classic Car Museum, 1525 Sonoma Blvd., Vallejo.

The center has been a beneficiary of this event for over 20 years. Although primarily funded through research grants and contracts from federal, state and private sponsors, the Sons of Italy gift allows the center to purchase needed items for its clinic and research activities.

Tickets for the event are \$25 in advance and may be obtained by contacting John Costa at 707-483-9604. For more information contact Pamela Bini at 707-567-2938 or porterbini@gmail.com. ■



# Study affirms that varied factors contribute to cognitive decline throughout adulthood



**A STUDY PUBLISHED ONLINE IN JAMA NEUROLOGY** that finds associations between reduced hippocampal volume (HVa) and being male, but not the gene APOE  $\epsilon 4$ , suggests that there are multiple factors contributing to cognitive decline throughout adulthood, according to an accompanying commentary by UC Davis Alzheimer's Disease Center Director Charles DeCarli.

The research, by Clifford R. Jack and colleagues at the Mayo Clinic and Foundation, compared age, sex and apolipoprotein E  $\epsilon 4$  (APOE  $\epsilon 4$ ) genotype effects on memory, brain structure and the amyloid brain plaques associated with Alzheimer disease, using positron emission tomography (PET) in 1,246 cognitively normal individuals between the ages of 30 and 95.

## The study found:

- Overall memory worsened from age 30 through the 90s.
- HVa worsened gradually from age 30 to the mid-60s and more steeply after that with advancing age.

- Median amyloid accumulation seen on PET scans was low until age 70 but increased after that.
- Memory was worse in men than women overall, especially after 40.
- The HVa was lower in men than women overall, especially after 60.
- For both males and females, memory performance and HVa were not different by APOE  $\epsilon 4$  carrier status at any age.

"If one ascribes religiously to the concept that a large proportion of cognitive differences with age are driven by incipient disease, then one might expect that memory performance – a cognitive ability that changes most dramatically with age and is common to Alzheimer's disease – would follow increasing levels of associated cerebral amyloid and be strongly associated with hippocampal atrophy. In their article Jack et al present new information that challenges the notion that amyloid accumulation explains memory performance across the entire age range," De Carli says in his editorial.

"Importantly, this work does not only address the likely highly significant impact of cerebral amyloid accumulation on dementia risk, but also extends current knowledge relating to the impact of the aging process across the spectrum of ages 30 to 95 years to brain structure, amyloid accumulation and memory performance among cognitively normal individuals."

DeCarli notes that "If one tenaciously holds to the notion that the insidious consequences of other diseases may be contributing to these earlier differences,



Charles DeCarli

vascular brain injury is an obvious candidate. Vascular risk factors, such as diabetes mellitus, are associated with subtle cognitive impairment among individuals aged 47 to 57 years and hypertension is associated with significantly greater cerebral atrophy among individuals 40 years on average."

Other contributing factors include genetic influences, which include sex differences and the "major effects" of APOE  $\epsilon 4$  genotype on amyloid retention beyond age 70 years.

"Understanding the basic biology of these early processes is likely to substantially inform us about ways in which we can maintain cognitive health and optimize resistance to late-life dementia. However, such work requires the necessary motivation found by seminal work, such as that of Jack et al, which tell us where and when to investigate these processes. Establishing what is normal creates avenues for new research, increasing the likelihood of discovering novel therapeutics for late-life disease states, which is a laudable goal indeed," De Carli says.

For more information, visit [alzheimer.ucdavis.edu](http://alzheimer.ucdavis.edu).

Editorial "A Call for New Thoughts About What Might Influence Brain Aging," published in *JAMA Neurology* by UC Davis Alzheimer's Disease Center Director Charles DeCarli



## Family Caregivers

**FAMILY CAREGIVERS** are the unsung and all-too-often invisible heroes of support for the rapidly growing legions of Americans with Alzheimer's disease and other dementias. Numbering well over 15 million, they come from every socioeconomic, ethnic and religious group, collectively providing over 19 billion hours of care per year.

They share the common bond of caring for the pervasive physical, emotional, legal and progressively increasing needs of loved ones robbed of their ability to care for themselves by dementia. They bear witness to the gradual transitions that dementia imposes, from beginning to end, diagnosis to end-of-life, stoically supporting their loved ones at the cost of their own health and well-being, which all too often is negatively affected. Their journeys are full of challenges.

Caregivers' neglect of their own welfare is an ubiquitous and one of the most difficult challenges, often resulting from a sense of guilt, accompanied by a constellation of other emotions and concerns. It affects physical, emotional and spiritual health, as well as financial, work-related and other issues, in every sphere of caregivers' lives. While too often ignored, caregiver self-care is neither a luxury nor an abandonment of a loved one, as it ensures an opportunity for rebalancing and homeostasis, both of which are needed to continue on the path.

It is especially important – in fact, critical – for caregivers to recognize and address their own needs to prevent burnout and minimize the effects of “caregiver burden,” now being recognized and addressed by the medical community. Coping strategies are many, but only can help if woven into caregivers' lives.

At minimum, these should include attention to personal health, including adequate sleep, diet and exercise, and some form of respite care. Others might include daily planned “time outs” (even for short periods), connecting with spiritual, social, online and community resources, and activities to avert isolation, depression and personal physical decline.

## Signs of dementia are there, long before diagnosis

### RESEARCH FROM THE UC DAVIS ALZHEIMER'S

**DISEASE CENTER** has shed new light on when functional limitations may begin to emerge among people with dementia and at what rate the disease may progress. A study by Associate Professor of Neurology Sarah Farias, Ph.D., and her colleagues, published in 2014 in the journal *Psychology and Aging*, shows that very subtle difficulties in managing everyday activities often are observed by the affected individual's family well before clear-cut cognitive impairments can be detected on paper-and-pencil memory tests or other tests of thinking. In fact, in older adults still considered cognitively normal for their age on a battery of memory and other tests, those with very subtle changes in their ability to carry out activities of daily life – as reported by someone who knew them well – were at increased risk of later developing mild cognitive impairment (MCI)/dementia in the coming years.

Farias' study also examined the rate at which changes in everyday functional abilities decline over time, finding a slower rate early in the disease process – in the years preceding a diagnosis of MCI and throughout the MCI stage. However, after a diagnosis of dementia has been made, individuals tend to show more rapid decline in their abilities to perform activities of daily living. Overall, the research suggests that even subtle changes in the ability to carry out everyday activities related to managing finances and medications and/or coordinate one's schedules can be very early indications of Alzheimer's disease, and may warrant a visit to the doctor and careful monitoring over the next few years.



## OUR JOURNEY: Bobbie and Coleman Johnson

**WHEN BOBBIE JOHNSON WAS A NEUROLOGICAL NURSE** at Eden Medical Center in Castro Valley, she never could have imagined that she would be one of the people making a difference in Alzheimer's disease – by participating in Alzheimer's research as a patient.

Johnson, of Livermore, is a patient at the UC Davis Alzheimer's Disease Center East Bay Clinic. Her family's journey began when she and her husband, Coleman, began to notice changes in her behavior.

"She was beginning to demonstrate signs of dementia, but at first we didn't recognize what it was," Coleman said. "But we knew it wasn't good."

A patient at Kaiser Permanente in Walnut Creek, Johnson eventually would receive a diagnosis of late-stage mild cognitive impairment. Coleman and Bobbie said that they knew they wanted to use her diagnosis as an opportunity to make a difference.

"So, we asked around at church, and there was another couple that was ahead of us in this experience that had already been to the Alzheimer's Disease Center East Bay Clinic when it was in Martinez for a clinical study. So, we called," Coleman said.

"I decided I wanted to face up to what was going on," Bobbie said. "Having been



Coleman and Bobbie Johnson

a neuroscience nurse myself, I wasn't going to ignore things. And working with UC Davis has been a great experience."

The Johnsons are enrolled in the Alzheimer's Disease Neuroimaging Initiative, a multi-center study started in 2004 to gather and analyze thousands of brain scans and tissue samples of people with Alzheimer's, to enable researchers to see the changes in Alzheimer's as it progresses. It's a five-year commitment.

Researchers are seeking new volunteers to join those already participating in other studies. Among them is the A4 study, which seeks to enroll older individuals ages 65 to 85 with normal thinking and memory function who may be at risk for memory loss due to Alzheimer's disease, but have no outward signs of the disease to participate.

"Participating in research gives us the satisfaction of knowing that we're doing something constructive," Coleman said. "It's a way for us to give back while we're going through this. It's very satisfying to know that we could be helping someone else."

**LAST YEAR'S WALK TO END ALZHEIMER'S** was great! The UC Davis Alzheimer's Disease Center is thankful to all of the participants, including all of the loyal families who join the UC Davis Alzheimer's Team year after year. A special thanks to April Medina, who was instrumental in bringing the Walnut Creek team together. Fifty percent of donations directly benefit the Alzheimer's Disease Center. Last year's total was nearly \$10,000!

Please mark Saturday, Oct. 3, on your calendar for the 2015 Walk to End Alzheimer's in Sacramento, and Saturday, Oct. 17, for the 2015 Walk to End Alzheimer's in Walnut Creek. ■

