Resource Guide Now Online

Did you know you can now access the most comprehensive guide to regional resources for seniors online? In April, the St. Louis Times launched a new website at www.stlouistimes.com. In addition to news and services of relevance to older adults, it also includes a calendar of community events.

To see what is going on in the St. Louis area, just go to www.stlouistimes.com and click the calendar graphic in the top right corner of the page. You can also browse the Seniors’ Resource Guide and access detailed information on businesses and organizations serving older adults.

Inside this Issue

Letter from the Director ........ 2
Caregiving Costs Studied ....... 2
Honors. Awards, Funding ...... 3
Faculty and Staff Updates ..... 4
New Risk Gene Identified .... 4
Staff & Volunteer Honored ... 4
ADRC By The Numbers ........ 5
5 Communication Tips......... 5

Sleep Loss Precedes Alzheimer’s Symptoms

Sleep is disrupted in people who likely have early Alzheimer’s disease but do not yet have the memory loss or other cognitive problems characteristic of full-blown disease, researchers at Washington University School of Medicine in St. Louis reported March 11 in JAMA Neurology.

The finding confirms earlier studies which showed a link in mice between sleep loss and brain plaques, a hallmark of Alzheimer’s disease. Early evidence tentatively suggests the connection may work in both directions: Alzheimer’s plaques disrupt sleep, and lack of sleep promotes Alzheimer’s plaques.

“This link may provide us with an easily detectable sign of Alzheimer’s pathology,” says senior author David M. Holtzman, MD, the Andrew B. and Gretchen P. Jones Professor and head of Washington University’s Department of Neurology. “As we start to treat people who have markers of early Alzheimer’s, changes in sleep in response to treatments may serve as an indicator of whether the new treatments are succeeding.”

Sleep problems are common in people who have symptomatic Alzheimer’s disease, but scientists recently have begun to suspect that they also may be an indicator of early disease. The new paper is among the first to connect early Alzheimer’s disease and sleep disruption in humans.

For the new study, researchers recruited 145 volunteers from the Charles F. and Joanne Knight Alzheimer’s Disease Research Center. All of the volunteers were 45 to 75 years old and cognitively normal when they enrolled.

As a part of other research at the center, scientists already had analyzed samples of the volunteers’ spinal fluids for markers of Alzheimer’s disease. The samples showed that 32 participants had preclinical Alzheimer’s disease, meaning they were likely to have amyloid plaques present in their brains but were not yet cognitively impaired.

Participants kept daily sleep diaries for two weeks, noting the time they went to bed and got up, the number of naps taken on the previous day, and other sleep-related information. The researchers tracked the participants’ activity levels using sensors worn on the wrist that detected the wearer’s movements.

“Most people don’t move when they’re asleep, and we developed a way to use the data we collected as a marker for whether a person was asleep or awake,” says first author Yo-El Ju, MD, assistant professor of neurology. “This lets us assess sleep efficiency, which is a measure of how much time in bed is spent asleep.”

Participants who had preclinical Alzheimer’s disease had poorer sleep efficiency (80.4 percent) than people without markers of Alzheimer’s (83.7 percent). On average, those with preclinical disease were in bed as long as other participants, but

Continued on page 4
NIH-Supported Study Finds Dementia Care Costs as High as $215 Billion

The cost of caring for people with dementia in the United States was between $159-$215 billion in 2010, and could rise dramatically in coming decades, according to estimates by researchers at RAND Corp. and the University of Michigan, Ann Arbor. Researchers found these costs comparable to, if not greater than, those for heart disease ($102 billion) and cancer ($77 billion) that same year.

The study totaled direct medical expenditures and costs attributable to the vast network of informal, unpaid care that supports people with dementia. Researchers first looked at care purchased in the health care market - formal costs for nursing homes, Medicare, and out-of-pocket expenses. They found direct costs of dementia care purchased in the market were estimated to be $109 billion in 2010. Those costs, they said, exceed direct health costs for heart disease ($102 billion) and cancer ($77 billion) that same year.

Adding informal, unpaid care to the equation as much as doubled the estimated total national costs for dementia care. The study estimated full costs per case of dementia in 2010 at $41,000 to $56,000. The lower number accounts for foregone wages among caregivers, while the higher figure valued hours of informal care as the equivalent of formal paid care. The range of national expenditures was tallied based on an estimated prevalence of dementia of 14.7 percent in the U.S. population older than 70.

"These findings reveal that the enormous emotional and physical demands of caring for people with dementia are accompanied by the similarly imposing financial burdens of dementia care," said Richard J. Hodes, M.D., director of the NIH’s National Institute on Aging, which funded the analysis. "The national costs further compel us to do all we can to find effective treatments for Alzheimer’s disease and related dementias as soon as possible."
Honors, Awards & Funding

Congratulations to the recipients of the 2013 Knight ADRC Pilot Research Grants. The goal of the funding is to encourage investigators to initiate research in dementia and aging. Awards are funded for one year at an anticipated maximum of $30,000 direct costs. Recipients of the 2013 awards are:

- Marco Colonna, MD: How do TREM2 mutations promote susceptibility to Alzheimer disease?
- Matthew Harms, MD: Somatic and intergenerational stability of the C9ORF72 expansion in FTD and ALS
- Brendan Lucey, MD: Modulation of CSF Aβ through pharmacological and behavioral manipulation of sleep

Knight ADRC Data Management and Biostatistics Core Leader Chengjie Xiong, PhD has been promoted to Professor of Biostatistics. Erik Musiek, MD, PhD has completed his 2-year fellowship at the Knight ADRC and Holtzman Lab, and has been promoted to Assistant Professor of Neurology on the investigator track. Beau Ances, MD, PhD has been promoted to Associate Professor of Neurology.

Nupur Ghoshal, MD, PhD was selected to be an Interdisciplinary Women’s Health Research Scholar at Washington University School of Medicine, effective January 1, 2013. Dr. Ghoshal was also recognized on the 2012-2013 Neurology Student Teaching Honor Roll as an Attending of the Year. Awardees were specifically commended by glowing student comments attesting to their talents. The Neurology Student Teaching Honor Roll is a rotating award, meant to recognize major contributions to the teaching program.

The following investigators were awarded 2012 Alzheimer’s Association New Investigators Research Grants. The grants are made to advance the understanding of AD, help identify new treatment strategies, provide information to improve care for people with dementia, and further knowledge of brain health and disease prevention.

- Beau Ances, MD, PhD, awarded $95,991 for his study “Resting State Network Signature of Alzheimer’s Disease”
- Abhinav Diwan, MD, awarded $100,000 for his study “Enhancing Lysosome Biogenesis to Prevent Amyloid Plaque Pathogenesis”
- Jungsu Kim, PhD, awarded $100,000 for his study “Regulation of LDLR as Alzheimer’s Disease Therapeutics”
- Liviu Mirica, PhD, awarded $100,000 for his study “Bifunctional Chemical Agents as Theranostic Tools for Abeta Aggregation.”
- Beau Ances, MD, PhD, Liang Wang, MD, and members of the Ances Lab were recognized with the American Neurological Association (ANA) President’s Selection for the publication “Alzheimer Disease Family History Impacts Resting State Functional Connectivity” Ann Neurol 2012;72(4):571-577. ANA President Eva L. Feldman highlighted the work in a recent email to all ANA members. The work was also recognized as one of the “Top Articles in Alzheimer Disease” in the Annals of Neurology in 2012.

Congratulations to David Carr, MD, Nupur Ghoshal, MD, and John C. Morris, MD who are among only 42 Washington University clinicians recognized for clinical excellence, as identified through patient feedback. The clinicians were evaluated as “excellent” in the following five areas: the caring and respect shown; the ability of the physician to communicate clearly; how well the physician explained tests, procedures, and medications; the physician’s effort to include patients in decisions about treatment; and how well patient concerns were addressed.

Alison Goate, DPhil was named a fellow of the American Association for the Advancement of Science (AAAS). The rank of fellow is the highest honor awarded by AAAS, and is given by peers in recognition of scientifically or socially distinguished efforts to advance science or its applications.

Congratulations to the Dominantly Inherited Alzheimer Network for the paper “Clinical and Biomarker Changes in Dominantly Inherited Alzheimer’s Disease” in The New England Journal of Medicine, which was included in Neurology’s review of the best papers in dementia for 2012.

John C. Morris, MD was elected to the 2013-2015 American Academy of Neurology Board of Directors, and was named the 2013 Medical and Scientific Honoree by the National Alzheimer Association. The award was presented at the annual Rita Hayworth Gala in Chicago on May 10, 2013. Dr. Morris was also honored in April with the 2013 Peter Raven Lifetime Achievement Award from the Academy of Sciences in St Louis.

Jason Hassenstab, PhD, participated in New Frontier: Developing Outcome Measures for Pre-dementia Trials hosted by AlzForum for the Alzheimer Research Live Discussions series in February. The program is accessible online at http://www.alzforum.org/res/for/journal/detail.asp?liveID=208
New Risk Gene for Alzheimer’s Identified

Two articles released in late 2012 in The New England Journal of Medicine (NEJM) report on a newly identified risk gene for Alzheimer’s disease. A mutation on a gene known as TREM2 confers about three times additional risk of developing Alzheimer’s. The mutation seems to be quite rare, occurring in less than one-half of 1 percent of the study population. Congratulations are extended to Carlos Cruchaga, PhD and Alison Goate, DPhil for their representation as co-authors, as well as to the Knight ADRC Clinical and Genetics Cores for their contributions in the identification of this important new risk factor for late onset AD.

AD8 Screening Proposed for Annual Visit

In late 2012 the Alzheimer’s Association released guidance to help health care providers detect cognitive impairment as part of the Medicare Annual Wellness Visit. In developing the recommendations, the Alzheimer’s Association convened a group of experts to survey the current literature and build consensus around an effective, practical and easy process to be used in the primary care setting. The Knight ADRC is pleased to note that the brief list of recommended screening tools includes the AD8, developed here at the Center. The recommendations were released in Alzheimer’s & Dementia: The Journal of the Alzheimer’s Association.

In light of her BIRCWH Fellowship (see page 3) and increased focus on research, Nupur Ghoshal, MD, PhD stepped down from her Assistant Director role in the Memory Diagnostic Center.

B. Joy Snider, MD, PhD has been appointed Medical Director of the Memory Diagnostic Center.

Prevention Trial Initiated

The era of secondary prevention trials for AD has begun. On behalf of the DIAN Trials Unit and Dr. B. Joy Snider’s trial site at Washington University, we are delighted to report that the first Dominantly Inherited Alzheimer Network subject has completed his/her baseline visit, been successfully randomized, and officially dosed. Thanks to everyone who has supported the efforts of the DIAN TU, and especially all of the DIAN and DIAN TU members and site staff – we are off to a great start.

Excellence in Nursing Awards Honors Two Knight ADRC Stars

Cassandra Ward, MSN, CWS, ANP-C and Benita Austin, MSN,ANP-BC were two of over 200 nominees for St. Louis Magazine’s 2013 Excellence in Nursing Awards, which recognize the region’s outstanding nursing professionals.

Ward is a Nurse Practitioner in the Washington University Memory Diagnostic Center, and was the winner in the Neurology/ Psychology/Behavioral Health category. Ward works alongside doctors in dementia and neurodegenerative disease and advises her patients: if you don’t use it, you lose it. People with dementia who are socially engaged stay stable the longest.

Austin, who serves on the Knight ADRC African American Advisory Board, was the recipient in the Hospice/Home Health/ Palliative Care category. Austin has served as a nurse practitioner for over 30 years and provides palliative-care service at Barnes-Jewish Hospital. She spends hours talking to patients and their families, providing much-needed support as they deal with life-limiting illnesses.

Profiles of Ward and Austin were published in the May 2013 issue of St. Louis Magazine.

Faculty and Staff Updates

Denise (Dee Dee) Ritter joined the MAP-ADRC staff as an accounting/purchasing clerk. She holds a BS from University of Massachusetts and most recently worked at Schnuck’s Market Inc. Corporate Headquarters. Dee Dee replaced Nan Moore in the position when Nan retired from Washington University.

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Knight ADRC By The Numbers

You know that there is always a lot happening at the Knight ADRC. But just how much? Read below to test your knowledge and look at some of the facts and figures about the center and our volunteers.

The Knight ADRC is funded by 4 multicomponent grants of which John C. Morris, MD is the Principal Investigator: Healthy Aging and Senile Dementia (HASD), funded since 1984; Alzheimer’s Disease Research Center (ADRC), funded since 1985; Antecedent Biomarkers for AD: The Adult Children Study (ACS), funded since 2005, and Dominantly Inherited Alzheimer Network (DIAN), funded since 2008.

The 4 grants combined represent a total of $51.8 million in research funding, all from the National Institute on Aging in Bethesda, Maryland.

HASD and ADRC recruit individuals ages 65 years and older, both cognitively normal persons and those with very mild memory loss. ACS recruits cognitively normal individuals aged 45-74 who either had a parent with AD or neither parent had AD and lived until at least 70 years of age. DIAN is an international study, of which Washington University is both the coordinating center and a trial site, recruiting individuals at certain genetic risk for autosomal dominant AD.

HASD and ADRC have a combined 515 participants, ACS has 268 participants, and DIAN has 61 at Washington University and 301 total at 13 sites in the US, Australia, and Europe.

Knight ADRC volunteers span the range from 19 - 106 years old.

The Memory and Aging Project of the Knight ADRC conducts over 800 clinical assessments each year.

14 departments at Washington University (both the medical school and Danforth campus) are represented in our interdisciplinary Cores and Projects.

16% of participants are African American.

Over 2/3rds of Knight ADRC research volunteers have normal cognition.

There are 27 federally-funded Alzheimer’s Disease Centers across the United States.

Faculty and collaborators of the Knight ADRC have published 204 scholarly articles since 2010.

Honors, Awards & Funding

Suzanne Schindler, MD, PhD was selected to participate in the highly competitive National Institute on Aging Summer Institute on Aging Research, to be held in Maryland. The institute provides the opportunity to learn more about research on aging, and only 32 participants are selected each year from a nationwide pool of applicants.

Becky Fierberg, MSW, LCSW received the 2013 Friedman Award from the Friedman Center for Aging at Washington University. The award recognizes outstanding contributions to the care of older adults. Fierberg is a social worker at the Memory and Aging Project and coordinates the Adult Children’s Study and other research opportunities for study participants.

Tammie Benzinger, MD, PhD was honored with the Friedman Center for Aging’s 2013 Kopolow Award, which recognizes stellar contributions to research in aging. Dr. Benzinger is a radiologist and leader of the Knight ADRC Imaging Core.

Christopher Carpenter, MD was selected to participate in the 2013 Training Institute for Dissemination and Implementation Research in Health supported by the National Institutes for Health and the Veteran’s Administration.
HORIZONS is the newsletter of the Charles F. and Joanne Knight Alzheimer’s Disease Research Center (KADRC) — a research program in the Department of Neurology, Washington University School of Medicine, funded by grants from the National Institute on Aging and private donations. The ADRC supports and promotes interdisciplinary research on Alzheimer’s Disease. The Memory & Aging Project (MAP) — the clinical research office of the KADRC — provides expert clinical assessments of cognitive functioning in normal aging and dementia.

John C. Morris, MD, Director, KADRC; Director, MAP; Administration Core and Clinical Core Leader; Rural Satellite Interim Leader

Alison Goate, DPhil, Associate Director, KADRC; Genetics Core Leader

Eugene M. Johnson, PhD, Associate Director, KADRC
David M. Holtzman, MD, Associate Director, KADRC
Virginia Buckles, PhD, Executive Director, KADRC
Krista Moulder, PhD, Associate Executive Director, KADRC
Jason Hassenstab, PhD, Psychometric Leader
Nigel J. Cairns, PhD, FRCPath, Neuropathology Core Leader
Tammie Benzinger, MD, PhD, Imaging Core Leader
Chengjie Xiong, PhD, Data Management and Biostatistics Core Leader
Anne Fagan, PhD, Biomarker Core Leader
Andrea Denny, JD, MSSW, Education Core Leader