THE SCIENCE OF AGING

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an Institute on Aging publication

" HOW TO DIE YOUNG **AT A VERY OLD AGE** "

Brad Johnson, MD, PhD, IOA Associate Director (far left) and Robert J. Pignolo, MD, PhD, (far right) with Dr. Barzilai and the family of Vincent J. Cristofalo.

The 2019 Vincent J. Cristofalo Annual Lectureship

On January 9, 2019, the Institute on Aging hosted its annual Vincent J. Cristofalo Lectureship, featuring this year's keynote speaker, Nir Barzilai, MD, Director, Institute for Aging Research Albert Einstein College of Medicine.

Dr. Barzilai began his career focusing on diabetes and metabolism before branching into the biology of aging and building his research team at Einstein.

What does it mean to "die young" at a very old age?

Essentially, Dr. Barzilai is referring to maintaining good health well into the later years of one's life. "It's not about longevity for me. It's about healthspan," explains Dr. Barzilai. "I think aging gets a bad name because people get sick at the end of their lives -- and sometimes for a long period of time at the end of their lives. So it is important to know that there is the capacity to delay aging, and by that, delay the diseases of aging."

So, how can we delay aging?

The simple answer is diet, exercise, and healthy lifestyle choices such as not smoking, but the answer isn't that easy for everyone. Some instances require drugs that specifically target the biology of aging.

During Dr, Barzilai's lecture, he discussed several lipid genotypes that have properties associated with aging and prevent several aging-related diseases such as Alzheimer's, as well as the role of the growth hormone igf-axis, and metformin and its ability to prevent several aging-related disease.

For more, including a video interview with Dr. Barzilai, visit: www.penninstituteonaging.wordpress.com

"We have the capacity to live 115 years, but we die now at the age of 80, accumulate lots of diseases... We can do much better than that. And we have proof that it can work."

'TIME OUT'

Two Philadelphia universities are partnering to offer affordable, in-home respite care to area families caring for older adults.

The Penn Memory Center (PMC) and the Temple University Intergenerational Center jointly revitalized Time Out, a support and mentorship program first launched in 1986.

Time Out will facilitate meaningful, in-home engagement through intergenerational companionship by connecting elderly individuals with PMC-trained college students. This includes conversation, reading, or mobility assistance, and may also include meal preparation, laundry, and light grocery shopping. It does not include personal care — such as bathing, dressing, feeding, or toileting — nor administering medications or therapies.

While private respite care may cost more than $20 an hour, Time Out care providers will be available for $8.50 an hour and up to 10 hours per week.

PMC Executive Director Felicia Greenfield, MSW, LCSW, brings to Time Out a history of training students for care work. At PMC, she prepares students in the University of Pennsylvania's Master of Social Work program for a career working in social services for older adults and their caregivers. Through Time Out, she will train Philadelphia-area undergraduates for part-time work in respite care.
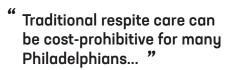
"We are thrilled to be a part of this solution to an unmet need," Greenfield said. "Intergenerational programming is

> " Traditional respite care can be cost-prohibitive for many Philadelphians... "

a powerful way to bring people together. Traditional respite care can be cost-prohibitive for many Philadelphians, and we are pleased to deliver high-quality, affordable care to families while providing meaningful work and training to the future generation of geriatric practitioners."

Dr. Patience Lehrman, Intergenerational Center executive director, said the program's goal hasn't changed in the last three decades.

"By engaging college students and matching them with older adults to provide caring companionship, and meaningful engagement, we seek to mitigate isolation and preserve this vulnerable population's dignity, independence, and overall quality of life."

For the latest information on 'Time Out,' including information on the program's recruitment, visit:

www.pennmemorycenter.org

CONGRATULATIONS

Penn Medicine's Virginia M.-Y. Lee, PhD, Director of the Center for Neurodegenerative Disease Research (CNDR) was awarded the 2018 Robert A. Pritzker Prize for Leadership in Parkinson's Research, awarded by the Michael J. Fox Foundation (MJFF).

Dr. Lee is the first female researcher to receive the prize.

Read more: www.penninstituteonaging.wordpress.com

Congratulations to the Penn FTD Center's Lauren Massimo, PhD, CRNP, on receiving the The Association for Frontotemporal Degeneration's first Pilot Grant for Nonpharmacological Research for her upcoming project which aims at developing an app to help persons diagnosed with FTD overcome apathy, "a common and highly debilitating symptom" in the disease.

Read more: www.theaftd.org

E-PROGNOSIS
Prognostic Models Clinician's Can Use

Improving the health and quality of life for older adults with chronic conditions and disabilities is a widely popular concern in geriatric medicine. But in order to do so, clinicians must be able to determine how to best treat each individual patient, a decision that is dependent on a variety of factors.

New advances in research and care, such as precision medicine, allow providers the opportunity to pinpoint specific treatments for individuals based on the genetics of their disease. However, clinicians -- especially those of older patients with chronic conditions -- are often still faced with making the call on whether or not a treatment's reward outweighs the risk. With this in mind, recent IOA Visiting Scholar Alexander Smith, MD, MS, MPH, Associate Professor of Medicine in the Division of Geriatrics at the University of California, San Francisco, and his colleagues developed E-Prognosis.

What is E-Prognosis?

E-Prognosis is a set of web-based tools and calculators "intended as a rough guide to inform clinicians about possible mortality outcomes," as it is explained on the model's website.

Within the calculators, clinicians are prompted to answer a series of questions about their patient's medical history which is then evaluated using specially designed algorithms to predict the most likely prognostic outcome for that individual patient.

The ability to access predictive tools such as E-Prognosis is tremendously beneficial not only for clinicians, but also for their patients. When patients have access to information regarding their predicted prognosis, should they wish to be told, it allows them the opportunity to make informed life decisions and better prepare for what's ahead.

"Our goal is to be a repository of published geriatric prognostic indices where clinicians can go to obtain evidence-based information on patients' prognosis."

While E-Prognosis is primarily intended for use by clinicians, it is accessible to the public. To learn more, visit: eprognosis.ucsf.edu

Read the full recap, including a video interview with Dr. Smith at:

www.penninstituteonaging.wordpress.com

TAU, MORE THAN Aß, AFFECTS SLEEP EARLY IN ALZHEIMER'S

While increasing research has linked beta-amyloid to disrupted sleep, tau may actually play a larger role in the sleep quality of those who are cognitively normal or very mildly impaired according to a recent publication in *Science Translational Medicine*.

A team led by Brendan Lucey, MD and David Holtzman, MD at Washington University School of Medicine, St. Louis, used PET imaging to discover deficient slow-wave activity (SWA) in deep sleep stages particularly for those with tau tangles. Individuals with tau pathology also slept longer at night but still took more naps during the day, indicating low sleep quality.

The significance of these findings is that perhaps these subtle sleep disruptions may be early biomarkers for tau deposition and help monitor patients at risk for Alzheimer's explained a recent article on Alzforum which also featured input from University of Pennsylvania's Sigrid Veasey.

"The authors are off to the races with a really great technique that would be a cost-effective way to look at what's happening over time," said Veasey. However, she also said it will be important to tease out whether slight changes in brain volume that occur with tau deposition are causing the SWA measurement to simply appear low, as opposed to really declining.

For the full AlzForum article, visit:

www.alzforum.org

For the full publication 'Reduced non–rapid eye movement sleep is associated with tau pathology in early Alzheimer's disease,' visit:

http://stm.sciencemag.org

COMING SOON!
Fiscal Year 2019/2020 Institute on Aging & Alzheimer's Disease Core Center Pilot Award Selections

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Institute on Aging
UNIVERSITY of PENNSYLVANIA

Institute on Aging
3615 Chestnut Street
Philadelphia, PA 19104-2676

IOA **TEAM**

John Q. Trojanowski, MD, PhD | Director

F. Bradley Johnson, MD, PhD | Associate Director

M. Kathryn Jedrziewski, PhD | Deputy Director

Nicolette (Patete) Calcavecchia | Digital Media Specialist

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Meet our IOA EAB Members at:
www.med.upenn.edu/aging/ExternalAdvBoard.html

The mission of the Institute on Aging (IOA) at the University of Pennsylvania is to improve the health of older adults by increasing the quality and quantity of clinical and basic research as well as educational programs focusing on normal aging and aging-related diseases across the entire Penn campus.

www.med.upenn.edu/aging | 215-898-7801 | aging@pennmedicine.upenn.edu

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UPCOMING **IOA EVENTS**

Wednesday, February 20, 2019
IOA Visiting Scholars Series
"Protein Seeds as Pathogens: Prion diseases and prion-like features of Alzheimer's, Parkinson's and related diseases"
Dr. Byron Caughey, PhD, Senior Investigator,
National Institute of Allergy and Infectious Diseases, NIH
3:00 – 4:00pm | Smilow Center for Translational Research

Wednesday, May 1, 2019
IOA Sylvan M. Cohen Annual Retreat and Poster Session
"Energetics and Aging: Mitochondria Do It"
Keynote Speaker: Richard A. Youle, PhD
Penn Presenters TBD
11:30am - 5:00pm | Smilow Center for Translational Research

For more information, visit: www.med.upenn.edu/aging