STANFORD CENTER ON LONGEVITY

MOBILITY DIVISION

The mission of the Mobility Division is to focus on challenges to physical movement across the lifespan. The goals of the Division are first, to address fundamental issues by supporting research in areas ranging from biology to the design of the built environment and second, to help translate the fruits of that research into products and policies that sustain or enhance mobility or develop accommodations for those individuals with limited mobility.

CURRENT PROJECTS

THE SCIENCE OF SEDENTARY BEHAVIOR

The Center is excited to move forward with practical research on sedentary behavior, based on the outcome of our July 2010 launch conference on the topic. In 2013, we will be involved in a pilot study examining the potential for reducing sitting in the workplace.

The time since the Center's conference has been an active one for the field of sedentary behavior. There have been a number of significant studies published in the field, including several from our partners at the conference. These studies have reflected a consistent theme that emerged at the meeting. Less sitting clearly is better, but how much is too much? How much movement is necessary to break a sedentary episode? Is simply standing up enough? Is it necessary to have light movement? These questions have been difficult to pin down scientifically.

Here at the Center, we are trying to answer these questions, along with a team of key faculty led by Faculty Affiliate Dr. Cathy Heaney. As with most population-wide health-related issues, the path to scientifically sound data is not short. The health effects of long-term sedentary behavior are by nature only revealed over an extended period of time. What is needed is a large-scale longitudinal study to follow subjects over several years while periodically measuring physical parameters and objectively recording (and changing) sedentary behavior. This type of research usually is funded by a federal agency such as the National Institutes of Health. But such organizations do not commit significant money to this type of study without proof that the hypothesis is sound, the research team has sufficient expertise, and the process for the study is proven. To create this proof, the Stanford team is initiating a pilot study on sitting in the workplace. The goals are to show that sitting can effectively be measured in a real workplace, that we can reduce the amount of sitting by intervening with employees, and that doing so does not negatively impact productivity. After all, no company

will want to host a long-term study if they expect that it will be bad for business. It also is possible that productivity will IMPROVE by getting people moving more during their workdays. To perform the pilot in an actual workplace, we were fortunate to find a teammate in Blue Shield of California, which will partner with us by allowing the study to be performed in call centers where Blue Shield employees spend their days sitting while fielding insurance-related phone calls. The initial pilot study will occur early in 2013.

Next Steps: *Over the remaining years of this grant, the network will convene a series of conferences, workshops, and will award additional pilot grants.*

PAUL F. GLENN LABORATORIES FOR THE BIOLOGY OF AGING

The Glenn Laboratories for the Biology of Aging, directed Center on Longevity Deputy Director Thomas Rando, MD, completed its first full year of operation. The Glenn Labs represent the core of biomedical aging research at Stanford and integrates scientists from the Schools of Medicine, H&S, and Engineering to address the very nature of the aging process and to understand the increased risk of so many diseases, including heart disease, neurodegenerative diseases such as Alzheimer's disease, and cancer, in the elderly. In addition to supporting research in the core labs directed by Dr. Rando and Center on Longevity faculty affiliates Drs. Steve Artandi and Anne Brunet, the Glenn Labs program also sponsors the monthly Frontiers in Aging seminar series, bringing researchers from around the world to Stanford, and a seed grant program to expand the breadth and depth of aging research at the University.

EVENTS & FORUMS

January - June, 2012 - Paul F. Glenn Labs Inaugural Symposium: "Frontiers in Aging"
May 2012 - Distinguished Lecture Series: "Darwin, Diet, Disease, and Dollars" – Dr. Robert Lustig

LECTURES & TALKS

A Sampling of Dr. Thomas Rando's Talks and Awards:

''Regenerative Rehabilitation''
The Rehabilitation Institute and the McGowan Institute for Regenerative Medicine, University of Pittsburgh, Pittsburgh, PA

''The Biology of Human Aging''
Aging Colloquium, Brown University, Providence, RI

''Stem Cells and Ageing''
XIX Wilsede Meeting, German Cancer Foundation, Hamburg, Germany

Miles Alpern Levin Memorial Lecture
Knight Cancer Institute and the Pediatric Cancer Biology Program, Oregon Health & Science University, Portland, OR

''Development, Function and Repair of the Muscle Cell''
Society for Developmental Biology, New York, NY

''Ageing and Basic Bioscience''
Babraham Institute, Cambridge, UK

Keystone Symposium - ''Aging and Diseases of Aging''
Tokyo, Japan

A Sampling of Ken Smith's Talks and Awards:

''Aging Demographics Overview''
Alzheimer's Prediction and the Law conference, Stanford, CA

''You're Looking at Me Like I Live Here and I Don't''
Panel Moderator, Stanford, CA

LOOKING FORWARD

Future topics in the Mobility Division include:

Sarcopenia (Translated literally from Greek as "poverty of the flesh" - refers to age-related loss of muscle mass) – The Center is planning a faculty workshop in this area in January 2013, to define research next steps.