Esther Granville, MS, RD, a Research Dietitian Clinician working in the Center for Aging, was one of seven nominees for the Community Caregiver Award recently recognized in Duke Hospital's MLK 2012 commemorations.

Esther was nominated by Jurgen Wanke and her supervisor (Dr. Connie Bales) and recognized for her efforts raising money for cancer research through Pelotonia, a 100-mile bike ride for which she raised more than $2,500 in 2011. The Community Caregiver Award program commemorates the life and legacy of Dr. King, who emphasized active engagement in the community, saying that “Life’s most urgent and persistent question is ‘What are you doing for others?’”

Bio-genetic mechanisms connecting aging-related phenotypes

Alexander M. Kulminski, PhD

The estimates of heritability of various geriatric diseases show that they can have genetic origin. Because different heritable phenotypes can be causally related, it is often assumed that bio-genetic mechanisms underlying these connections should be heritable as well. Gene action on the late-life phenotypes, however, is very complex and this raises the important question as to whether the same genes in bio-genetic mechanisms work in different human generations.

We used data from long-living families to address this question. Our results reveal three characteristic groups of relationships among different phenotypes including, e.g., hypertension, diabetes, body mass index, blood glucose, blood pressure, in the parental and offspring generations.

One group confirms that indeed associations among some phenotypes can be explained by the same bio-genetic mechanisms in parents and their children. Two other groups show that this is not necessarily the case. The results of this study suggest that phenotypes-causing genes, even if these phenotypes are causally related, can be different in successive generations. Accordingly, current simplistic approaches in genetic association studies need to be adjusted to reflect the real complexity of gene action on diseases in late life.
Exercise and Dietary Weight Loss in the Primary Prevention of Diabetes

By Esther Granville, MS, RD, LDN

Esther is a research Dietitian Clinician in the Laboratory of Dr. Connie Bales, PhD, RD, at Duke’s Center For Aging.

If you go for your annual physical exam and find out that your blood sugar level is a little high, chances are that your doctor will tell you to lose weight (if you are among the 65% of overweight Americans) and get into a regular exercise routine. This is because having a blood sugar that is higher than optimal places you at a high risk for developing adult onset diabetes, a disease in which the cells in your body are no longer able to utilize insulin properly.

The lifestyle approach is backed by solid research. In fact, losing just 5-10% of your body weight through diet and exercise is associated with a 58% decrease in the incidence of diabetes over a 3 year period, compared to much lower risk reduction rates through medication management.

But just what is it about this multi-component lifestyle approach that makes lifestyle change the best medicine? Does weight loss alone (regardless of increased physical activity) improve insulin’s ability to work, or do the changes that occur in our muscles when we exercise (with or without weight loss) allow insulin to work more efficiently? The best answer is that a combination of diet and exercise is the best medicine, but the results of the ongoing STRRIDE-PD (Studies Of A Targeted Risk Reduction Through Defined Exercise in Pre-Diabetes) trial (Dr. William Kraus, Preventative Cardiology, PI) will elucidate better answers to these questions.

The STRRIDE-PD study randomizes middle and older age, overweight, sedentary adults into one of four exercise groups. Participants are given a very specific exercise prescription—to complete regularly for 6 months. Exercisers work at varying intensities and durations each week, based on their study group. In addition, one of the exercise groups includes a weight loss focused lifestyle intervention. Participants complete a battery of tests at the beginning and end of the trial that will help us to better separate the responses of exercising alone from the benefits of combining exercise with intentional weight loss.

Our investigative team (Aging Center Nutrition Lab, Dr. Connie Bales, Director) have already reported preliminary findings on the weight reduction treatment in a subset of older adult participants. These findings demonstrate that a well-supervised diet and exercise intervention can produce beneficial changes in body weight and composition while improving overall diet quality in older adults who are overweight and at risk for developing Type 2 Diabetes.

Improvements in diet quality included significant decreases in total and saturated fat, and increases in dietary fiber and fruit servings. And, during significant weight loss, older adults in this program preserved lean muscle mass while losing body fat. Ongoing work in our laboratory in both STRRIDE-PD and other studies will continue to build upon these promising findings to determine optimal recommendations for weight reduction and prevention of diabetes mellitus in older adults.
NC REACH: Personalized Help for Alzheimer’s Family Caregivers

By Lisa P. Gwyther, MSW, Duke Family Support Program

If you care for a person with Alzheimer’s or a related disease, you probably already know. Taking care of someone with a memory disorder can be rewarding, but it also can be overwhelming, exhausting and stressful. If you are the family caregiver, you may be at risk for poor health. NC REACH (North Carolina Resources for Enhancing Alzheimer’s Caregiver Health) is a personalized program for family caregivers of persons living with dementia at home.

NC REACH is a community translation of an evidence-based program, REACH II, tested over six months with 1800 family caregivers in diverse sites representative of racial and ethnic minorities. The family caregivers who received the REACH II program were compared to similar caregivers who did not participate in the program. The original REACH II program resulted in significantly greater improvements in caregiver quality of life measures (Belle et al, 2006).

NC REACH has been funded by grants to the NC Division of Aging and Adult Services from the Administration on Aging Alzheimer’s Disease Supportive Services Program since 2008. NC REACH currently serves 48 family caregivers in four regions of NC, primarily older spouses caring for an even older husband or wife. Early analysis of data from families who completed the program indicates significant improvement in stress and a moderate trend toward improvement in depression over six months. It appears that the closer a family is to considering residential care when they start NC REACH, the greater their satisfaction with the program.

NC REACH is adapted in the privacy of the family’s home to the specific health risks and preferences of the family caregiver. An experienced “family consultant” helps the family caregiver learn and practice skills to make care more effective. The family consultant also offers tools and strategies to help protect the family caregiver’s health and well-being. The program is provided in home visits over six months.

To learn more about the availability of this free program in eastern NC, contact Mark Hensley at the NC Division of Aging at 919-855-3417 or mark.hensley@dhhs.nc.gov. Residents of western NC may contact Len Erker of NC Project C.A.R.E. at 828-687-5609 or len.erker@ahss.org.


Why do men get bald?

I’m not getting bald—I just have a long face.

—Anonymous

This kind of denial reflects the fear of appearing to be “old.” Actually, balding (alopecia) may be caused by illness, stress, x-rays, chemotherapy, and genetics, but the most common cause of normal balding in men is a hormone called, dihydrotestosterone (DHA). This form of testosterone is caused by an enzyme created mainly in the prostate (5-alpha reductase). That is why eunuchs castrated before puberty don’t become bald: they do not have much testosterone.

As normal men get older, their DHA tends to increase (relative to their estrogen), and this causes the balding. Thus, balding in men is a sign of their more abundant testosterone. The male pattern of balding starts at the front hairline and spreads backward. Balding can happen to women also, although female pattern balding tends to be diffuse over the top of the scalp while retaining the frontal hairline.

*Adapted from E. Palmore, AGING CAN BE BOLDER: 101 Answers To Your Questions About Aging, (Amazon: Create Space, 2011).
We regret to announce the death of Dr. Albert Heyman, a long time neurology faculty member at Duke, and national leader in the area of Alzheimer’s disease.

Albert Heyman was born in Baltimore, Md and earned his bachelor’s (1936) and medical degree (1940) from the University of Maryland. After completing a neurology fellowship at Massachusetts General Hospital, he joined the medical faculty at Duke as an associate professor of neurology, and chief of the neurology section of the Durham VA Hospital (1954-1961). A devoted physician who spent many hours caring for his patients, he was also a ground-breaking researcher. Noting that strokes seemed to occur more frequently among young women taking the newly formulated estrogens for birth control, he organized a case-control study of the hazards of stroke related to estrogenic medications. The results of this study received worldwide attention and helped change the formulation of these contraceptives, making them safer.

As professor of neurology from 1961-1986, he served as chief of Duke’s Division of Neurology (1964-1969), and director of the Duke/VA Stroke Center (1965-1980). In 1979 he helped establish North Carolina’s first Alzheimer’s support group at Duke—a group that led to the creation of the state’s first national Alzheimer’s Association chapters. As professor emeritus, he developed the Consortium to Establish a Registry for Alzheimer’s Disease, which standardized assessment of that disease and facilitated aggregation of information.

He served on the committees of many federal and non-federal agencies, was on the editorial boards of major journals in his area, and published prolifically. He was the recipient of many grants, honors, and awards. Duke recognized him with its distinguished teacher award in 1991, and the William G. Anlyan Lifetime Achievement Award in 2004.

Complexity Science and Aging Research

Heather Whitson, MD, was a coauthor and chair of a symposium on “Complexity Science and Aging Research: Early Findings and a Promising Future” at the recent GSA Meetings in Boston. She said that complex systems typically involve multiple components and their interconnected networks, which are governed by nonlinear and dynamic relationships, feedback loops, and feedforward mechanisms. Complex systems are abundant in human biology, and in recent years several investigators have applied complexity science, in various ways, to understanding the aging process. This symposium presented an overview of complexity science and explored how it relates to developing ideas and promising avenues for future study in aging research. Whitson briefly described how the application of complexity science principles has furthered our understanding of the frailty syndrome through the work of investigators at Duke, Johns Hopkins, and Harvard.

Steffens Elected President of AAGP

Congratulations to David Steffens, MD, who has been elected President-Elect of the American Association for Geriatric Psychiatry (AAGP). Steffens has been Chair of the Division of Geriatric Psychiatry, but in July will be moving to the University of Connecticut to become chair of their Department of Psychiatry.
Correlated trajectories and the reciprocal effects of depressive symptomology and self-rated health were modeled simultaneously using latent growth curve models.

The sample comprised 3976 White and African American participants aged 65 years and older (mean 73 years) from the Duke Established Populations for Epidemiologic Studies for the Elderly (EPESE).

Participants were evaluated by trained interviewers with a structured questionnaire at baseline, three, six, and ten years later. On each occasion, depressive symptoms were measured using the modified Center for Epidemiologic Studies-Depression (CESD) scale (range 0-20) and self-rated health (SRH) was obtained (excellent = 1, poor = 4). A latent linear growth curve fit both CESD depressive symptomology and self-rated health measured at the four time points. Poor self-rated health status at baseline was associated with increase in depression symptomology over the next 10 years. Limitations in Activities of Daily Living (ADL) not only reduce self-rated health, but increase the rate of decline in SRH. Poor cognition also reduces SRH consistently over time.


**Personality and Health in African American Elders**

By Adrienne Aiken-Morgan, PhD and Keith Whitfield, MD

Prior research has suggested the importance of health, specifically cardiovascular health, on late life cognition in African Americans. Studies have also demonstrated the relationships between cognition and various aspects of personality; however, fewer studies have explored how both personality and health are associated with cognition in late life.

The purpose of our study was to examine the effects of personality and health on cognition among a sample of 289 community-dwelling African American elders. Our results indicated that participants with a more open personality performed better on memory, spatial ability, and reasoning tasks.

More agreeable individuals performed better on memory and attention measures, while those with more neurotic and conscientious personality styles performed more poorly for memory and reasoning measures.

When we accounted for self-rated cardiovascular health, it was uniquely related to performance for memory and reasoning. These findings demonstrate personality and health variables when understanding individual differences in late life cognition. Future research should consider how personality might be used as a factor to account for between-group differences in cognitive aging.
Advantages of Aging*

Many people are afraid of aging because it is often equated with bad things like weakness, frailty, senility, and sickness. This fear can be reduced by remembering the many advantages of aging, such as the following:

- You don’t have to work anymore if you don’t want to.
- You can work part time if you want to.
- You can do more volunteer work if you want to.
- You don’t have to dress up everyday to go to the office or business.
- You can start a new career without worrying about whether you can live on the income.
- You can start that hobby you never got started before retirement.
- You don’t need an alarm clock (usually).
- You can stay up as late as you want and sleep as late as you want.
- You can have as many naps as you want.
- You can travel whenever you want.
- You have more time for family and friends.
- You usually have grandchildren to enjoy.
- You become the patriarch or matriarch of your family.
- You don’t have to take care of the kids, unless you want to.
- You’re free from most family responsibilities.
- You don’t have to worry about becoming pregnant.
- Your income from Social Security is inflation proof.
- You have a guaranteed annual income from the government (SSI).
- You have national health insurance (Medicare).
- You can get a lot of senior discounts.
- You can order senior portions in restaurants to save money and stay thin.
- You can get priority seating on buses, subway cars, etc.
- You can be the first to leave a party and nobody questions it.
- You will become less likely to be a victim of crime.
- You will be less likely to have an accident in your home.
- You can prove it’s never too late to learn.
- Your gray hairs usually get respect.
- You can brag about your age.
- You become a survivor.

*Adapted from Palmore, *Older Can Be Bolder* (Amazon: Create Space, 2011).
Center Fellow Keith Whitfield, PhD, has been appointed as the vice provost for academic affairs. Whitfield is a psychologist and expert on aging among African Americans. He also is a professor in the Department of Psychology and Neuroscience, a research professor in the Department of Geriatric Medicine, and co-director of Duke’s Center on Biobehavioral and Social Aspects of Health Disparities. His current research project is a longitudinal study of cognition among older African Americans in Baltimore.

Prevention of Alzheimer’s: Where Do You Stand?

1. Are you over 55 yrs. old?
2. Have you stood by a friend or family member living with Alzheimer’s or a related disorder?
3. Are you concerned about whether Alzheimer’s is in your future?
4. Would you want to be notified of opportunities to participate in Alzheimer’s prevention studies?
5. Are you currently free from a diagnosis of Alzheimer’s disease?

IF YOU ANSWERED "YES" TO THESE FIVE QUESTIONS TAKE ACTION NOW!

JOIN THE ALZHEIMER’S DISEASE PREVENTION REGISTRY
Call Michelle McCart, Registry Coordinator
Toll-free 1-866-444-2372 or 919-668-1605 Local
Or enroll securely online at https://adrc.mc.duke.edu/

Joseph and Kathleen Bryan Alzheimer’s Disease Research Center
Duke University Medical Center

We are working with individuals and local communities toward healthy brain aging. With your participation, we can make this dream a reality.
Feeling Overwhelmed or Depressed?
Research study involving free counseling

Adults ages 18 to 85 may be eligible to participate in a research study evaluating **spiritually integrated vs. conventional counseling**. All counseling sessions are free and done remotely via telephone or over the Internet. Participants receive compensation for time and travel for completing follow-up evaluations.

**You may be eligible for this study if you have the following:**
1) Significant depressive symptoms
2) Any physical health problems
3) Religion/spirituality is somewhat important in your life
4) Either a telephone or access to the Internet

**You are not eligible if you have the following:**
1) Significant problems with your memory
2) Currently receive psychotherapy
3) Chronic mental disorder, alcohol or drug abuse, or immune system problem

For more information, contact Betsy at 919-323-1349, 919-660-7505, or e-mail **betsy.barton@dm.duke.edu**

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Coming Events

May 3–5

June 21–22
The 2012 Intensive Course on Ageing at the Institut de l’Envellement of the Universitat Autonoma de Barcelona, Spain, under the auspices of the IAGG (International Association of Gerontology and Geriatrics). For organisation details: CELSIUS Company: François SOULA (f.soula@celsius-net.com).

July 12–13
International Academy on Nutrition and Aging meeting on physical and cognitive disabilities; Albuquerque, NM. Contact, kbreckenridge@salud.unm.edu.

July 14–19
Alzheimer’s Association International Conference 2012, Vancouver, BC, Canada. Visit Alz.org/AAIC.

October 9–12
19th International Congress on Palliative Care, at the Palais des Congrès in Montréal, Canada. Presented by Palliative Care McGill, McGill University. For information visit www.pal2012.com.

November 14–18