



Research to promote a longer, healthier life for you, your children and your grandchildren.

Florence S. Mahoney Seminar Series

Formerly known as Progress in Longevity Medicine Seminar Series (PLMSS)

Exercise, Obesity, Insulin Resistance and Aging

William Evans, PhD

*Donald W. Reynolds Institute on Aging
University of Arkansas for Medical Sciences*

Date/Time: Friday, March 13, 2009; 5:30 pm (dinner included)

New Location: Doubletree Guest Suites, 320 North 44th St., Phoenix, AZ 85008

Cost: No cost to attend (Seating is Limited)

Abstract: Sarcopenia is defined as the age-associated decline in skeletal muscle mass. It is associated with weakness and poor functional capacity in older people. The etiology of sarcopenia is multifactorial and potential causes of loss of muscle include decreased physical activity, decreases in anabolic hormone level, decreased protein intake, poor nutritional status, and inflammation that may be secondary to increases in body fatness. Increased body fatness in older people has strong influence on functional capacity and may be a more powerful predictor of late-life disability than sarcopenia. If obesity results in reduced functional capacity in older people, voluntary weight loss by energy restriction is associated with increased mortality. This increased in risk may be caused by losses in skeletal muscle and bone mineral contents when weight loss is accomplished without exercise. Decreased energy intake to lose weight may result in an inadequate dietary protein intake and an accelerated loss of muscle. Our laboratory has explored the effects of 10 days of complete bed rest in healthy older people. We have reported that even though these subjects consumed the recommended dietary allowance for protein during the 10 days of bed rest they experienced a decrease in nitrogen balance that was accompanied by a large loss of muscle mass and function. This loss of muscle mass and function resulted in an overall decrease in physical activity after the bed rest period. Episodic period of inactivity in elderly people due to illness, depression, or hospitalization may result in losses in muscle mass and function that may be so large that recovery without aggressive rehabilitation becomes problematic.

Objectives

- Understand the influence of skeletal muscle on functional status of older people
- Understand the etiology and prevalence of sarcopenia
- Understand how muscle quality changes with increasing body fatness in elderly people

Biography: William J. Evans, PhD is the Jane and Ed Warmack Chair of Nutritional Longevity and Director of the Nutrition, Metabolism, and Exercise Laboratory in the Donald Reynolds Institute on Aging at the University of Arkansas for Medical Sciences. Dr. Evans is also Professor of Geriatrics, Physiology, and Nutrition.

Dr. Evans has directed a large laboratory including collaborating scientists for more than 20 years. From 1993 to 1997 he was the director of the Noll Physiological Research Center at the Pennsylvania State University and from 1982 to 1993 he served as the Chief of the Human Physiology Laboratory at the USDA Human Nutrition Research Center on Aging at Tufts University.

Much of his research has examined the functional and metabolic consequences of physical activity in elderly people as well as dietary protein needs of older men and women. Dr. Evans is currently examining the effects of bedrest on body composition, muscle metabolism and functional capacity in old men and women, effects of exercise on fatigue in anemic cancer patients, effects of physical activity and diet on insulin action in elderly people, and the etiology of late life dysfunction. His studies have demonstrated the ability of older men and women to improve strength, fitness, and health through exercise, even into the 10th decade of life. His work has been featured on *CBS evening news*, *20/20*, *Good Morning America*, *the New York Times*, and a variety of media outlets.

Dr. Evans received a BA in Zoology from the University of North Carolina. He received an MS in Biology and a PhD in Human BioEnergetics from Ball State University. He is a Fellow of the American College of Sports Medicine, The American College of Nutrition, and an honorary member of the American Dietetic Association.

To RSVP or for additional information, please contact Stephanie Tusalem at (602) 778-7492
or via email at stephanie.tusalem@kronosinstitute.org

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