

Media Contacts:

Dawn Peters (US) +1 978-985-7745

DawnMPeters@comcast.net

Jennifer Davis 617-363-8282

jdavis@hsl.harvard.edu

April 15, 2014

Researchers Develop Criteria to Identify Muscle Loss, Weakness in Older Adults

Improved Diagnosis Aids in Prevention and Treatment of Mobility Issues from Frailty

Boston—Scientists from Harvard Medical School–affiliated Hebrew SeniorLife Institute for Aging Research (IFAR) took part in a collaborative effort by U.S. researchers to develop criteria for diagnosing sarcopenia—a common and disabling condition of low muscle mass and weakness in older adults. Findings from the Foundation for the National Institutes of Health (FNIH) Biomarkers Consortium Sarcopenia Project are published in [The Journals of Gerontology](#) and suggest evidence-based cut-points of grip strength and lean mass could be used to identify sarcopenia in seniors.

While the term “sarcopenia” is widely used to describe age-related loss of muscle mass and strength, there is no consensus clinical definition for this condition that may place up to 50% of seniors at greater risk for disability. Experts agree that sarcopenia should be identified based on indicators of low muscle mass and weakness, yet previously suggested cut-off points were chosen arbitrarily and not necessarily clinically meaningful.

“The FNIH Sarcopenia Project bridges a major gap in aging research by providing empirically-derived criteria for diagnosing sarcopenia among older adults,” said Robert McLean, D.Sc., M.P.H, a researcher with Hebrew SeniorLife IFAR and lead author of the FNIH study investigating the impact of sarcopenia on mobility and mortality. “Our goal is to advance the development of criteria that can be used in clinical practice as indicators for treating seniors with disability due to weakness.”

“The FNIH Sarcopenia Project provides the first evidenced-based criteria for diagnosing this disabling condition in older adults,” explains Dr. Stephanie Studenski M.D., M.P.H., from the National Institute on Aging (NIA) in Bethesda, Md. and Project Team Chair working with Dr. McLean on the FNIH Sarcopenia Project. “Five studies that examine various aspects of muscle loss and weakness in older adults were the result of this project.”

Researchers used data from nine studies: Age, Gene and Environment Susceptibility-Reykjavik Study; Boston Puerto Rican Health Study; Framingham Heart Study; Health, Aging, and Body Composition Study; Invecchiare in Chianti; Osteoporotic Fractures in Men Study; Rancho Bernardo Study; Study of Osteoporotic Fractures; and a series of six clinical trials from the University of Connecticut. Measures of appendicular lean mass (ALM), which includes arm and leg muscles, grip strength, gait speed and body mass index (BMI) were available from 26,625 community dwelling older individuals with a mean age of 75 years for men and 79 years for women.

Based on their analyses, the investigators recommend that weakness be defined as grip strength less than 26 kilograms (kg) or (57 lb) for men and 16 kg (35 lb) or less in women, and low muscle mass defined as an ALM-to-BMI ratio of less than 0.789 for men and 0.512 for women. Both of these criteria were associated with increased risk of developing mobility impairment over three-years of follow-up. Weakness also increased the likelihood of reduced mobility regardless of low lean mass.

Launched in 2010, The FNIH Sarcopenia Project brings together multiple stakeholders from the National Institute of Health’s NIA and the National Institute of Arthritis and Musculoskeletal and Skin Diseases; the Center for Drug Evaluation and Research from the Food and Drug Administration (FDA); academic institutions that include the University of Pittsburgh, California Pacific Medical Research Center, Columbia University,

Hebrew SeniorLife/Harvard Medical School, University of Maryland, University of Connecticut and University of Central Florida; five pharmaceutical companies—Abbott Nutrition, Amgen, Lilly, Merck and Novartis; and the not-for-profit organization, The Dairy Research Institute.

About the Institute for Aging Research

Scientists at the Institute for Aging Research seek to transform the human experience of aging by conducting research that will ensure a life of health, dignity and productivity into advanced age. The Institute carries out rigorous studies that discover the mechanisms of age-related disease and disability; lead to the prevention, treatment and cure of disease; advance the standard of care for older people; and inform public decision-making.

About Hebrew SeniorLife

Hebrew SeniorLife, an affiliate of Harvard Medical School, is a national senior services leader uniquely dedicated to rethinking, researching and redefining the possibilities of aging. Based in Boston, the non-profit, non-sectarian organization has provided communities and health care for seniors, research into aging, and education for geriatric care providers since 1903. For more information about Hebrew SeniorLife, visit <http://www.hebrewseniorlife.org>, follow us on Twitter @H_SeniorLife, like us on [Facebook](#) or read our [blog](#).

About the Journal

The ***Journals of Gerontology*** are published by Oxford University Press on behalf of [The Gerontological Society of America](#). These peer-reviewed journals were the first scientific publications on aging produced in the U.S. and include the [Journal of Gerontology Series A: Biological Sciences & Medical Sciences](#), and the [Journal of Gerontology Series B: Psychological Sciences & Social Sciences](#).