

Understanding the epidemiology of sarcopenia throughout the lifecourse

June 29 2017

Sarcopenia is an age-related syndrome which is characterised by progressive and generalised loss of muscle mass and strength. How prevalent is sarcopenia? As there is a lack of consensus in the operational definition used to characterized the disorder, estimates vary widely in different clinical settings, and depending on the definition used.

Recent definitions have integrated information on <u>muscle mass</u>, strength, and physical function. A new systematic review by researchers at the MRC Lifecourse Epidemiology Unit, University of Southampton, has now evaluated the epidemiology of these three distinct physiological components.

Specifically, the review highlights the similarities and differences between the patterns of variation in <u>muscle mass</u>, strength and physical function in regard to age, gender, geography, time, as well as the relation to individual <u>risk factors</u>. The review also describes how different approaches used to measure muscle mass, strength and function contribute to varying prevalence rates.

Observations include:

- There are differences in relation to the peak level and subsequent loss rate of muscle mass, strength and function between men and women, between ethnic groups, and over time.
- The rate of decline is most rapid in regard to physical function,



followed by muscle strength. The decline of muscle mass is least rapid.

- Although men have significantly <u>higher levels</u> of muscle mass, strength and function than women at any given age, the rate of decline for all three parameters is similar in both genders.
- The higher levels of muscle mass in some ethnicities do not translate into higher levels of muscle strength and function.
- Asian populations tend to have similar declines in muscle mass to non-Asians, but experience much more rapid deterioration in strength and function.
- Sedentary lifestyle, adiposity and multi-morbidity are <u>environmental risk factors</u> affecting all three components. The role of smoking and alcohol intake is less apparent than has been observed in regard to osteoporosis or cardiovascular disease.
- Nutrition has an important influence on the development of sarcopenia. Protein intake has the potential to slow the loss of muscle mass, but is not as influential in maintaining strength and function.
- Physical activity (and in particular resistance training) when performed at higher intensities, is beneficial for <u>muscle strength</u> and functioning.
- Trials combining protein supplementation and physical activity show promising results in reducing the decline in muscles strength and function with advancing age.

Lead author Professor Cyrus Cooper stated: "Sarcopenia contributes to the risk of physical frailty, functional impairment, poor health-related quality of life, and premature death in older people. Understanding the epidemiological characteristics of muscle mass, <u>strength</u> and function is an important first step in achieving consensus in the definition of sarcopenia. This will allow us to better understand its prevalence, to determine clinically relevant thresholds for diagnosis, and ultimately, to enable the development of novel preventive and therapeutic strategies."



More information: S. C. Shaw et al, Epidemiology of Sarcopenia: Determinants Throughout the Lifecourse, *Calcified Tissue International* (2017). DOI: 10.1007/s00223-017-0277-0

Provided by International Osteoporosis Foundation

Citation: Understanding the epidemiology of sarcopenia throughout the lifecourse (2017, June 29) retrieved 5 May 2024 from <u>https://medicalxpress.com/news/2017-06-epidemiology-sarcopenia-lifecourse.html</u>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.