



## The Facts about Sarcopenia

### Definition:

- Sarcopenia is the progressive loss of skeletal muscle that comes with aging. Most people begin to lose modest amounts of muscle mass after age 30, but the resulting loss of strength increases exponentially with age.
- Possible effects of sarcopenia include decreased muscle strength, problems with mobility, frailty, weak bones (osteoporosis), falls and fractures, decreased activity levels, diabetes, middle-age weight gain and a **loss of physical function and independence**.

### Sarcopenia and the aging population:

- The population 65 increased from 35 million in 2000 to 40 million in 2010 (a 15% increase) and then to 55 million in 2020 (a 36% increase for that decade). By 2030, there will be about 72.1 million older persons, almost twice their number in 2008. ("A Profile of Older Americans 2010." Administration on Aging. [http://www.aoa.gov/aoaroot/aging\\_statistics/Profile/2010/4.aspx](http://www.aoa.gov/aoaroot/aging_statistics/Profile/2010/4.aspx) 28 Sept 2011)
- In 2000, 1.5 million people were institutionalized, and 33% of these people were admitted to long-term health care facilities because of their inability to perform activities of daily living. (Thompson, D.D. (2007). Aging and sarcopenia. *Journal of Musculoskeletal & Neuronal Interactions*, 7, 344-345.)
- Sarcopenia is thought to affect 30% of individuals over 60 years of age and more than 50% of people over 80 years. (Baumgartner RN, Koehler KM, Gallagher D, et al. Epidemiology of sarcopenia among the elderly in New Mexico. *American Journal of Epidemiology* 1998; 147:755-763.)
- Recent estimates indicate that approximately 45% of the older U.S. population is affected by sarcopenia. That equates to 18 million people in 2010, a number that will only continue to rise. (Janssen I, Shepard DS, Katzmarzyk PT, Roubenoff R. The Healthcare Costs of Sarcopenia in the United States. *Journal of the American Geriatric Society* 52:80-85, 2004.)
- Approximately 20% of the older U.S. population is functionally disabled. (Janssen I, Shepard DS, Katzmarzyk PT, Roubenoff R. The Healthcare Costs of Sarcopenia in the United States. *Journal of the American Geriatric Society* 52:80-85, 2004.)
- The risk of disability is 1.5 to 4.6 times higher in older persons with sarcopenia than in older persons with normal muscle.<sup>7</sup> (Janssen I, Shepard DS, Katzmarzyk PT, Roubenoff R. The Healthcare Costs of Sarcopenia in the United States. *Journal of the American Geriatric Society* 52:80-85, 2004.)
- Age-related muscle weakness dramatically increases the risk for elderly falling. A large number of those elderly who fall will not continue living in the community. One half of accidental deaths among individuals age 65 and older are related to falls. (McArdle, A; Jackson, MJ. *Sarcopenia – Age-Related Muscle Wasting and Weakness* (2011), p. 318. Gordon S. Lynch (ed.). Springer Science.)

- Though diet and exercise can reduce the rate of muscle and strength loss, even active seniors will experience decline in muscle function. (McArdle, A; Jackson, MJ. *Sarcopenia – Age-Related Muscle Wasting and Weakness* (2011), p. 318. Gordon S. Lynch (ed.). Springer Science.)

#### The Cost of Sarcopenia:

- The estimated direct healthcare cost attributable to sarcopenia in the United States in 2000 was \$18.5 billion (\$10.8 billion in men, \$7.7 billion in women), which represented about 1.5% of total healthcare expenditures for that year. (Janssen I, Shepard DS, Katzmarzyk PT, Roubenoff R. The Healthcare Costs of Sarcopenia in the United States. *Journal of the American Geriatric Society* 52:80–85, 2004.)
- Healthcare expenditures due to sarcopenia cost roughly \$900 per person per year (Marcell. Sarcopenia: Causes, consequences, and preventions. *The Journals of Gerontology* 2003; 58: M911-M916)
- People with chronic illnesses and activity limitations caused by conditions like sarcopenia have more physician visits and fill more prescriptions than those individuals with no activity limitations, all of which presents a greater burden on our health care system. These individuals also have more health visits. (Alliance for Aging Research, *Silver Book: Chronic Disease and Medical Innovation in an Aging Nation* <http://silverbook.org/browse.php?id=20> 28 September 2011)
- The United States spends more than \$26 billion annually on additional health care costs for people over 65 who lose their ability to live independently over the course of a single year. (Alliance for Aging Research. *The Silver Book: Chronic Disease and Medical Innovation in an Aging Nation* <http://silverbook.org/fact/31> 29 September 2011)

#### Sarcopenia is associated with other chronic conditions:

- A loss in muscle mass is related to metabolic problems such as insulin resistance, type 2 diabetes and obesity. (Rivas, DA; Fielding, RA. *Sarcopenia – Age-Related Muscle Wasting and Weakness* (2011), p. 334. Gordon S. Lynch (ed.). Springer Science.)
- By 2030, more than 30 million Americans could have diabetes--71% higher than in 2000. (Alliance for Aging Research, *Silver Book: Chronic Disease and Medical Innovation in an Aging Nation* <http://silverbook.org/fact/113> 04 October 2011)
- The annual cost of diabetes, in 2002 dollars, could rise to an estimated \$156 billion by 2010, and \$192 billion by 2020. (Alliance for Aging Research, *Silver Book: Chronic Disease and Medical Innovation in an Aging Nation* <http://silverbook.org/fact/115> 04 October 2011)
- Between 2009 and 2034, annual diabetes-related spending is expected to increase from \$113 billion to \$336 billion (2007 dollars). (Alliance for Aging Research, *Silver Book: Chronic Disease and Medical Innovation in an Aging Nation* <http://silverbook.org/fact/1931> 04 October 2011)

#### Why we need to act:

- A 10% reduction in the sarcopenic population would save \$1.1 billion (Janssen I, Shepard DS, Katzmarzyk PT, Roubenoff R. The Healthcare Costs of Sarcopenia in the United States. *Journal of the American Geriatric Society* 52:80–85, 2004.)
- Though sarcopenia contributes to numerous other health problems and accounts for a similar percentage of healthcare costs as osteoporosis, no public health campaigns are directly aimed at reducing the prevalence of sarcopenia. (Janssen I, Shepard DS, Katzmarzyk PT, Roubenoff R. The Healthcare Costs of Sarcopenia in the United States. *Journal of the American Geriatric Society* 52:80–85, 2004.)

- Although age-related muscle loss is inevitable, therapies and interventions that can halt or reverse these effects hold great promise and are a realistic possibility. (GS. Lynch (ed.) (2011). Sarcopenia – Age Related Muscle Wasting and Weakness. Springer Science. p. 4)
- Preserving the independence and physical function of the aging population not only preserves the quality of life of older individuals but will also save our nation billions of dollars in health care costs.