

Here's Another Reason to Never Stop Training!

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Introduction

Between the ages of 40 and 50 years we can **lose up to 8% of our muscle mass**. Once we hit 75 years of age, this loss of speed- and power-generating muscle accelerates to a loss of greater than **15% per decade**. This loss can result in a significant decline in both sport performance and day-to-day activities such as lifting, carrying and getting up and down stairs or out of a seat. However, most of the research into age-related functional decline has been undertaken in a sedentary older population. While exercise is known to alter the age-related decline in lean muscle mass and subsequent loss of functional performance, here is some research suggesting that **staying involved with masters sport may limit or prevent the loss of muscle mass** that happens in active older people.

Where is the evidence?

A study recently published in the *Physician and Sportsmedicine* looked at whether the **regular exercise** undertaken by a group of masters' athletes (runners, track and field athletes, cyclists and **swimmers**) was responsible for preventing the age-related loss of muscle. Forty (20 males and 20 females) healthy and uninjured 'recreational' masters athletes **aged 40 – 81 years who trained 4 – 5 times weekly** underwent tests of body composition (% body fat), muscle strength, and magnetic resonance imaging (MRI) of the quadriceps (thigh) muscle. The MRI allowed researchers to compare lean muscle mass, adipose tissue and intramuscular fat levels across **ten year age groups 40-49, 50-59, 60-69, and > 70 years**. The results showed that, in contrast to previous results from sedentary populations, **masters athletes who train regularly preserved their lean muscle mass across the four age groups**, and had no age-related increase in intramuscular fat stores. Unlike sedentary populations there was **no significant loss of muscle strength until the 6th decade and this was then preserved into the 7th decade**. However, there was an **age-related increase in %body fat with age in both genders**. Pleasingly, there was **no age-related decrease in quadriceps strength per unit of quadriceps muscle area**.

What do we do now?

This study is not alone in its findings and adds more weight to the argument for **lifelong exercise**. Preservation of muscle mass and lack of intramuscular fatty infiltration is likely to not only preserve functional capacity but also reduce chronic disease and disability into older age. The health care and social costs of loss of lean muscle mass, weakness, and senior disability are staggering. In 2000, U.S reports suggest more than **\$18.5 billion in health care costs were directly attributable to sarcopenia (loss of muscle mass)**. This accounts for approximately 1.5% of all health care expenditure and equates to between \$800 to \$900 per sarcopenic person. With an aging population, these costs will only increase. Harnessing the **benefits of weight training intervention and/or regular aerobic exercise to maintain and build muscle mass and strength**, thus preventing loss of independent function and disability, is not only logical but is becoming a social imperative. A reduction of 10% in the prevalence of sarcopenia would result in savings of \$1.1 billion per year in health care costs.

The message is clear. **Not only should we *Just Do It!* We should Keep Doing It! Exercise that is!**

For more on the importance of exercise (in particular weight training) for maintaining health and performance in masters athletes, see Chapter 7 (Strength and power training for the masters athlete) of my book [The Masters Athlete](#)*.

Source: Wroblewski, A et al; (2011). Chronic exercise preserves lean muscle mass in masters athletes. *Physician and Sportsmedicine*. 39(3): 172-178.

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Peter will be writing regular *Bridging the Gap* articles for us.