

PUBLICATION: Innovations in Food Technology

DATE: May 2008

COVERAGE: UK

CIRCULATION: 10,800

Amino acids help to keep muscles healthy into later life

Recent research confirms that boosting intakes of amino acids can help people to avoid the problems of muscle wasting, known as sarcopenia, as they get older. Sarcopenia is the age-related, degenerative loss of skeletal muscle mass, strength and function. This loss of mass reduces the performance of the muscle. With the growing number of elderly people, sarcopenia is becoming an increasingly pressing health issue in the developed world.

Amino acids are the building blocks of protein and perform a variety of crucial functions in the body. Our improved understanding of the role played by amino acids in nutrition has led to their increased use in the food industry. Much of the focus has been on the benefits of amino acids in sports nutrition where they have been found to enhance performance and reduce the time taken to recover from vigorous exercise.

Today, however, nutritionists are recognising the considerable potential of amino acids for other groups and in other foods.

Muscle loss occurs in people of all fitness levels, even master athletes. People who have less muscle mass to begin with, however, will pay a higher price as they grow older. Women in particular face increased risks from lost muscle mass. As muscle mass decreases, muscle strength decreases and loss of physical function follows. As

a consequence, the ability to do every day activities, such as grocery shopping and taking walks, declines¹. According to a national survey in the United Kingdom, 12% of those older than 65 could not manage to walk outside on their own and 9% could not climb the stairs unaided.

If no action is taken to reduce sarcopenia, people experience about a 10% decline in muscle mass between the ages of 25 and 50 and a further 45% shrinkage by their eighth decade. For example, the bicep muscle of a newborn baby has around 500,000 fibres, while that of an 80 year old will have just 300,000 fibres.

While loss of bone density renders the skeleton more prone to fractures, it is mainly the gradual erosion of lean muscle, and the ensuing frailty, which leads to falls. Falls are a major cause of disability and the leading cause of mortality due to injury in people aged 75 and over in Britain.

Recently, the United Kingdom's National Statistics Office projected that the population will increase by 4.4 million by 2016, and will continue to grow, reaching 71 million by 2031. Like most other countries, the United Kingdom, has an ageing population. The population of people aged 50 and over is projected to increase to 27 million by 2031, a rise of 37%².

While sarcopenia cannot be halted completely, there are steps that can be taken to slow

its onset down, making it possible for people to remain active well into their 80s. Specifically, maintenance of muscle protein can be stimulated by increased amino acid availability.

Furthermore, a recent study has shown that dietary amino acid supplementation appears to be effective in reducing the muscle loss that is associated with ageing, as essential amino acids help to stimulate muscle protein synthesis². Long-term amino acid supplementation could be a useful tool in the prevention and treatment of sarcopenia.

Ajinomoto has been the world's leading supplier of amino acids for 90 years and is ideally placed to respond to the increasing demand for these ingredients in all areas of nutrition. Ajinomoto was the first company in the world to identify, refine and market amino acids and continues to break new ground, investing continuously in scientific research and manufacturing capacity.

References

- 1 Tufts Health & Nutrition Letter. Are you doing all you can to fight sarcopenia? March 2003.
- 2 Shepherd, J. Peak Performance: Speed and Age. www.pponline.co.uk.

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