

Red meat and exercise could be the key to keeping body and mind in peak condition as we age

5 March 2014, by Mandi O'garretty

Protein loading to improve muscle performance isn't just for athletes and bodybuilders, with Deakin University researchers finding that a protein rich diet incorporating lean red meat combined with strength training improved the size and strength of muscles in elderly women.

The researchers believe the study's results show that the combination of red meat and strength training could be the key to reducing the impact age-related [muscle loss](#) has on the risk of falls and the ability of the elderly to undertake day-to-day activities such as getting out of a chair. In light of these positive results the study is being extended to look at the impact that increased dietary protein combined with strength training also has on the mental health and wellbeing of older people.

"Loss of muscle and cognitive function (ie memory, speech, ability to learn new information) are the two most common consequences of ageing and are linked to the decline in everyday functional abilities and increased falls risk as well as the progression to other chronic diseases, such as dementia and Alzheimer's disease," explained Deakin's Professor of Exercise and Ageing Robin Daly.

"Given the results of this study we believe that eating the recommended 3-4 servings of lean red meat a week combined with a strength training program could well be the key to keeping our body and mind in peak condition.

"It is no secret that we are living longer and that this is placing an increased burden on society in many ways, including the healthcare system. With the current scrutiny on our healthcare system's ability to cope with ever increasing demand, it is more important than ever that we look at ways to maintain our physical and mental health for as long

as possible.

"If the results of our new study are as positive as we hope, this protein/exercise combination could provide the greatest benefits in terms of ensuring that older adults can live independently and relatively disease and disability free into old age."

Deakin's Centre for Physical Activity and Nutrition Research conducted the four month trial with 100 women aged 60—90 years to assess the effects of progressive resistance training (a form of strength training) combined with a protein-rich, lean red meat diet on muscle size, strength and function. When compared to women in the exercise only group, those on the lean red meat diet had an 18 per cent greater increase in [muscle strength](#) and gained an additional 0.5 kg of muscle mass. They were also found to have a 10 per cent greater increase in a hormone central to muscle growth and a 16 per cent reduction in a pro-inflammatory marker that has been linked to muscle loss and other chronic diseases. The results of this Meat and Livestock Australia funded study are published online in the *American Journal of Clinical Nutrition*.

The researchers are now recruiting for the new study to investigate the effects of lean red meat combined with strength training on brain and nervous system function as well as muscle health.

"In the previous study the participants consumed more than the recommended amount of red meat (160 grams, six days a week). We appreciate that it is not realistic to ask people to consume this amount of meat each week, so we are now looking at the impact the recommended 3-4 serves of red meat per week has on muscle mass and strength as well as brain function," Professor Daly explained.

"We know from our study, and previous research, that protein stimulates the production of a hormone (serum IGF-1) central to muscle growth. This same hormone is also necessary for the growth and function of brain cells. It is therefore conceivable that lean [red meat](#) combined with [strength training](#) will not only have huge benefits on [muscle](#) function but also improve cognitive performance and neural health."

Provided by Deakin University

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