

# Pumping iron could ward off dementia

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High intensity weight training is important for brains not just brawn and could be prescribed in the fight against dementia according to new research from the University of Sydney.

The landmark study reveals that resistance training improves the mental abilities of older people with mild [cognitive impairment](#) - a common precursor to dementia.

Professor Maria Fiatarone Singh, a geriatrician from the Faculty of Health Sciences and the study's chief investigator, said the research demonstrates the potential of exercise to reduce dementia risk.

"We know [weight training](#) stimulates hormones that make muscles grow and it's possible these hormones are also having similar benefits for brain function," said Professor Fiatarone Singh.

Participants in the study who did six months of weight training showed significant improvements in overall cognitive function, in particular with abilities related to planning, organising and devising strategies, and visual memory. These improvements were still present twelve months after supervised training stopped.

"The next step is to see how long this lasts and who benefits most from such exercise," Professor Fiatarone Singh said.

The researchers will follow the group for up to five years to see if they were able to delay or even prevent the onset of dementia.

According to Professor Fiatarone Singh dementia is one of the biggest challenges facing the healthcare system globally.

"Current predictions suggest 135 million people will be affected by dementia by 2050, but if a simple cost-effective exercise intervention can show this much promise, I think further research could dramatically reduce that number," she said.

One hundred people took part in the study which compared the effects of weight training, computer-based brain training, and a combination of the two for people over 60 experiencing the memory and processing deficits associated with mild cognitive impairment.

Only the weight training group improved on the Alzheimer's Disease Assessment Scale- Cognitive Subscale test, a series of memory and brain function tests used to evaluate cognitive health and the stages of Alzheimer's disease.

"The number of participants in the weight lifting group scoring in the normal range doubled in six months, but surprisingly those benefits didn't carry over to the combined exercise and brain training group who fared much worse," said Professor Fiatarone Singh.

"High levels of stress hormones are known to compromise brain health, so it could be that the combined physical and mental training program was too stressful physically or mentally."

The study, undertaken by a consortium of Australian researchers, is published in the *Journal of the American Medical Directors Association*.

## **Key facts about mild cognitive impairment and dementia**

- Mild cognitive impairment refers to people who are in the stage between normal cognitive function and dementia.
- Mild cognitive impairment increases the risk of dementia with individuals progressing at rates up to 6-10 percent per year compared with 1-2 percent in the general population.
- There are currently no effective drug treatments for [mild cognitive impairment](#).
- Dementia is projected to affect 135 million people globally by 2050.

**More information:** "The Study of Mental and Resistance Training (SMART) Study—Resistance Training and/or Cognitive Training in Mild Cognitive Impairment: A Randomized, Double-Blind, Double-Sham Controlled Trial." *Journal of the American Medical Directors Association*, Volume 15 , Issue 12 , 873 - 880.

[www.jamda.com/article/S1525-86 ... \(14\)00612-4/abstract](http://www.jamda.com/article/S1525-86... (14)00612-4/abstract)

Provided by University of Sydney

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