

PHYSICAL ACTIVITY FOR BRAIN HEALTH AND FIGHTING DEMENTIA

Alzheimer's Australia's Your Brain Matters program provides evidence-based advice that healthy and active lifestyles are associated with maximising your brain health and lowering dementia risk. One important element of Your Brain Matters is regular physical activity. While many people know that being physically active has great benefit for our body and heart, not many know about the positive impact it has on brain health.

Why are we concerned about brain health?

Brain health is vital for the maintenance of a good memory and a sharp mind throughout life.

We expect brain function to slow down as we grow older, but many people fear being affected by dementia. Dementia is characterised by gradual decline in brain functions, such as memory, attention, language, planning, judgement, movement, distance perception and social skills.

A person with dementia experiences a progressive decline in functioning as more of their brain is damaged by the disease.

Dementia is very common with more than 320,000 Australians living with dementia in 2013.

Dementia is not a normal outcome of ageing; it is caused by brain disease, most commonly Alzheimer's disease.

Can we make a difference?

There is no cure for dementia – yet. However, evidence suggests that you can reduce your risk or delay the onset.

About half of the world's Alzheimer's disease cases are potentially caused by risk factors that can be controlled.

Research identifies that one of these risk factors is physical inactivity, a major problem in Australia. If a quarter of inactive people around the world became active, this alone could potentially prevent nearly 1 million cases of Alzheimer's disease worldwide.

An Australian study suggests that a five percent increase, every five years, in the number of people becoming physically active across the population could result in 100,000 fewer Australians living with dementia in 2050.

How does physical activity help your brain?

It was previously thought that the adult brain could not change, but we now know that the brain grows and changes throughout life. This process of growing new cells and building new connections is called plasticity.

Plasticity improves with physical activity as it supports brain cells to grow and live longer. Pictures of brains of people who exercise regularly show that important areas of the brain that are involved in memory and learning are larger than in those same areas of the brains of people who do very little exercise. This suggests that people who exercise have more brain cells and more connections, so their brains work better.

Importantly, for older adults who regularly exercise, the volume of brain regions important for memory, learning, concentration and planning is similar to that of younger people. Also normal age related brain shrinkage appears to be reduced in older people who exercise regularly.

The brain requires adequate blood flow to function well. Physical activity assists this by increasing necessary blood flow to the brain.

Increased blood flow to the brain through physical activity can be beneficial just hours after exercise and also over the long term.

Physical activity reduces the risk of conditions like diabetes, high blood pressure, high cholesterol and obesity that can damage blood vessels and lead to disease in the brain, a major contributor to dementia.

Studies on inactive people who become active, show improvements in brain health across all ages, reinforcing that increasing physical activity at any age can improve your brain health.

What sort of physical activity and how much do you need to do for health benefit?

The good news is that when we put the evidence together, it does show that many forms of regular exercise are beneficial for brain health and function.

Physical activity is generally grouped into four categories. You will get the most benefit from regularly engaging in activities of each kind.

Aerobic or endurance exercise



This type of exercise increases your breathing and heart rate. Performed regularly it improves endurance and the health and fitness of your lungs, heart and blood vessels. It includes activities like walking, jogging, dancing, swimming and cycling.

It can enhance brain plasticity, increase brain blood flow, improve brain function and reduce dementia risk.

The *Australian Physical Activity Guidelines* recommend we do at least 30 minutes of moderate intensity aerobic activity on most days of the week. You can access the guidelines at <http://www.health.gov.au/internet/main/publishing.nsf/content/health-publth-strateg-phys-act-guidelines>

Strength training



This activity uses weights, resistance or bodyweight to work muscles.

Performed regularly, strength training improves muscle strength, endurance and tone, as well as the health and fitness of tendons, bones and joints.

Maintaining strength levels as you age can also greatly enhance your independence and ability to carry out everyday life activities.

It is recommended we do strength exercises for 30 minutes at least twice per week.

If you are new to strength training it is important to be guided by qualified registered exercise professionals or physiotherapists for safety, and to get the best results.

Flexibility exercises

Flexibility exercises stretch your muscles.



Performed regularly they help your joints and muscles to stay limber and flexible.

Try activities like yoga and Tai Chi, these include controlled stretching and are often carried out with strength and balance exercises.

Balance exercises



Balance exercises help to improve balance and coordination and reduce the risk of falls.

They include activities that test your balance like standing/balancing on one foot then alternating.

You can do balance exercises as often as you like. Lower-body strength exercises also help improve your balance.

Some studies have found that exercise programs combining aerobic and strength training are more beneficial than either alone.

Further recommendations before you commence an exercise program

- 1 Complete a pre-exercise screening questionnaire. This will determine if you need a recommendation or referral from a health professional
<http://fitness.org.au/page.php?id=67>
- 2 Talk to your GP or allied health practitioner (i.e. physiotherapist or exercise physiologist) and get them to partner with you in your healthy lifestyle change
- 3 Find a registered gym and a qualified registered exercise professional and ask them about an exercise plan that's right for you.
<http://startexercising.com.au/choosing-a-registered-fitness-business.html>
- 4 Look for evidence based exercise and lifestyle modification programs like Lift for Life, Heart Moves, Lungs in Action, Life, Beat It and HEAL. These programs are supported by research and endorsed by major health organisations.



National Dementia Helpline
1800 100 500
For language assistance call **131 450**