

WHAT DOES THE RESEARCH TELL US ABOUT MAINTAINING OUR BRAIN HEALTH?

Alzheimer's Australia examined scientific research from around the world to find the latest evidence on prevention strategies for dementia. The results of this review shows that a range of strategies have an impact on both physical and brain health. By adopting a healthy lifestyle, we are more likely to live longer with a healthier body. At the same time, this will give us the best chance of having a healthy brain that is able to process information, think and relate to the world around us to the best possible extent.

Unfortunately, there are no guarantees. We do not know what causes Alzheimer's disease and most other types of dementia, and we do not have control

of risk factors such as our age or our genetics. But we do know that people who carry out an active, healthy life and look after their heart are less likely, on average, to develop the disease. By keeping our brains as healthy as possible, we can reduce the risk of developing dementia.

The other good news is that people who have been diagnosed with dementia may be helped by following the same lifestyle strategies. Keeping active and engaged and getting good treatment for any other medical conditions may help slow the decline in cognitive functions.



WHAT IS THE TAKE-HOME MESSAGE?

The research, thankfully, is reinforcing what we have learned from other chronic diseases. To keep our brains healthy we need to keep our bodies and hearts healthy, and the best way to do this is to exercise, eat healthy foods, engage in a range of stimulating social and mental activities over our lifetimes, and treat any medical conditions that can damage our heart and blood vessels.

These health and lifestyle factors form the basis of Your Brain Matters, a new brain health program from Alzheimer's Australia. The program is designed to raise awareness that dementia is not an inevitable part of ageing, that everyone can do something to reduce their risk, that what is good for the heart is good for the brain, and that preventative strategies are important at any age, but particularly important at mid-life.

So there are many things you can do to live a brain healthy life and reduce your risk of dementia, because Your Brain Matters!



Your Brain Matters is an evidence-based program that promotes brain health and seeks to reduce the risk of dementia in the Australian population.

Your Brain Matters: A guide to healthy hearts and minds, provides Australians with three key messages that encourage a holistic approach to looking after your brain, body and heart at all ages:

- Keeping your brain active matters
- Being fit and healthy matters
- Looking after your heart matters

For more information on Your Brain Matters, and for tips on how to live a brain healthy life, visit yourbrainmatters.org.au



DEMENTIA IS A NATIONAL HEALTH PRIORITY AREA

The Australian Government, with the support of State and Territory Governments, has formally declared dementia a National Health Priority Area alongside other chronic diseases including cancer and heart.

In this way, Australian health policy has recognised that dementia is a chronic disease and not simply a natural part of ageing. Dementia is an issue for people of all ages and not only older people.

For the future, investment in dementia research holds out the hope of new dementia treatments and the identification of those most at risk of dementia. Until then do what you can to reduce your risk of dementia.

Visit Alzheimer's Australia at fightdementia.org.au or call the **National Dementia Helpline 1800 100 500**

BRAIN HEALTH AND DEMENTIA PREVENTION

A summary of the evidence presented in **Alzheimer's Australia's Paper 29**



Dear Reader,

This publication is the first step in Alzheimer's Australia's new brain health program.

I congratulate the Commonwealth Government on being the first government in the world to embrace a preventive brain health program alongside physical health. This is a positive step forward in Australia's fight against dementia.

This publication will show that there are close links between what's good for your physical health and what's good for your brain.

Over the next three years, with the help of government funding, Alzheimer's Australia will be informing you of more ways to maintain your brain health.

You don't need expensive new brain-training programs although they may help. Most of what you need to do to enjoy good brain health are simple things that you can easily do in your everyday life – people who go to a gym or enjoy walking regularly with others are halfway there.

It's a no brainer really – look after your brain and you may reduce your risk of dementia.

Ita Buttrose AO, OBE
National President
Alzheimer's Australia

CAN YOU REALLY REDUCE YOUR RISK OF DEMENTIA? THE EVIDENCE INDICATES THAT YOU CAN

It's all about taking care of your brain health and the lifestyle you adopt.

We are all aware of the importance of good health. We know that we should exercise and follow a healthy diet and although we may not put this into practice as much as we should, we have a reasonable understanding of what we should do to reduce our risk of diabetes, heart disease or stroke.

But what about our brain health – our ability to think, to make decisions, to plan, to remember, to relate to other people and to communicate? This is not talked about nearly as much as heart disease or cancer. So what can we do to help?

The good news is that research shows a close relationship between body health and brain health, and the sooner we adopt a brain healthy lifestyle, the better.

But it's also never too late to start!

**UNDERSTAND ALZHEIMER'S
EDUCATE AUSTRALIA
FIGHTDEMENTIA.ORG.AU**

For the complete evidence paper *Targeting brain, body and heart for cognitive health and dementia prevention*, which includes references for the information presented here, visit yourbrainmatters.org.au



THE KEYS TO BRAIN HEALTH

When it comes to brain health, there isn't a silver bullet. Here is a summary of the evidence to support health and lifestyle strategies for reducing the risk of dementia.



KEEPING YOUR BRAIN ACTIVE MATTERS

MENTAL ACTIVITY

Higher levels of mental activity throughout life are consistently associated with better brain function and reduced risk of cognitive decline and dementia.

Research suggests that mental complexity and new learning assist with the maintenance and even regrowth of brain cells. Complex mental activity across the lifespan contributes to something called 'brain reserve', that allows our brains to continue working normally for longer, even if some of the brain cells start to age or even die. Mental exercise may also protect against the toxic chemicals that accumulate in the brains of people with Alzheimer's disease.

Importantly for older or retired people, increased complex mental activity (for example learning a new language) in late life is associated with a lower dementia risk, so it's never too late to take on new challenges in life.

SOCIAL ACTIVITY

Engagement in social activity is also associated with reduced risk of cognitive decline and dementia. Social engagement has been found to have benefits for other health factors related to cognitive functioning, such as vascular conditions and depression. Social activity is mentally stimulating and may contribute to building brain reserve which then contributes to reducing dementia risk.

Research suggests that social activities that also involve mental stimulation and physical activity (for example team sports) can provide even greater benefit.



BEING FIT AND HEALTHY MATTERS

PHYSICAL ACTIVITY

There is now, more than ever, strong evidence that regular physical exercise is associated with better brain function and reduced risk of cognitive decline and dementia. Even simple exercise like walking has been shown to be beneficial.

Physical activity increases blood flow to the brain, stimulates the growth of brain cells and connections between them, is associated with larger brain volume, and reduces the risk of cardiovascular conditions associated with increased risk and severity of cognitive decline and dementia.

DIET

More research is needed to understand if there are specific foods that may be able to reduce the risk of dementia. However, the evidence suggests that overall, a healthy, balanced diet may help in maintaining brain health and functionality.

Several studies have found that a high intake of saturated fats, such as those found in meat and take away foods, and transunsaturated (hydrogenated) fats, such as those that may be found in pies and cakes, are associated with an increased risk of dementia. Whereas a higher intake of polyunsaturated and monounsaturated fats, such as those 'good fats' found in fish and olive oil, is associated with a reduced risk of dementia. Foods that are high in antioxidants such as tomatoes, cranberries and oranges also seem to be good for brain health.

The omega 3 fatty acids contained in fish oils may reduce inflammation in the brain and promote the growth of new neurons. Some studies have shown an association between higher fish consumption and lower dementia risk.

Diets which include a higher intake of fruits, vegetables, fish, nuts and legumes, and a lower intake of meats and foods that are high in saturated fats including high fat dairy products, fried food and sweets are associated with lower risk of cognitive decline and dementia.

ALCOHOL

Moderate alcohol consumption is associated with better thinking abilities and reduced risk of dementia. The benefits of moderate alcohol consumption include its antioxidant properties, reducing inflammation, increasing good cholesterol and increasing brain blood flow, all of which have positive effects on brain health. But heavy alcohol use can lead to brain damage and this may increase your risk of dementia.

The recommended guidelines of no more than two standard drinks per day should be followed. This being said, the evidence does not suggest that those who currently abstain should start to drink alcohol.



LOOKING AFTER YOUR HEART MATTERS

BODY WEIGHT

Maintaining a healthy body weight is good for the heart and is associated with better brain function and reduced dementia risk. Being obese in mid-life may increase the risk of developing dementia many years later. Obesity is associated with increased risk for high blood pressure, diabetes and vascular disease, all of which affect brain health and increase the risk of dementia.

SMOKING

Smoking may affect dementia risk through its negative effects on the cardiovascular system, as well as damaging brain cells and causing inflammation in the brain.

Former smokers do not appear to be at an increased risk compared to those that have never smoked, which suggests that quitting smoking may be beneficial for reducing dementia risk.

BLOOD PRESSURE

Untreated high blood pressure, specifically in mid-life, has been associated with an increased risk of Alzheimer's disease. Promisingly, treatment of mid-life high blood pressure has been found to reduce dementia risk. One factor to point out is that high blood pressure in old age is not seen to increase the risk of Alzheimer's disease. The key to this risk factor is ensuring that high blood pressure is appropriately managed during mid-life.

CHOLESTEROL

Untreated high cholesterol specifically at mid-life is associated with an increased risk of developing dementia, especially Alzheimer's disease. Treatment of high cholesterol has been associated with reduced risk of dementia in some studies. Untreated high mid-life cholesterol levels may accelerate the toxic protein accumulations of Alzheimer's disease and damage brain blood vessels, both of which can contribute to cognitive impairment.

DIABETES

Type 2 diabetes and pre-diabetes syndromes appear to be risk factors for cognitive impairment and dementia. The mechanisms underpinning the association between diabetes and dementia risk are unclear, and further research is needed in this area.

Few studies have examined the effect of treatment of diabetes on dementia risk and the results are mixed. Prevention of diabetes, through early screening for glucose tolerance and insulin resistance and lifestyle modifications for those at risk, could reduce the incidence of mild cognitive impairment and dementia.



WHAT ELSE?

People with a history of depression or depressive symptoms appear to have, on average, a higher risk of developing dementia. Evidence suggests that treatment with antidepressants improves brain function in people with depression, but it is unknown if treatment is likely to reduce the risk of developing dementia. Ongoing research in this area is needed.

Serious head injury, with loss of consciousness, is also associated with an increased risk of dementia. Several mechanisms may explain this association: damage to the blood brain barrier; increased oxidative stress; neuronal loss; and increased enzyme activity leading to increased dementia pathology have all been implicated. Taking preventative approaches, which may include falls prevention and wearing protective head gear to avoid serious head injury, is important.