

5 SIMPLE STEPS TO MAXIMISE YOUR BRAIN HEALTH



YOUR BRAIN
MATTERS

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Being brain healthy is important
whatever your age.

Like physical health, brain health needs
constant work and maintenance to look
after your brain, your body and your heart.

Leading a brain-healthy life isn't difficult
– small steps can go a long way.

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INTRODUCTION

This publication, *5 Simple Steps to Maximise Your Brain Health*, is an important component of Alzheimer's Australia's dementia risk reduction program, *Your Brain Matters*, and emphasises how preventive health measures can benefit your brain health.

It explains how to look after your brain health and has been developed by Alzheimer's Australia based on published research evidence.

Being brain healthy is particularly important once you reach middle age as this is when changes start to occur in the brain. But it's never too early or too late to start. Scientific research suggests that leading a brain healthy life may reduce a person's risk of developing dementia later in life.

There are no guarantees however, as dementia cannot yet be prevented or cured but evidence does show that people can reduce their risk for dementia and other chronic diseases like diabetes, heart disease and cancer by adopting healthy lifestyles.

Think of your brain as being on a pedestal and that your role is to guard this most precious asset by making sure it is well nourished while enjoying the benefits of physical exercise and mental challenges.

It is never too late to switch to a healthier lifestyle. You don't need to start doing expensive new brain-training programs either – although they may be helpful. Much of what you need to do to enjoy good brain health are simple things that you can easily do in your everyday life to lower your risk of developing dementia.



When it comes to maintaining our overall wellbeing, prevention can be a powerful ally as you will discover by following our *5 Simple Steps to Maximise Your Brain Health*.

IT'S IMPORTANT!

Your brain is your most valuable health asset. You need to protect it all your life.

IT TAKES ONLY 5 SIMPLE STEPS TO MAXIMISE YOUR BRAIN HEALTH

STEP 1

LOOK AFTER YOUR HEART

What's good for your heart is good for your brain.

STEP 2

DO SOME KIND OF PHYSICAL ACTIVITY

Exercise gives your brain a healthy boost.

STEP 3

MENTALLY CHALLENGE YOUR BRAIN

Your brain likes to tackle something it doesn't know.

STEP 4

FOLLOW A HEALTHY DIET

What you eat could affect your brain.

STEP 5

ENJOY SOCIAL ACTIVITY

Socialising is good for your brain.

DID YOU KNOW?

Australia's Dietary Guidelines and Physical Activity Guidelines recommend being active on most days of the week, eating plenty of vegetables, legumes (beans, peas and lentils), wholegrain cereals, fruit and limiting saturated fat, salt and sugar intake. It is likely that these provide the best way of looking after your brain and your body. The resources section at the back of this booklet has links to these guidelines.

STEP 1

LOOK AFTER YOUR HEART

Many people are unaware of the connection between heart health and brain health which is why we like to say what's good for your heart is good for your brain. The risk of developing dementia appears to increase as a result of conditions that affect the heart or blood vessels, particularly when these occur at mid-life.

They include:

High blood pressure

High cholesterol

Type 2 diabetes

Obesity

Research indicates that having diabetes, high cholesterol or high blood pressure, and not treating them effectively, can damage the blood vessels in the brain, affecting brain function and thinking skills. Obesity is associated with increased risk for dementia, and other conditions such as high blood pressure, diabetes and vascular disease.

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. High

blood pressure in old age is not seen to increase the risk of Alzheimer's disease but is undesirable at any age.

Treatment of high blood pressure, high cholesterol, diabetes and obesity is necessary for good heart health and is likely also to protect the brain. They are all conditions that are easily identified and treatable. It's important to have regular health checks and follow the advice of your health professional.

Smoking increases the risk of heart disease, stroke, cancer and other diseases.

Studies have shown that current smokers have a greater chance of developing dementia than people who don't smoke.

There is no safe level of smoking. If you do smoke, seek medical advice on ways to help you quit, especially as it appears your risk of dementia reduces once you do. The Heart Foundation says there is clear evidence of a rapid decrease of cardiovascular risk following cessation of smoking and that quitting smoking can rapidly reduce the risk of heart disease and stroke. (*The National Heart Foundation, Policy Paper: Tobacco and cardiovascular disease, 2007*).



Check your blood pressure regularly.



If you're 45+, you should get regular heart and stroke risk assessments.



Ask your GP to check your blood pressure, cholesterol, blood sugar and weight regularly.



Speak to your health professional for advice on how to lose excess weight.



Avoid smoking. Speak to your health professional or call Quitline on 13 78 48 for help on how to quit.

STEP 2

DO SOME KIND OF PHYSICAL ACTIVITY

Now, more than ever, there is strong evidence that regular physical activity is associated with better brain function and reduced risk of cognitive decline and dementia. Exercise gives our brains a healthy boost.

Physical activity increases blood flow to the brain, stimulates the growth of brain cells and connections between them, and is associated with larger brain volume. It reduces the risk of high blood pressure, obesity, diabetes and high cholesterol, which are associated with an increased risk of cognitive decline and dementia.

There is some evidence that suggests people who don't do regular physical activity have an increased risk of developing dementia. It is still unclear just how much and how often we should exercise to reduce our risk of dementia. We recommend following Australia's Physical Activity and Sedentary Behaviour Guidelines by being active on most, preferably all, days of the week.

The guidelines suggest that you:

- Accumulate 2½ to 5 hours of moderate intensity physical activity.

OR 1¼ to 2½ hours of vigorous physical activity each week. You can combine both moderate and vigorous activities if you wish.

- Do muscle strengthening activities at least 2 days a week.
- Minimise the amount of time spent in prolonged sitting.

Being physically active doesn't have to be difficult. Walking has been shown to be beneficial for brain health.

Once you get into the habit of exercising you'll wonder why you waited so long. Exercise makes us feel good and is a great activity to enjoy with friends.

DID YOU KNOW?

Even moderate exercise like walking has been shown to be good for brain health. In one Australian trial, a six month program of physical activity resulted in improved memory and thinking functions at the end of the trial, and 18 months later.



Regular walking increases the size of the hippocampus, the brain's memory coordination centre.



Learn to dance. It's great exercise for your body and brain and promotes socialisation.



Swimming works the heart and lungs and is easy on joints.



Cycling improves stamina and cardiovascular fitness.



Resistance training may have added benefits for aerobic fitness.

STEP 3

MENTALLY CHALLENGE YOUR BRAIN

Scientists have found that challenging the brain with new activities helps to build new brain cells and strengthen connections between them. This helps to give the brain more “reserve” or “back up” so that it can cope better and keep working properly if any brain cells are damaged or die.

Mental exercise may also protect against the accumulation of damaging proteins in the brains of people with Alzheimer’s disease.

As we grow older we tend to prefer doing the things we’ve always done, tasks that we’re familiar with – and that’s understandable – but the brain benefits by having to tackle something it doesn’t know.

It could be learning a new language, taking up a new sport, doing a course in something you’ve always wanted to do – anything really, as long as it’s learning something new. Challenge yourself often and keep learning new things throughout life.

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



Importantly for older or retired people, increased complex mental activity in later life is associated with a lower dementia risk, which is good news for those who are able to work beyond retirement age.

WHAT ABOUT BRAIN TRAINING GAMES?

There is a number of brain training games available on the market. Some of these have been shown to lead to some improvements to the brain functions they were designed to train. However, they have not yet been shown to reduce the risk of dementia.



Research something you’re interested in on the internet or at your local library.



Involve yourself in hobbies you enjoy such as painting, crafts or table tennis.



Learn new things like playing a musical instrument.



Reading stimulates the brain. Vary your book choices. Read about things you don’t know.



Do a course in something like yoga, woodwork or photography. You will learn new skills as well as meet new people.

STEP 4

FOLLOW A HEALTHY DIET

Your brain needs a range of nutrients to function properly. Evidence suggests that a healthy, balanced diet may help in maintaining brain health and functionality but more research is needed to understand if there are specific foods that may be able to reduce the risk of dementia.

Several studies have found that a high intake of saturated fats, such as those found in meat, deep fried foods and takeaway food and trans fats often found in pies, pastries, cakes, biscuits and buns are associated with an increased risk of dementia. So what you eat could affect your brain.

An eating plan that includes 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, pinto and kidney beans, pecan nuts, cranberries, blueberries and oranges, also seem to be good for brain health.

The omega 3 fatty acids, such as those contained in oily fish and walnuts, may reduce inflammation in the brain and promote the growth of new brain cells. Some studies have shown

an association between higher fish consumption and lower dementia risk.

Follow the Australian Dietary Guidelines by eating a variety of foods including vegetables, fruit, fish, grains, nuts, legumes (beans, peas and lentils), and lean meat. Reduce foods high in saturated fats including full fat dairy products, fried food and desserts.

WHAT ABOUT ALCOHOL?

Over time, drinking very large quantities of alcohol may increase the risk of developing dementia. In fact, there is a type of dementia that may develop in anyone who regularly drinks excessive amounts of alcohol over a number of years.

Light to moderate alcohol consumption may be associated with a reduced risk of dementia. The benefits of moderate consumption include reducing inflammation, increasing good cholesterol and increasing brain blood flow, all of which have positive effects on brain health.

See the resources section at the back of this booklet for a link to the Australian Guidelines to Reduce Health Risks from Drinking Alcohol.



Eat a variety of foods from different food groups. Cut back on saturated fats.



Enjoy two pieces of fruit a day.



Include five serves of vegetables in your diet each day.



Include omega 3 fatty acids from oily fish and other sources such as walnuts in your diet.



If you drink alcohol, keep it to no more than two standard drinks on any day.

STEP 5

ENJOY SOCIAL ACTIVITY

Most of us are social beings and usually prefer the company of others rather than existing in isolation. It's more fun to do things with other people, and share experiences like going to the movies or a concert, take off on a trip somewhere or discover a new restaurant.

To help look after your brain health it's important to be social with people whose company you enjoy and in ways that interest you.

Social engagement has been found to have benefits for other health factors related to cognitive functioning such as vascular conditions and depression. It is mentally stimulating and may contribute to building brain reserve which then contributes to a lower dementia risk.

Research suggests that social activities that involve mental activity and physical activity such as dancing and team sports, provide even greater benefit for brain health and reducing the risk of dementia.



Catch up with family and friends to keep your brain active. Even better, catch up over a walk.



Organise cards or games nights with friends or join a local community club.



Go to the theatre or a concert with a group or a friend.



Get to know your neighbours. Organise a street party at a certain time of the year like Christmas.



Join a volunteer group and help others who need a helping hand in your community.

WHAT YOU SHOULD KNOW ABOUT YOUR BRAIN

The brain is an incredible organ. It is made up of many different parts, all of which work together to help keep you alive and allow you to involve yourself in, and make sense of, the world around you.

The best way to keep your brain working at its peak is to keep physically healthy and well rested – yes, the brain does enjoy a good night’s sleep.

Keeping your brain healthy is essential for living a fulfilling, healthy and long life. It’s never too early or too late to start as brain health can be improved and protected at any age.

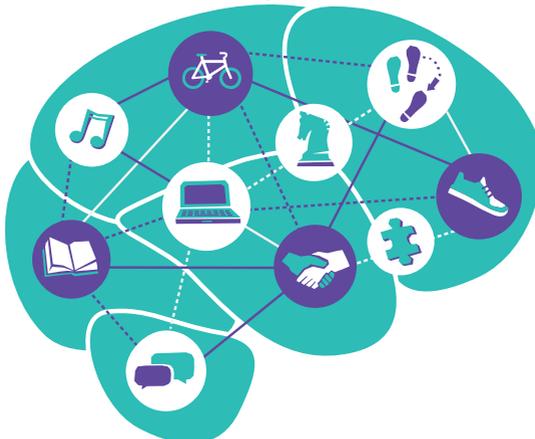
DID YOU KNOW?

The average brain weighs 1.4kg – about the weight of a small Chihuahua. There are around 100 billion neurons (brain cells) in the average human brain. Most of these connect to between 1,000 and 10,000 neighbouring neurons.

YOUR BRAIN HELPS YOU TO:

Plan and organise things
Understand information
Behave appropriately
Remember things
Make decisions
Pay attention

See, hear, taste, smell and feel
Speak and communicate
Recognise people and objects
Control body temperature
Read and write
Breathe



WHAT ELSE CAN YOU DO TO AVOID DEMENTIA?

AVOID HEAD INJURY

A serious head injury, with loss of consciousness, is associated with a higher risk of developing dementia. This doesn't mean that you will get dementia if you have suffered a serious head injury but your risk is greater on average than someone who hasn't suffered one.

It's essential to always wear adequate head protection when doing certain activities such as riding a bicycle or motorcycle, rollerblading and playing certain sports such as football, soccer and boxing. And remember to play it safe when using ladders and avoid falls.

MANAGE DEPRESSION

Depression may be also associated with a higher risk of developing dementia. Evidence is emerging about the physical effects that depression can have on the brain.

It is important to identify and treat depression. Preventing new episodes of depression may be useful to brain health. Effective treatment is available, so you should never hesitate to consult a health professional for advice.



ALWAYS PROTECT YOUR HEAD

No matter what your age your head needs to be protected as research indicates that any serious head trauma can increase your risk of dementia. A child's head should be always protected too.

WHAT IS DEMENTIA?

Dementia describes a collection of symptoms that are caused by disorders affecting the brain. Dementia affects thinking, behaviour and the ability to perform everyday tasks. Brain function is affected enough to interfere with a person's normal social or working life.

Dementia gradually affects a person's ability to carry out daily tasks making it difficult to live independently. Daily tasks such as driving, shopping, getting dressed, eating, managing money, reading, speech and writing may all be affected.

There are a number of different types of dementia. The most common is Alzheimer's disease. Other common types include vascular dementia, Lewy body disease and frontotemporal dementia.

ARE YOU AT RISK OF GETTING DEMENTIA?

Dementia is caused by diseases that damage the brain, such as Alzheimer's disease. It is still unknown why some people are affected by the brain diseases that cause dementia while others are not. A growing body of evidence suggests that certain lifestyle and health characteristics may increase or reduce a person's risk of developing dementia.

Risk factors and protective factors for dementia can be classified under two categories – non-modifiable and modifiable factors. Non-modifiable factors are things that you are not able to control or change through lifestyle and habits, and include your genetics and age.

Modifiable factors are things that you can potentially change such as



mental stimulation, social interaction, diet, physical activity, blood pressure, cholesterol levels, type 2 diabetes, obesity and not smoking.

DID YOU KNOW?

Dementia is not a part of normal ageing. Many people live to very old age without being affected by significant memory and thinking changes.

GLOSSARY

We've put together a glossary of useful words and phrases that you might come across in this booklet and at yourbrainmatters.org.au

Antioxidants: Antioxidants (found in foods such as berries, tomatoes and green leafy vegetables) are naturally occurring substances found in food and help to prevent oxidation of substances known as free radicals. Free radicals are formed during normal metabolism and are by-products of the complex chemical processes that take place in the cells of our bodies.

Body Mass Index or BMI: Body Mass Index (BMI) is a measure of body fat based on height and weight. The Australian Government Department of Health and Ageing classification of BMI indicates that a healthy BMI for an adult is between 18.5 and 25. BMI is calculated by dividing your weight in kilograms by your height squared, i.e. $BMI = \text{weight (kg)} \div \text{height}^2 \text{ (m)}$. For example if you weigh 70 kilograms and your height is 1.70 metres, your BMI is $70 \div (1.7 \times 1.7) = 24.2$.

Brain reserve: Brain reserve refers to the brain's ability to re-organise itself and build new connections. By challenging the brain with new activities and being physically active, you can help to build new brain cells and strengthen connections between brain cells.

Cholesterol: Cholesterol is a type of fat carried in our blood and is an essential part of the body's metabolic processes. The body generally produces all the cholesterol it needs and eating too much saturated fat leads to excess cholesterol in our blood stream.

Cognitive function: Cognitive function refers to a range of high-level brain functions, including the ability to learn and remember information, initiate and stop actions, make and modify decisions, reasoning, planning and language skills.



Mid-life: Mid-life or middle age is a normal developmental life stage and usually refers to those aged between 40 and 65.

Monounsaturated fats: Monounsaturated fats, also known as monounsaturated fatty acids, can assist with lowering blood cholesterol. Monounsaturated fats can be found in olive oil, canola oil, macadamia oil, avocado, nuts, and margarines that are labelled 'monounsaturated'.

Obesity: Obesity is most commonly measured using the BMI weight to height ratio. An adult with a BMI of over 25.0 is considered overweight. An adult with a BMI of over 30.0 is considered obese.

GLOSSARY

Omega-3 fatty acids: Omega-3 fatty acids are a group of unsaturated fats that have a role in regulating blood pressure and blood clotting, in helping to maintain a healthy immune system, and assisting brain and spinal cord function. Omega-3 fatty acids can be found in cold water fish (salmon, tuna and sardines), flax (linseeds and cold pressed linseed oil), soya beans, walnuts, and dark green leaves (spinach and silverbeet).

Polyunsaturated fats: Polyunsaturated fats, also known as polyunsaturated fatty acids, are an essential part of the diet. Two important types are omega-6 fatty acids and omega-3 fatty acids. Omega-6 type fats are found in vegetable oils such as canola and sunflower and are essential for growth, cell structure, maintaining a healthy immune system and help to lower the risk of cardiovascular disease.

Saturated fats: Saturated fats are those that tend to be solid at room temperature and can be found in whole milk, cream, butter, hard cheese, meats, coconut oil, palm oil, chicken skin, biscuits and pastries. Many fast food products, processed meats and deep fried food also contain saturated fats. Saturated fats contribute to the risk of heart disease by raising blood cholesterol levels.

Trans unsaturated fats or Trans fats: Trans fats, also known as trans fatty acids, are unsaturated fats that behave similarly to saturated fats and can raise blood cholesterol levels, increasing the risk of heart disease. Trans fats can be found naturally in small amounts in meat, milk and cheese. They are also created during the manufacture of some table margarines and in solid spreads used to make baked products such as pies, pastries, cakes and biscuits.

RESOURCES AND LINKS

The following are links to useful websites you may wish to visit to help you live a brain healthy life.

Your Brain Matters – the power of prevention – www.yourbrainmatters.org.au

National Physical Activity and Sedentary Behaviour Guidelines (Adults)
www.health.gov.au/internet/main/publishing.nsf/Content/health-publhlth-strateg-phys-act-guidelines

Australian Dietary Guidelines
www.nhmrc.gov.au/guidelines/publications/n55

Australian Guidelines to Reduce Health Risks from Drinking Alcohol
www.nhmrc.gov.au/guidelines/publications/ds10

Healthy and Active Australia website
www.healthyactive.gov.au/

The following resources are available at yourbrainmatters.org.au

- *Your Brain Matters* bilingual help sheets
- Targeting the brain, body and heart for cognitive health and dementia prevention – Alzheimer’s Australia Paper 29
- Brain Health and Dementia Prevention – summary of the evidence presented in Alzheimer’s Australia Paper 29
- Physical activity for brain health and fighting dementia – Alzheimer’s Australia Paper 36

ABOUT ALZHEIMER'S AUSTRALIA

**UNDERSTAND ALZHEIMER'S
EDUCATE AUSTRALIA**

**We are leading Australia in the
fight against dementia**

Alzheimer's Australia offers support,
information, education and counselling

For more information visit our website
FIGHTDEMENTIA.ORG.AU

Call the National Dementia Helpline on
1800 100 500

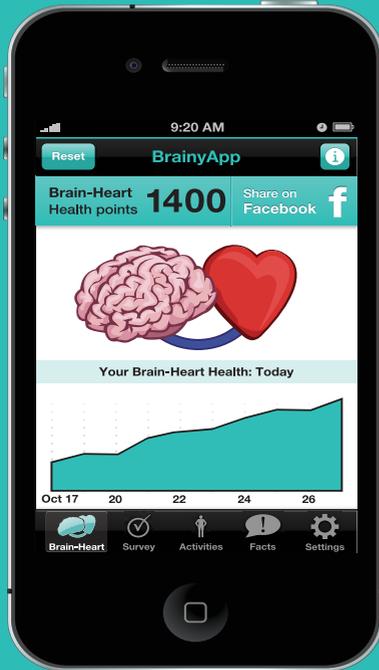
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This publication provides a general summary only of the subject matter covered. People should seek professional advice about their specific case. Alzheimer's Australia is not liable for any error or omission in this publication.

The opinions expressed in this document are those of Alzheimer's Australia and not necessarily those of the Australian Government.

BrainyApp™

If you would like to include a fun and interactive way of looking after your brain health, then download **BrainyApp** on your smartphone or tablet.



BrainyApp was developed by Alzheimer's Australia in partnership with Bupa Health Foundation to raise awareness of the risk factors for Alzheimer's disease and other dementias, and to help people be brain healthy.

BrainyApp can help you rate and track your brain health and provide you with a range of ideas on how to improve it.

BrainyApp is available for Apple and Android devices from the App Store or Google Play Store.

Scan the QR codes below to download BrainyApp on your device today or visit brainyapp.com.au for more information.

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