

UPDATE SHEET 9

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Physical Exercise and Dementia

Physical exercise is an important part of a healthy lifestyle, contributing to general fitness, muscle control and coordination, and to a sense of wellbeing. Physical exercise is also essential for maintaining adequate blood flow to the brain and may stimulate brain cell growth and survival. Exercise is therefore one of the factors researchers are considering for its role in reducing the risk of developing dementia and for the benefits it offers to people with dementia. Of course, you should always consult your doctor before starting any exercise program, particularly where there are other illnesses or disabilities to consider.

This Update Sheet outlines the part that exercise can play in promoting a healthy lifestyle, its potential to reduce the risk of dementia, and its benefits for people with dementia.

Related information is also available in the following resources:

Update Sheet 10 Mental Exercise and Dementia

Update Sheet 11 What you Eat and Drink and Your Brain

Mind your Mind How to keep your brain healthy and reduce your risk of dementia

Paper 13 Dementia Risk Reduction: The Evidence

Physical exercise and its role in reducing the risk of dementia

Research into the potential for physical exercise to reduce the risk of dementia is continuing. While we do not yet have definitive evidence from randomised trials, several studies have found that physical activity in early, mid and late life is associated with a lower risk of cognitive decline and dementia.

The benefits of exercise are clear when considering other factors associated with the risk of developing dementia. People who exercise regularly are less likely to experience heart disease and stroke, both factors that are associated with an increased risk of developing dementia. Exercise is also important in reducing the risk of high blood pressure, type 2 diabetes and obesity, all of which are risk factors for dementia.

Several prospective studies (where large groups of people are followed up over time) have found that higher levels of physical exercise are associated with less cognitive decline in older people. Other studies have found that people who exercise experience a slower loss of brain tissue as they age.

Regular aerobic exercise, including walking, in sessions of at least 30 minutes has been found to be beneficial for cognitive health. All exercise is worth doing. Why this is so is still being studied, but it is thought that exercise may improve blood flow to the brain, reduce cardiovascular risk factors and possibly stimulate nerve cell growth and survival.

What is the right exercise?

For general physical health, research has shown that three types of exercise should be included in your regular routine:

- sustained aerobic exercise
- strength, weight or resistance training
- flexibility and balance training

Aerobic exercise is defined as exercise performed at a moderate level of intensity over a long period of time. It improves general physical health and increases blood flow to the brain. Such exercise can gradually be increased as fitness improves, but at least 30 minutes of aerobic exercise on most days of the week is recommended. Examples of aerobic exercise include brisk walking, dancing, jogging, bicycling and swimming.

Resistance or weight training involves exercising muscles against an external force that provides resistance to the movement. The benefits of strength training include increased muscle, tendon and ligament strength, bone density, flexibility, tone, metabolic rate and postural support. Resistance training can include squeezing rubber balls, using elastic resistance bands and lifting weights.

Flexibility and balance exercises strengthen the spine and supporting muscles and improve coordination and balance. Such exercises can be incorporated into an aerobic exercise program. Exercise such as bending and stretching, tai chi, yoga and pilates can all help with flexibility and balance.

It is important to seek advice from your doctor on what type and intensity of exercise is best suited to you. While planned and supervised exercise programs are ideal, any exercise is beneficial. If appropriate facilities are not available, it is always possible to adapt what is available, and of course to benefit from simpler kinds of exercise such as walking. Other activities, such as dancing, can be a part of an exercise program and are also beneficial for the social participation they offer. It is important that exercise is enjoyable, so that it comes to form a normal part of life.

The National Physical Activity Guidelines

The National Physical Activity Guidelines, published by the Australian Government Department of Health and Ageing, give physical activity recommendations for 5-12 year olds, 12-18 year olds, adults and older adults 65 and over.

The National Physical Activity Guidelines for Australian adults recommend:

- be active every day in as many ways as you can
- think of movement as an opportunity, not an inconvenience
- incorporate movement and activity into your normal daily routine
- be active with a friend or family member
- choose activities you enjoy
- if you can, enjoy regular vigorous exercise for extra health and fitness

The guidelines are available at <http://www.health.gov.au/internet/main/publishing.nsf/Content/health-publth-strateg-phys-act-guidelines>

Benefits of exercise for people with dementia

Physical exercise should be continued for as long as possible for people with dementia, as it has been found to have a number of benefits. It can help prevent muscle weakness, mobility problems and other health complications associated with inactivity. It can help promote a normal day-night routine, improve mood and increase social participation.

Exercise also plays a part in reducing stress and depression, which are commonly experienced by people with dementia. Repetitive activity such as walking on a treadmill or using an exercise bike can help reduce anxiety for people with dementia as there are no decisions to make or things to remember about what to do next.

Evidence suggests that only a small number of people aged over 65 – fewer than 20% – engage in an adequate level of physical activity, while people who have dementia are even less likely to engage in such activity.

An exercise program incorporated into a person's lifestyle in the early stages of dementia is more likely to be maintained as the condition progresses, extending the benefits to health and well-being for as long as possible.

In moderate to late stages of dementia, support and encouragement from family, carers and service providers is important to ensure that an exercise program is maintained. Accessing a structured exercise program with trained staff and using family, friends and volunteers can help to ensure this.

The program should include appropriate elements of aerobic exercise, resistance training and flexibility and balance exercises.

Of course, you should always consult your doctor before starting any exercise program, particularly where there are other illnesses or disabilities to consider.

Tips for exercise

- Always warm up before beginning your exercise routine, and cool down at the end.
- If you plan to work out for 30 minutes, start with 10 minute sessions and work your way up.
- Try water exercise, such as aqua aerobics. These are often easier on the joints and require less balance.
- Work out in a safe environment; avoid slippery floors, poor lighting, floor rugs, and other potential dangers.
- If you have difficulty maintaining your balance, exercise within reach of a rail or something to grab onto. If you have trouble standing or getting up, try exercising in bed rather than on the floor.

- If at any time you feel sick or you begin to hurt, STOP the activity.
- Most important of all, select activities you enjoy and stick with it. Some suggestions include:
 - Gardening
 - Walking
 - Swimming
 - Water aerobics
 - Yoga
 - Tai Chi

More research is needed

More research is being done to see whether links between exercise and dementia can be definitively established and the mechanisms better understood. In the meantime, regular exercise is already recommended as a key strategy for maintaining good health and it might also help keep the ageing brain healthy and reduce cognitive decline.

Research shows that there are health and lifestyle factors that indicate greater risk of developing dementia. While you may reduce that risk or delay the onset of dementia with physical exercise, mental exercise and improved diet, these activities do not guarantee prevention of dementia.

Suggested further reading

The Mind your Body section of the Alzheimer's Australia Mind your Mind website provides information on physical activity and its link to dementia risk, and provides links to some physical activity programs. Go to <http://www.mindyourmind.org.au/mind-your-mind/mind-your-body>

This Update Sheet is provided for your information only, and does not represent an endorsement of any treatment or activity by Alzheimer's Australia.

Further Information

A range of books, DVDs, Help Sheets and Update Sheets are available through Alzheimer's Australia in your State or Territory by contacting the National Dementia Helpline on 1800 100 500.

Help Sheets and Update Sheets can also be obtained online at www.alzheimers.org.au