

Draft Australian 24-hour Movement Behaviour Guidelines for Adults and Older People

Dementia Australia Submission

About Dementia Australia

Dementia Australia is the peak dementia advocacy organisation in Australia.

Our advocacy amplifies the voices of people living with dementia by sharing their stories and helping inform and inspire others. As the trusted source of information, education and support services, we advocate for positive change for people living with dementia, their families and carers, and support vital research across a range of dementia-related fields.

Dementia in Australia

Dementia is the term used to describe the symptoms of a large group of neurocognitive conditions which cause progressive decline in a person's functioning.

Dementia is not just memory loss; symptoms can also include changes in speech, reasoning, visuospatial abilities, emotional responses, social skills and physical functioning. There are many types of dementia, including Alzheimer's disease, vascular dementia, frontotemporal dementia and Lewy body disease. Dementia is ultimately a terminal condition.

In 2024, it is estimated there are more than 421,000 people living with all forms of dementia. This figure is projected to increase to more than 812,500 by 2054.¹

Dementia is major public health issue and a leading cause of disease burden among Australians aged 65 and over.² It is the second leading cause of death for all Australians and the leading cause of death for women.³ In 2023, there were an equivalent of 15 people with dementia per 1,000 Australians.⁴

¹ Dementia Australia (2024) **Dementia in Australia 2024-2054.**

² Australian Institute of Health and Welfare (2024) **Dementia in Australia.**

³ Ibid.

⁴ Ibid.

Dementia Australia's Response

A sedentary lifestyle or low levels of physical activity (PA) have consistently been linked to an increased risk for neurodegenerative diseases, such as dementia and Parkinson's Disease. Further, regular PA might also be a protective factor for Mild Cognitive Impairment, defined as the prodromal stage of dementia.

Although the specific type of exercise regime, to maximise brain health is still debated, including type, duration and intensity, a recent review suggests that an optimal approach for Mild Cognitive Impairment cases may involve moderate-intensity, multi-component exercise sessions conducted at least three times per week. This regimen emphasises shorter durations but increased frequencies, potentially offering a more manageable and effective strategy for prevention of cognitive decline.

Multi-component exercises typically combine elements of aerobic fitness, strength training, balance, and flexibility, providing a comprehensive approach to physical activity. The moderate intensity ensures that the exercises are challenging enough to stimulate beneficial physiological responses without being overly strenuous for older individuals with Mild Cognitive Impairment. The recommendation for shorter, more frequent sessions may help maintain consistent engagement and reduce the risk of overexertion.⁵

In 2024, the Dementia Lancet Commission reported that approximately 2% of dementia cases globally could be attributed to midlife physical inactivity.⁶ In Australia, out of 11 factors investigated (including less education, hearing loss, hypertension, obesity, smoking, depression, social isolation, physical inactivity, diabetes, alcohol excess, air pollution, and traumatic brain injury), physical inactivity had the greatest potential for dementia prevention with a population attributable fraction for dementia of 8.3%.⁷

Although the exact mechanisms linking PA to brain health and risk of dementia remain to be determined, physical activity plays a crucial role in promoting brain health and potentially mitigating dementia pathogenesis through several interconnected mechanisms.

Physical activity enhances cerebral blood flow, with nitric oxide playing a crucial role in this process. Exercise stimulates endothelial nitric oxide production, promoting vasodilation and improved cerebral circulation. This enhanced blood flow not only supports neuronal health and reduces oxidative stress but may also aid in clearing neurotoxic proteins associated with dementia.

Additionally, increased circulation stimulates the production of growth factors, particularly brain-derived neurotrophic factor, which supports neuronal survival, growth, and plasticity. Exercise also promotes hippocampal neurogenesis and maintains blood-brain barrier integrity, reducing inflammation and oxidative stress.

Furthermore, physical activity indirectly benefits brain function by improving cardiovascular health and glucose metabolism, thereby reducing dementia risk factors such as hypertension and

⁵ Yu Y, Wang J, Xu J. Optimal dose and type of exercise to improve cognitive function in patients with mild cognitive impairment: a systematic review and network meta-analysis of RCTs. *Front Psychiatry* 2024; 15: 1436499.

⁶ Livingston G, Huntley J, Liu KY, et al. Dementia prevention, intervention, and care: 2024 report of the Lancet standing Commission. *Lancet* 2024; 404(10452): 572-628.

⁷ See RS, Thompson F, Russell S, et al. Potentially modifiable dementia risk factors in all Australians and within population groups: an analysis using cross-sectional survey data. *Lancet Public Health* 2023; 8(9): e717-e25.

diabetes. It also modulates gene expression related to synaptic plasticity and neurotransmitter systems, potentially slowing cognitive decline and counteracting the chronic inflammation observed in neurodegenerative diseases.

In people living with dementia psychological activity can have protective effects for example on mood including depression and agitation, slowing the progression of symptoms by improving brain structure and function, reduce risk of falling, and facilitating social engagement, for example through group exercise.

Guidance for Older People

The Guidelines are too broad and fail to consider the uniqueness of the older aged population particularly in terms of disease risk profiles (namely multimorbidity and the type of regime that might be most beneficial across different groups) – with an underlying message that any activity is better than none.

Guidelines should consider the impacts of conditions that have a higher prevalence in this age group that may affect mobility and engagement, such as overweight/obesity, sarcopenia, frailty, arthritis, heart disease and sensory impairments, such as visual impairments.

Further, in individuals aged 65 plus years there is an increased risk of cognitive impairments, including dementia. Individuals living with these conditions should not be excluded from guidelines, which must highlight additional safety precautions.

We suggest that specific attention is given to people living with cognitive impairment/dementia, highlighting key benefits as outline above, for example on cognitive, physical and mental health.

Recommendations could highlight doing things that mimic everyday activities and consider guided/group activities. This also has the added benefit of reducing loneliness and increasing social engagement.

The Guidelines could also emphasise the need for more personalised exercise plans. The nature of one's living arrangement, such as living in residential care, should also be mentioned so that it is not seen as a barrier and can create opportunities for individualised exercise plans.

Like many physical activity guidelines worldwide, the recommendations for individuals with mild cognitive impairment often lack specific examples of suggested activities and practical advice on getting started.

Additional considerations include:

- What is defined as a 'long period' in terms of sedentary behaviour?
- How can people start, how can they meet guidance?
- What are the minimal targets for individuals to achieve and how can they be assessed? These includes subjective measures, such as quality of life or pain perception, and objective measures, such as exercise performance, clinical and physiological biomarkers.
- There should also be a push for making environments more exercise friendly.
- Flexibility training should be considered.
- Moderating risk factors such as depression should be considered.

Thank you for the opportunity to contribute to the Draft Guidelines. This response has been prepared by Dr Blossom Stephan, Chair of Dementia, Dementia Australia.

Dementia Australia would be happy to provide further information if requested via [**policyteam@dementia.org.au**](mailto:policyteam@dementia.org.au).