

What Comes to Mind: Menopause and the Aging Brain?



Prevention is key to reducing the risk of memory loss as women age

After menopause, the risk of memory loss increases, but simple lifestyle changes can help prevent the effects of aging and maintain brain health and alertness

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What happens during the menopause?

All women go through the menopause. When a woman's menstrual periods stop, her ovaries stop producing eggs and her oestrogen levels decline.

51 years is the average age for a woman to reach the menopause and the entire process can last anywhere from 2-10 years. ^[1.]

Unfortunately for many women, this is a time of anxiety and distress due to the various symptoms that can accompany the drop in oestrogen: ^[2.]

- Irregular periods
- Hot flushes / flashes
- Sleep difficulties
- Aches and pains
- Irregular heartbeat
- Dizziness and headaches
- Need to urinate more frequently
- Mood changes, such as irritability, depression or anxiety
- Trouble concentrating and tiredness
- Weight gain and bloating
- Digestive problems



Menopause is inevitable for all women; the focus should lie with lessening its effects and improving quality of life. The risk of memory loss increases after menopause. Many factors can contribute to memory loss but simple lifestyle changes may help prevent the effects of aging and maintain brain health and alertness.

The difference between cognitive decline and dementia

Everyone's brain functions change as they age; for most, thought processes, analysis and problem solving show a decline during midlife and beyond. ^[3.] This is because these tasks are linked directly to memory and other mental abilities. As these abilities are affected, we experience symptoms of poor memory, poor concentration, fuzzy thinking or have trouble multi-tasking.

The most severe form of cognitive deterioration is dementia. This severely impacts individuals, and it is no longer possible to carry out normal day-to-day activities. Age-related cognitive decline on the other hand is not due to the same processes. We can become a little more forgetful and a little less efficient in our thinking. The good news is that many aspects of healthy ageing are under our control. Also, importantly, healthy aging provides a buffer against dementia changes that might emerge later in life.

Preventing memory loss in midlife and beyond

During the natural menopause transition and early post menopause, some women notice forgetfulness or other cognitive symptoms, which can raise concerns of mental decline. During the menopause transition, there may in fact be modest reductions in aspects of attention ^[4.], but natural menopause does not appear to lead to persistently poorer memory. ^[5.]

There's no definitive list of actions to take to help reduce memory loss but evidence does support some approaches over others. ^[6.] Brain health can be improved through mentally stimulating activities, such as work or leisure. ^[7.] Here we discuss measures of how brain health and functions can be improved:

Nutrition, diet and lifestyle measures

Mediterranean diet

Research suggests that a Mediterranean diet in midlife and beyond supplemented with olive oil or nuts can help improve brain function. It may be the antioxidant-rich diet that is strongly associated with delaying cognitive decline. [8.]

This is not a specific diet per se more of a lifestyle whereby individuals eat natural, unprocessed foods like fruits, vegetables, whole grains and nuts. They make olive oil their primary source of dietary fat, reduce red meat consumption and eat low to moderate amounts of fish.

Vitamin D

Low levels of vitamin D is associated with cognitive decline in older adults. [9.] There are specific foods that contain vitamin D that can be eaten to replenish levels, for example, oily fish – such as salmon, sardines and mackerel, eggs, fortified fat spreads, fortified breakfast cereals, and some powdered milks. Dietary supplements may be considered alongside other lifestyle changes to help improve general brain health.

B-vitamins

There is evidence to support B-vitamins can help improve brain health. Our bodies levels of homocysteine increase with age; vitamin B12, folic acid (vitamin B9), and vitamin B6 can help to rebalance these levels. [10.]

B vitamins are widely distributed throughout the food supply, so if you're eating a varied, balanced diet that includes foods from all food groups, you're most likely getting as many vitamins as you need.

Good food sources for B-vitamins include: pork, chicken, turkey, liver, salmon, cod, bread, whole cereals – such as oatmeal, wheat germ and brown rice, eggs, milk, cheese, soya beans, peanuts, potatoes, broccoli, Brussels sprouts, spinach, asparagus, peas, and chickpeas. [11.]

Soy isoflavones

Soy isoflavones seem to have a positive effect on improving brain function and visual memory in postmenopausal women [12.] if used at an earlier age after menopause. These supplements can be purchased from health food stores.

Physical activity

Some studies suggest that physical activity combined with mental stimulation help improve brain health in older adults. [13.] Post-menopausal women can also be prone to additional weight gain due to reduced oestrogen lowering the metabolic rate so regular exercise will help combat a multitude of symptoms. Although women frequently report weight gain during this period, studies have consistently shown that weight gain is primarily influenced by age, not menopause. [14., 15.]

Tai chi exercises have proven effective in trials at boosting memory. [16., 17.] These specific exercises focus one's attention on the here and now, and promote mindfulness; this is an important component of meditation and mind-body practices such as tai chi.

Alcohol and smoking

The reduction of toxins, including alcohol and smoking, as well as the implementation of mental and physical exercises can prevent cognitive decline in the elderly studies suggest. [18.] Women in midlife and beyond are advised to have no more than 2 units a day. [19.]



Mental activity and social interaction

Mental stimulation like playing chess and other board games, learning a foreign language, volunteering, reading and playing a musical instrument all keep the brain tuned increasing its capacity and improving our cognitive functions. [20., 21. 22.] Finding a friend to do some of these activities with is also a bonus: in a study that examined over 1,000 people, those with a limited social network were 60% more likely to have cognitive decline and dementia after a three-year period. [23.]

Menopausal Hormone Therapy (MHT)

Menopausal hormone therapy (MHT) may not directly impact or improve memory; however, the benefits of this prescribed treatment helps alleviate menopausal symptoms and reduce risk for other diseases post menopause. A woman's informed decision is increasingly the critical factor in whether MHT is prescribed and this is an option that should be considered with your healthcare professional. [24.]

Top 10 prevention tips for memory loss in later life

Research has suggested that combining good nutrition with mental, social and physical activities may have a greater benefit in maintaining or improving brain health than any single activity:

- 1.Nutrition:** an antioxidant-rich **Mediterranean diet** with olive oil may help
- 2.Vitamin D and B-Vitamins:** may improve brain health alongside other activities
- 3.Other dietary supplements:** Soy isoflavones helping to improve memory
- 4.Physical activity:** brisk walking and other forms of aerobic exercise are linked to a lower dementia risk
- 5.Mindfulness:** Tai chi studies show positive outcomes for improving memory
- 6.Control alcohol consumption:** moderating alcohol intake can help maintain brain health
- 7.Smoking cessation:** reducing the intake of toxins can help boost brain health
- 8.Mental activity:** important for boosting brain stimulation
- 9.Social interaction:** engaging, challenging and creative communication
- 10.MHT:** helping to alleviate distressful vasomotor menopausal symptoms

Be sure to discuss your options and prevention strategies with your healthcare professional. If you have any concerns or would like to discuss any areas highlighted in this leaflet, please visit your healthcare professional or alternatively you can read more in Climacteric 2015. [25.]



References

1. Web reference: www.34-menopause-symptoms.com/articles/understanding-menopause-symptoms.htm
2. Web reference: www.nhs.uk/conditions/menopause/pages/symptoms.aspx
3. Web reference: patient.info/doctor/mild-cognitive-impairment
4. Weber MT, Mapstone M, Staskiewicz J, Maki PM. Reconciling subjective memory complaints with objective memory performance in the menopausal transition. *Menopause* 2012;19:735–41
5. Henderson VW. Gonadal hormones and cognitive aging: a midlife perspective. *Women's Health (Lond Engl)* 2011;7:81–93
6. Williams JW, Plassman BL, Burke J, et al. Preventing Alzheimer's Disease and Cognitive Decline. Evidence Report/Technology Assessment Number 193. Department of Health and Human Services, Rockville, MD, 2010. AHRQ Publication No. 10-E005
7. Henderson VW. Three midlife strategies to prevent cognitive impairment due to Alzheimer's disease. *Climacteric* 2014 [Epub ahead of print]. PMID: 24893836
8. Mediterranean Diet and Age-Related Cognitive Decline: A Randomized Clinical Trial. Valls-Pedret C, Sala-Vila A, Serra-Mir M, Corella D, de la Torre R, Martínez-González MÁ, Martínez-Lapiscina EH, Fitó M, Pérez-Heras A, Salas-Salvadó J, Estruch R, Ros E. *JAMA Intern Med.* 2015 Jul 1;175(7):1094-103. doi: 10.1001/jamainternmed.2015.1668.
9. Tot Babberich Ede N, Gourdeau C, Pointel S, Lemarchant B, Beauchet O, Annweiler C. Biology of subjective cognitive complaint amongst geriatric patients: vitamin D involvement. *Curr Alzheimer Res.* 2015;12(2):173-8.
10. Durga J, van Boxtel MP, Schouten EG, et al. Effect of 3-year folic acid supplementation on cognitive function in older adults in the FACIT trial: a randomised, double blind, controlled trial. *Lancet* 2007;369:208-216.
11. Web reference: www.nhs.uk/Conditions/vitamins-minerals/Pages/Vitamin-B.aspx
12. Cheng PF, Chen JJ, Zhou XY, Ren YF, Huang W, Zhou JJ, Xie P. Do soy isoflavones improve cognitive function in postmenopausal women? A meta-analysis. *Menopause.* 2015 Feb;22(2):198-206. doi: 10.1097/GME.0000000000000290.
13. Rahe J, Petrelli A, Kaesberg S, Fink GR, Kessler J, Kalbe E. Effects of cognitive training with additional physical activity compared to pure cognitive training in healthy older adults. *Clin Interv Aging.* 2015 Jan 19;10:297-310. doi: 10.2147/CIA.S74071. eCollection 2015.
14. Sternfeld B, Wang H, Quesenberry CP Jr, et al. Physical activity and changes in weight and waist circumference in midlife women: findings from the Study of Women's Health Across the Nation. *Am J Epidemiol* 2004;160:912–22
15. Guthrie JR, Dennerstein L, Dudley EC. Weight gain and the menopause: a 5-year prospective study. *Climacteric* 1999;2:205–11
16. Taylor-Piliae RE, Newell KA, Cherin R, Lee M, King AC, Haskell WL. Tai Chi versus Western exercise on physical and cognitive functioning in healthy community-dwelling older adults: a randomized clinical trial. *J Aging Phys Act* 2010;18:261-279.
17. Mortimer JA, Ding D, Borenstein AR, et al. Changes in brain volume and cognition in a randomized trial of exercise and social interaction in a community-based sample of non-demented Chinese elders. *J Alzheimers Dis* 2012;30:757-766.
18. Williams JW, Plassman BL, Burke J, Holsinger T, Benjamin S. Preventing Alzheimer's Disease and Cognitive Decline. Evidence Report/Technology Assessment Number 193. AHRQ Publication No. 10-E005. Rockville, MD: Department of Health and Human Services, 2010.
19. Web reference: en.wikipedia.org/wiki/Recommended_maximum_intake_of_alcoholic_beverages
20. Henderson VW. Three midlife strategies to prevent cognitive impairment due to Alzheimer's disease. *Climacteric* 2014;17 (suppl. 2):38-46.
21. Stern Y. Cognitive reserve in aging and Alzheimer's disease. *Lancet Neurology* 2012;11.
22. Reijnders J, van Heugten C, van Boxtel M. Cognitive interventions in healthy older adults and people with mild cognitive impairment: a systematic review. *Ageing Res Rev* 2013;12:263-275.
23. Friedman Richard A. Forget Something? Then Read This. *New York Times.* Published: April 10, 2007
24. Manson JE, Chlebowski RT, Stefanick ML, et al. Menopausal hormone therapy and health outcomes during the intervention and extended post stopping phases of the Women's Health Initiative randomized trials. *JAMA* 2013;310:1353–68
25. *Climacteric* 2015;18:678-689

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