

Dementia

Disease Report

REPORT CATEGORIES —



MENTAL HEALTH



COGNITION

Sample Client

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Personal information

NAME

Sample Client

SEX AT BIRTH

Male

HEIGHT

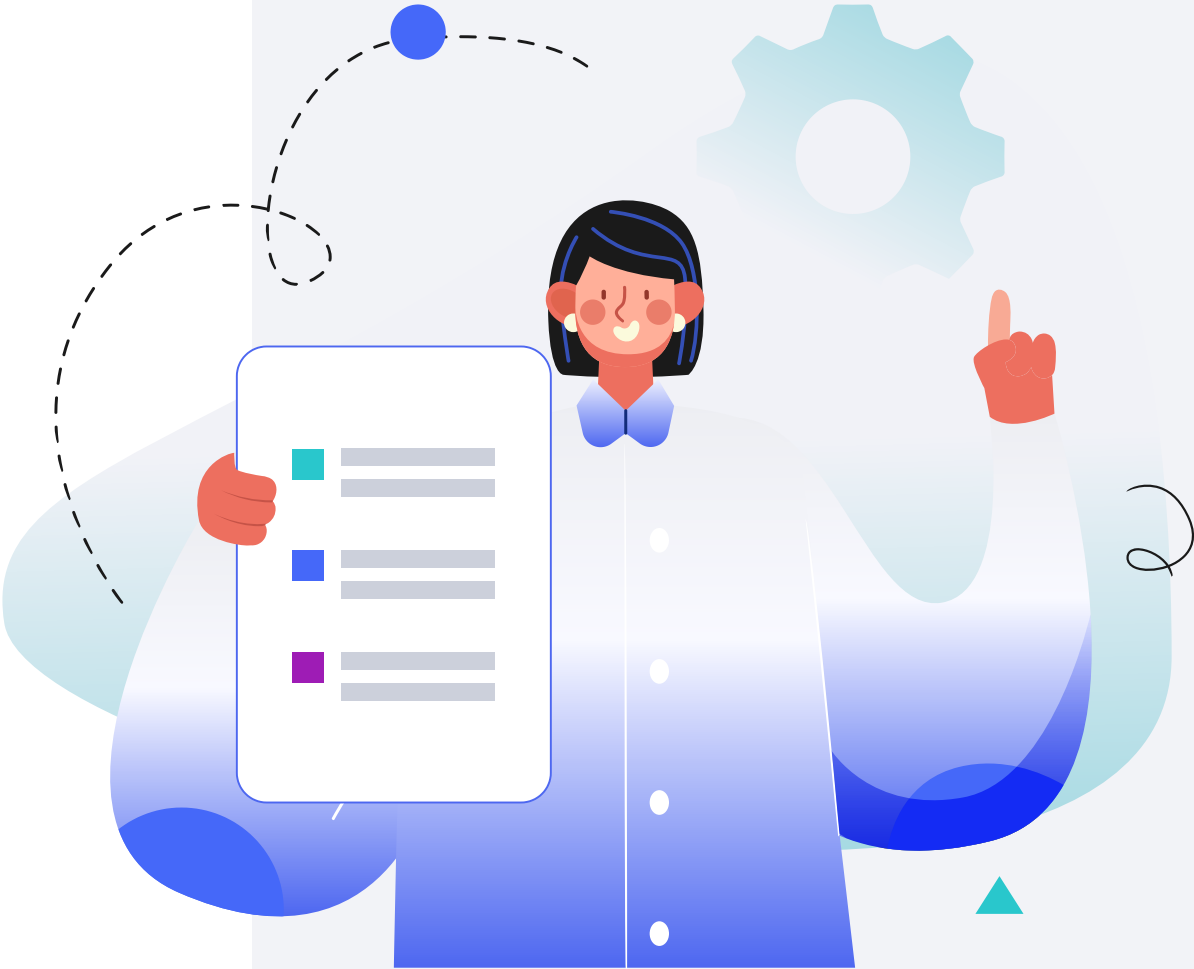
5ft 5" 165cm

WEIGHT

137lb 62kg

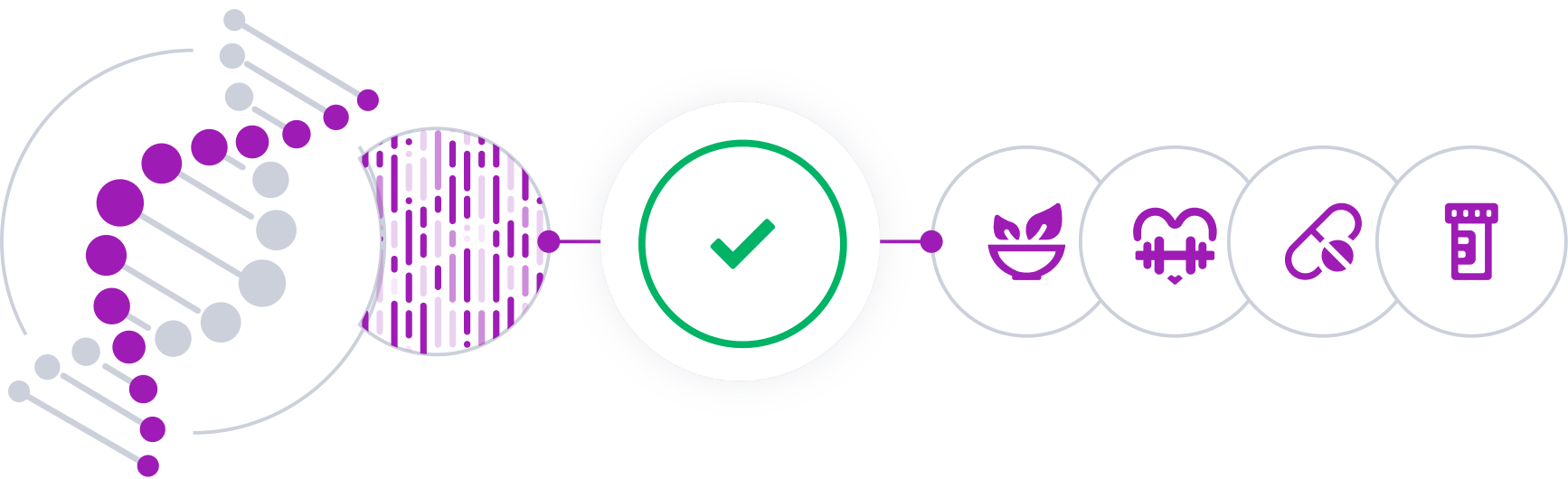
DISCLAIMER

This report does not diagnose this or any other health conditions. Please talk to a healthcare professional if this condition runs in your family, you think you might have this condition, or you have any concerns about your results.



How this works

Our Wellness Reports analyze how your DNA influences your health.
We then use this analysis to give you personalized risk estimates and recommendations.

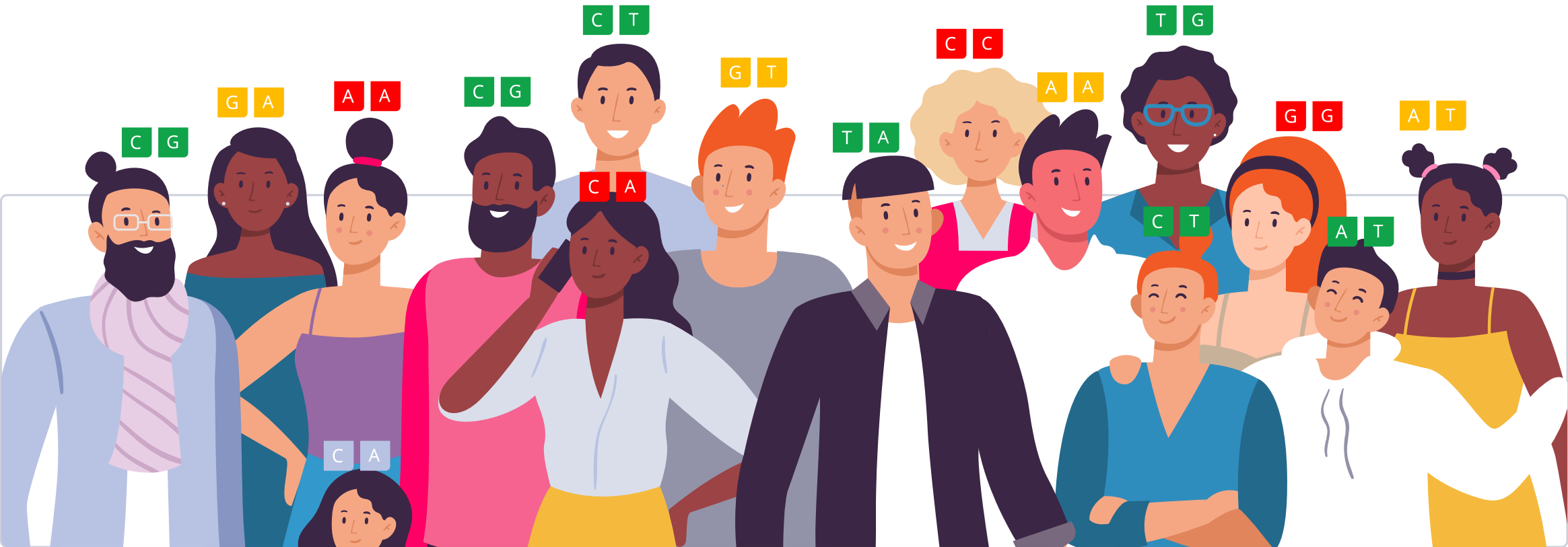


Similarly, our Trait Reports look at how your DNA influences your traits.



Your DNA is like an instruction manual — it contains a lot of information.
You can think of it as a blueprint for your body.

Genetic variants are parts of DNA that differ from person to person. Some can make you more vulnerable to certain health issues, while others may influence traits such as eye color.



We use artificial intelligence and machine learning to analyze all this information.
We then summarize your results as a risk score or display it on a gauge.

In total, we analyze up to 83 million genetic variants.

When we give a risk score, the risk icon tells you if you are at a higher or lower risk compared to other people:



Genotype color info:

AA

You don't have any risk alleles

AA

You have 1 risk allele

AA

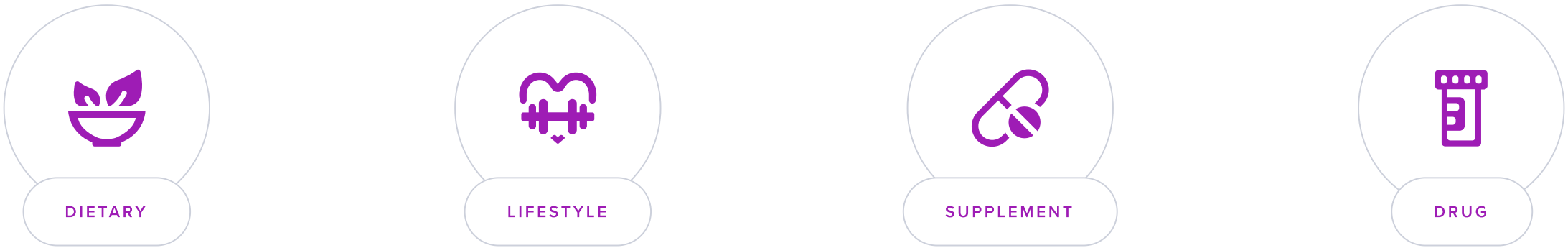
You have 2 risk alleles

Your risk is also displayed as a percentile. This will tell you how your risks compare to our sample population. The lower your percentile number, the lower your risk. The "50th percentile" would be an average risk.

Similarly, the gauge tells you your relative risk score compared to our sample population, or it indicates a specific trait or haplotype you are more likely to have based on your genetic variants.

When applicable, we also list top evidence-based recommendations that may help lower your risk. The focus is on recommendations that may be of benefit to you, based on your genetics.

Our recommendations come in four categories: lifestyle, diet, supplements and drugs.
The following icons tell you which category a recommendation falls into:



Our team of scientists also ranks each recommendation.
We rank based on impact and the strength of evidence in the medical literature.

Impact shows how strongly a recommendation will affect your health in a certain area.
Evidence is how much scientific support there is for the recommendation. Rankings are from 1 to 5 (low to high):



Impact

Impact scores range from 1-5. These scores reflect how much of an effect each recommendation can have. An impact score of 5 predicts the biggest effect.

When a recommendation affects something we can measure, we use those measurements to assign the impact score. For example, a recommendation that decreases cholesterol by 20% will have a higher impact score than one that decreases it by 5%.

Some recommendations affect things that we cannot directly measure, like stress or mood. For these, the impact score is based on how well they work relative to other recommendations and standard treatments. The best ones get the highest scores.

If there is a lot of research that shows a recommendation works especially well for your genotype, the impact score gets increased.

Recommendation Evidence

- 5 / 5
- Recommendations that are considered effective and generally recommended by experts and medical bodies.
-
- 4 / 5
- Recommendations that are considered likely effective and that have multiple independent meta-analyses and a great many studies supporting them.
-
- 3 / 5
- Recommendations that are considered possibly effective and have many studies supporting them
-
- 2 / 5
- Recommendations that have insufficient evidence, with two or several clinical trials supporting them, or many studies but with ambiguous results.
-
- 1 / 5
- Recommendations that have insufficient evidence, with a single clinical trial, or with many studies most of which didn't find support for the recommendation.
-
- 0 / 5
- No evidence in humans.

Genotype-specific Evidence

- High-quality
- Direct evidence that a recommendation helps more in people with your gene variant (many clinical trials, a few large clinical trials, or a meta-analysis).
- Medium-quality
- Direct evidence that a recommendation helps more in people with your gene variant (a few clinical trials or one large clinical trial).
- Low-quality
- Direct evidence that a recommendation helps more in people with your gene variant (a single clinical trial or more trials with inconsistent results).
- Indirect
- A recommendation may help more in people with your gene variant because it targets a specific gene or protein affected by your variant (e.g., MTHFR, dopamine).
- In theory
- A recommendation may help more in people with your gene variant because it targets a specific mechanism affected by your variant (e.g., inflammation, oxidative stress).

Some things to keep in mind:

- Genetics doesn’t play a considerable role in a condition or a trait.
- There is not enough research available to estimate a genetic predisposition.
- There are technical limitations to estimating or presenting a genetic predisposition.
- The topic is sensitive, and a genetic predisposition should only be estimated and presented by a healthcare professional.

Introduction

Dementia is a general term for a decline in mental ability severe enough to interfere with daily life. It is not a specific disease but an overall term that describes a wide range of symptoms associated with a decline in memory or other thinking skills severe enough to reduce a person's ability to perform everyday activities. Dementia results from a variety of diseases and injuries that primarily or secondarily affect the brain, such as Alzheimer's disease or stroke.

The main types of dementia are:

- Alzheimer's disease: The most common cause of dementia, accounting for an estimated 60-80% of cases. Alzheimer's is characterized by the buildup of amyloid plaques and tau tangles in the brain.
- Vascular dementia: Often occurring after a stroke, this second most common type of dementia is caused by blocked or reduced blood flow to the brain.
- Lewy body dementia: Associated with abnormal protein deposits in the brain known as Lewy bodies, affecting brain functions including memory and motor control.
- Frontotemporal dementia: Involves damage to brain cells, especially in the front and side regions of the brain, and is typically noted by personality changes, difficulty with language, and behavior.

Symptoms and Management

Symptoms of dementia may include:

- Memory loss: Particularly problems with short-term memory, such as forgetting conversations, appointments, or recent events.
- Communication difficulties: Trouble with finding the right words, following conversations, or understanding instructions.
- Mood changes: Shifts in mood and personality, including increased confusion, anxiety, and depression.
- Cognitive impairment: Difficulty in reasoning, complex tasking, organizing, planning, and handling complex tasks.
- Disorientation: Losing track of dates, seasons, and the passage of time.
- Impaired visual and spatial abilities: Difficulty judging distance or distinguishing color or contrast, which can affect driving.

While most types of dementia are progressive and incurable, some therapeutic approaches and medications can manage symptoms and improve quality of life. These include:

- Medications: Such as cholinesterase inhibitors and memantine to manage symptoms.
- Therapeutic strategies: Cognitive therapy, physiotherapy, occupational therapy, and speech therapy.
- Lifestyle changes: Regular physical activity, a healthy diet, cognitive training, and social engagement have been shown to help delay the onset or slow the progression of symptoms.
- Support services: Support for both patients and caregivers, including counseling and caregiver education, is crucial.



TYPICAL LIKELIHOOD

Typical likelihood of dementia based on 1,674 genetic variants we looked at



Your top variants that most likely impact your genetic predisposition:

GENE	SNP	GENOTYPE
RFX4	rs11610873	GG
ZNF334	rs202380	CC
CDH4	rs34197461	AG
HFE	rs1799945	CC
TFAP2A	rs116443000	CC
LHX6	rs181518405	GG
CFAP46	rs146777408	CC
PCSK5	rs73650172	AA

The number of "risk" variants in this table doesn't necessarily reflect your overall result.

Your Recommendations

Your recommendations are prioritized according to the likelihood of it having an impact for you based on your genetics, along with the amount of scientific evidence supporting the recommendation.

You’ll likely find common healthy recommendations at the top of the list because they are often the most impactful and most researched.

DOSAGE		DOSAGE	
1	Mediterranean Diet	2	Huperzine A50 mcg
3	Practice Exercise Snacks1 minutesute	4	Ginkgo120 mg
5	Aerobic Exercise (Cardio)1 hour	6	Fruits And Vegetables
7	Tea	8	Social Activity1 hour
9	Cognitive Activity15 minutes	10	Cognitive Training15 minutes
11	Pet Therapy30 minutes	12	Music Therapy30 minutes
13	Methylfolate400 mcg	14	Leafy Green Vegetables
15	Acetyl-L-Carnitine500 mg	16	Avoid Air Pollution
17	Transcutaneous Electrical Nerve Stimulation (TENS)30 minutes	18	Singing20 minutes
19	EPA (Omega-3)500 mg	20	Glucosamine1500 mg
21	DHA (Omega-3)200 mg	22	Dance30 minutes
23	Dietary Omega-3 Fatty Acids	24	Vitamin B12100 mcg
25	Maintain Optimal Vitamin D Levels1000 iu	26	Dietary B Vitamins
27	Melatonin500 mcg	28	Dietary Vitamin C
29	Vitamin C2000 mg	30	Moderate Computer Use2 hours

31	Alpha-GPC Choline	300 mg	32	Reduce TV Watching	2 hours
33	Lemon Balm	500 mg	34	Red Light Therapy	20 minutes
35	SAM-e	400 mg	36	Carnosine And Anserine	1 g
37	Hyperbaric Oxygen Therapy	90 minutes	38	Lycopene	10 mg
39	Art Therapy	1 hour	40	Walking	30 minutes
41	Methylsulfonylmethane (MSM)	1 g			

1



Mediterranean Diet

IMPACT4 / 5

EVIDENCE4 / 5

How to implement

Incorporate a variety of primarily plant-based foods, such as fruits, vegetables, whole grains, nuts, and legumes, into every meal. Choose healthy fats, like olive oil, over saturated fats and consume fish and poultry at least twice a week. Limit red meat to a few times a month and include a moderate amount of dairy products. Opt for water and red wine in moderation as your beverages.

Description

The [Mediterranean diet](#) is based on the traditional cuisine from the Mediterranean regions. It moderates the intake of red meat and dairy, while being rich in fruits and vegetables, whole grains, and healthy fats ([olive oil](#)).

The [Mediterranean diet](#) focuses on traditional cuisine from the Mediterranean regions. It’s rich in [\[R\]](#):

- [Olive oil](#)
- Fruits and vegetables
- Whole grains
- Nuts and seeds
- Fish

This type of diet may **reduce inflammation and protect the brain and heart** [\[R, R, R, R\]](#).

Limited intake of animal products, saturated fat, and refined sugar likely contribute to the health benefits of the Mediterranean diet [\[R\]](#).

How it helps

The Mediterranean diet is linked to a lower risk of Alzheimer's disease and dementia [\[R, R, R, R, R\]](#).

The Mediterranean diet may support brain health by [\[R, R\]](#):

- Protecting against brain cell loss
- Decreasing the amount of plaques in the brain

2



Huperzine A

IMPACT3 / 5

EVIDENCE4 / 5

How to implement

Take a Huperzine A supplement daily, starting with a low dose of about 50 micrograms (mcg) in the morning, and gradually increase the dosage based on tolerance, not exceeding 200 mcg per day. It's recommended to cycle the supplement, taking it for a duration of 2-4 weeks followed by a break of 1 week to prevent tolerance build-up.

TYPICAL STARTING DOSE

50 mcg

Description

Huperzine A is a compound extracted from Chinese club moss and is sometimes used in supplements for its potential cognitive-enhancing properties. It is believed to support memory and cognitive function, though its effectiveness can vary among individuals.

Huperzine A is an alkaloid found in Chinese club moss (*Huperzia serrata*). Its cognitive-enhancing effects may be due to its involvement in inhibiting the breakdown of acetylcholine, a neurotransmitter that is important for memory and learning [R].

People take huperzine A supplements for a variety of purposes, including [R]:

- Improving memory and cognitive function
- Reducing anxiety and depression

How it helps

Three meta-analyses (the largest one with 20 trials and 1823 participants) concluded that huperzine A (300-500 mcg/day for 8-24 weeks) improves general cognitive function, global clinical status, behavioral disturbance, and functional performance at activities of daily living in patients with Alzheimer’s disease. Two more meta-analyses (the largest one with 33 studies) analyzing different therapies identified huperzine A among those improving the symptoms in both those with mild and moderate cognitive dysfunction [R, R, R, R, R].

Huperzine A boosts levels of acetylcholine, a chemical messenger involved in memory and learning. This supplement may also protect nerve cells, helping to slow the disease's progression.

3



Practice Exercise Snacks

IMPACT3 / 5

EVIDENCE4 / 5

How to implement

Integrate short bursts of physical activity, each lasting about 1 to 2 minutes, into your daily routine at least two to three times a day. These 'exercise snacks' can include activities like doing a set of stairs, rapid bodyweight exercises, pull-ups, push-ups, sit-ups, or brisk walking.

TYPICAL STARTING DOSE

1 minutesute

Description

Staying physically active is essential for maintaining overall health and well-being. **Exercise snacks** are brief, frequent bursts of physical activity integrated into daily routines, helping combat the health risks associated with prolonged sitting and sedentary behavior, such as obesity and cardiovascular issues. Examples include taking the stairs or doing quick exercises during work breaks.

Staying active can do wonders for your health. It can help you lose weight, improve your heart health, boost your mood, and more [\[R\]](#).

Exercise snacks are short, quick bursts of physical activity performed throughout the day, designed to break up prolonged periods of sitting or inactivity. These brief bouts of exercise can be as short as a few minutes and are incorporated into daily routines to boost overall physical activity levels.

Exercise snacks are crucial for health because they combat the negative effects of sedentary behavior, such as prolonged sitting, which is associated with an increased risk of obesity, cardiovascular diseases, diabetes, and musculoskeletal issues. They help improve blood circulation, regulate blood sugar levels, and enhance mood and cognitive function.

Examples of exercise snacks include taking the stairs instead of the elevator, doing a few minutes of bodyweight exercises (e.g., squats or push-ups) during work breaks, or walking briskly for a few minutes after meals. These short, frequent bursts of activity contribute to a more active lifestyle and can significantly benefit overall health by reducing the risks associated with excessive sitting.

How it helps

Physical activity is linked to a lower risk of Alzheimer’s disease and dementia. It may also slow the progression of Alzheimer’s disease [\[R,R,R,R\]](#).

Exercise may support brain health by:

- Protecting against brain cell loss [\[R,R,R\]](#)
- Supporting normal brain activity [\[R,R,R,R,R\]](#)
- Increasing blood flow in the brain [\[R,R\]](#)
- Decreasing plaque buildup [\[R\]](#)

4



Ginkgo

IMPACT

3 / 5

EVIDENCE

4 / 5

How to implement

Take 120 mg of Ginkgo supplement daily, preferably with meals to aid absorption. This dosage is typically split into two 60 mg doses taken in the morning and evening for best results.

TYPICAL STARTING DOSE

120 mg

Description

[Ginkgo](#) (*Ginkgo biloba*) is an ancient tree used in traditional Chinese medicine [\[R\]](#), [\[R\]](#).

According to limited evidence, ginkgo leaf extract may help with [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#):

- Anxiety
- Dementia
- Eye problems
- Blood vessel problems
- Vitiligo

How it helps

Eight meta-analyses (the largest one with 21 studies) concluded that supplementation with ginkgo (120-240 mg/day for 12-54 weeks) improves cognition, global rating, behavioral and psychological symptoms, activities of daily living, and quality of life in patients with dementia. However, supplementation doesn’t prevent this condition [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#).

Ginkgo may increase blood flow to the brain, improving cognitive function and memory recall.

5



Aerobic Exercise (Cardio)

IMPACT3 / 5

EVIDENCE4 / 5

How to implement

Engage in at least 150 minutes of moderate-intensity aerobic exercise or 75 minutes of vigorous-intensity activity each week. Distribute this time over at least 3 days per week, avoiding consecutive days of vigorous exercise to allow for recovery.

TYPICAL STARTING DOSE

1 hour

Description

Engaging in regular aerobic exercise, such as running, swimming, or cycling, offers numerous health benefits, including improved cardiovascular fitness, weight management, and mood enhancement. It supports overall physical and mental well-being while reducing the risk of chronic diseases.

Cardio, short for cardiovascular exercise, is any type of physical activity that temporarily increases your heart rate. Examples include **running, cycling, swimming, and brisk walking**.

Regular cardio exercise has many benefits for your overall health. It can help lower your risk of heart disease and diabetes, support weight loss, and improve your mood and energy levels. To get the most out of cardio, try to do it for at **least 30 minutes, 3-5 times a week**.

Interval training is a type of cardio that combines periods of high-intensity training with brief rest periods.

How it helps

Exercise is linked to a lower risk of Alzheimer’s disease and dementia. It may also slow the progression of Alzheimer’s disease [\[R, R, R, R\]](#).

Exercise may support brain health by:

- Protecting against brain cell loss [\[R, R, R\]](#)
- Supporting normal brain activity [\[R, R, R, R, R\]](#)
- Increasing blood flow in the brain [\[R, R\]](#)
- Decreasing plaque buildup [\[R\]](#)

6



Fruits And Vegetables

IMPACT3 / 5

EVIDENCE3 / 5

How to implement

Increase your intake of fruits and vegetables to at least five servings per day, aiming for a variety of types and colors to ensure a broad range of nutrients. Each serving size should roughly be the amount you can fit in one hand. Try to incorporate at least one serving of fruits or vegetables into every meal and snack throughout the day.

Description

A diet rich in fruits and vegetables provides essential nutrients, antioxidants, and dietary fiber. This combination supports overall health, helps maintain a healthy weight, and reduces the risk of chronic diseases such as heart disease and certain cancers.

How it helps

A meta-analysis of 6 studies and 21,175 participants associated a high intake of fruits and vegetables with a 35% lower risk of Alzheimer's disease, dementia, and cognitive decline [\[R\]](#).

In line with this, the Mediterranean diet (rich in fruits and vegetables) is linked to a lower risk of Alzheimer's disease and dementia [\[R, R, R, R, R\]](#).

Fruits and vegetables are rich in antioxidants that protect the brain and may help slow the progression of Alzheimer's disease and dementia.

7



Tea

IMPACT

3 / 5

EVIDENCE

3 / 5

How to implement

Drink 1-3 cups of tea daily, choosing from green, black, or herbal varieties according to preference. It's beneficial to consume tea throughout the day, either hot or cold, for ongoing hydration and health benefits.

Description

Tea is a beverage made by steeping the leaves of the *Camellia sinensis* plant in hot water. It comes in various types, including black, green, white, and herbal teas, and is known for its diverse flavors and potential health benefits due to polyphenols and other bioactive compounds.

[Green](#) and black tea are made from the same plant (*Camellia sinensis*). This plant is processed in different ways to make each type of tea [\[R\]](#), [\[R\]](#).

Tea contains many active compounds. These include antioxidants like EGCG and amino acids like [L-theanine](#). Active components of tea help support [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#):

- Heart health
- Cognition
- Immunity
- Relaxation

How it helps

A meta-analysis of 7 studies and 410,951 participants associated the intake of green or black tea with a 12% reduced risk of Alzheimer’s disease and 30% reduced risk of vascular dementia [\[R\]](#).

8



Social Activity

IMPACT

3 / 5

EVIDENCE

3 / 5

How to implement

Participate in group activities or gatherings with friends, family, or community members at least twice a week. This could include joining clubs, attending local events, or scheduling regular outings with friends. Aim for these social engagements to last at least an hour each time to foster meaningful connections and conversations.

TYPICAL STARTING DOSE

1 hour

Description

Engaging in social activities, such as spending time with friends and family or participating in group events, can have numerous mental and emotional health benefits. It helps reduce feelings of loneliness, enhances mood, and promotes a sense of belonging and well-being.

Social activities involve physical and mental activities with others that you enjoy and find meaningful. There are plenty of ways to stay socially active and maintain social well-being as you age.

Research has shown that a socially active lifestyle [\[R\]](#):

- Makes you less likely to develop certain chronic conditions.
- May promote a longer lifespan.
- Can improve mood and mental health.
- Can improve memory and other aspects of cognition.

How it helps

Keeping your brain active helps maintain cognitive function [\[R\]](#).

Staying socially active is a great way to engage your brain. It may lower the risk of Alzheimer's disease, dementia, and cognitive decline [\[R, R, R, R\]](#).

Ways to maintain your social activity include:

- Spending time with your friends and family
- Sharing your hobbies with others
- Traveling
- Volunteering and activism
- Choosing physical activities in groups

9



Cognitive Activity

IMPACT

3 / 5

EVIDENCE

3 / 5

How to implement

Engage in mentally stimulating activities, such as puzzles, reading, or learning a new skill, for at least 15 minutes daily. Consistency is key, so incorporate these activities into your daily routine for ongoing cognitive health benefits.

TYPICAL STARTING DOSE

15 minutes

Description

Engaging in cognitive activities, such as puzzles, reading, or learning new skills, can help maintain mental sharpness and potentially reduce the risk of age-related cognitive decline. Staying mentally active supports cognitive health and overall quality of life.

Some scientists like to think of the brain as a muscle. They say people should “use it or lose it” [\[R\]](#).

In line with this, keeping the brain stimulated may help support cognition [\[R\]](#).

There are many ways to keep your brain active. These include [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#):

- Reading a book
- Solving a word or number puzzle (e.g., crossword, Sudoku)
- Completing a jigsaw puzzle
- Learning a new language

How it helps

Taking part in activities that stimulate the mind may help reduce the risk of dementia. These include [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#):

- Reading
- Solving puzzles
- Playing word games
- Memory training

Cognitive activity may help by:

- Supporting healthy brain activity [\[R\]](#)
- Decreasing the amount of plaque in the brain [\[R\]](#), [\[R\]](#)

10



Cognitive Training

IMPACT3 / 5

EVIDENCE3 / 5

How to implement

Engage in exercises that challenge your brain for at least 15 minutes per day, five days a week. This can include puzzles, memory games, learning a new language, or playing a musical instrument.

TYPICAL STARTING DOSE

15 minutes

Description

Cognitive training involves structured exercises and activities designed to improve specific cognitive functions, such as memory, attention, and problem-solving skills. It can be beneficial for individuals looking to enhance cognitive abilities or address cognitive challenges associated with conditions like Alzheimer's disease or attention deficit hyperactivity disorder (ADHD).

Cognitive training programs guide you through challenging tasks. They aim to support some cognitive functions, including [\[R\]](#):

- Memory
- Attention
- Problem-solving skills

Some scientists like to think of the brain as a muscle. They say people should “use it or lose it.” In line with this, cognitive training can be considered “brain exercise.” It is often provided through computer programs [\[R\]](#), [\[R\]](#).

How it helps

Taking part in activities that stimulate the mind may help reduce the risk of dementia. These include [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#):

- Reading
- Solving puzzles
- Playing word games
- Memory training

Cognitive activity may help by:

- Supporting healthy brain activity [\[R\]](#)
- Decreasing the amount of plaque in the brain [\[R\]](#), [\[R\]](#)

11



Pet Therapy

IMPACT

3 / 5

EVIDENCE

3 / 5

How to implement

Engage with a pet, such as a dog or cat, for at least 15-30 minutes a day. This can include activities like playing, petting, or simply sitting together. It's beneficial to do this regularly, aiming for daily interactions, to maximize the emotional and physical health benefits.

TYPICAL STARTING DOSE

30 minutes

Description

Pet therapy, also known as animal-assisted therapy, involves the interaction between trained animals and individuals to provide emotional and physical benefits. Spending time with therapy animals, typically dogs or cats, can reduce stress, improve mood, and enhance overall well-being by promoting relaxation and social interaction, making it particularly beneficial for people facing mental health challenges or chronic conditions.

Animal-assisted therapy, also known as **pet therapy**, involves human-animal interaction to foster physical and emotional healing and provide social support. This therapy may use different animals, such as [\[R\]](#), [\[R\]](#):

- Dogs
- Horses
- Dolphins

Animal-assisted therapy may involve touching, playing, grooming, and talking with the animal [\[R\]](#).

How it helps

A meta-analysis of 11 trials and 825 participants concluded that animal-assisted therapy **improves behavioral and psychological symptoms of dementia, especially depression, but not cognitive function, activities of daily living, agitation, or quality of life**, in people with dementia [\[R\]](#).

A Cochrane review of 10 studies only found evidence that animal-assisted therapy **helps with depression** in people with dementia [\[R\]](#).

Another meta-analysis (10 studies and 413 participants) found that animal-assisted evidence **improves behavioral and psychological symptoms of dementia, especially depression and agitation, but not cognitive scores or activities of daily living** [\[R\]](#).

Similarly, animal-assisted therapy **decreased anxiety and sadness while increasing positive emotions and motor activity** in a non-placebo-controlled trial of 10 patients with advanced Alzheimer’s disease [\[R\]](#).

However, a meta-analysis of 10 studies found that dog-assisted therapy **doesn’t improve daily life activities, depression, agitation, quality of life, or cognitive impairment and may only help with apathy** [\[R\]](#).

12



Music Therapy

IMPACT3 / 5

EVIDENCE3 / 5

How to implement

Engage in music therapy sessions for at least 30 minutes a day, three times a week. These sessions can involve listening to music, playing an instrument, singing, or writing songs, facilitated by a certified music therapist if possible.

TYPICAL STARTING DOSE
30 minutes

Description

Music therapy is a therapeutic approach that uses music to address physical, emotional, cognitive, and social needs. It can improve mental health, enhance emotional expression, and support overall well-being.

[Music](#) therapy is a form of therapy that involves making, reflecting on, and/or listening to music. It can be applied individually or in groups and may not require the presence of a therapist [\[R\]](#).

Music therapy provides tools for body relaxation and positive imagery. It aims to improve communication, quality of life, and well-being [\[R\]](#), [\[R\]](#).

How it helps

Three meta-analyses (the largest one with 22 trials and 1097 patients) found large beneficial effects of music therapy (at least 5 sessions) on behavioral problems, moderate effects on anxiety, depression, and quality of life, and small effects on cognition in people with dementia. Two additional meta-analyses (the largest one with 7 studies) concluded that active music therapy improves global cognition in people with dementia. Receptive music therapy is more effective than interactive music therapy at improving agitation, behavioral problems, and anxiety according to a meta-analysis of 38 trials and 1418 participants with dementia [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#).

Music therapy stimulates emotional response and memory recall, which helps counter some of the behavioral and cognitive symptoms of dementia. Through active engagement with music, patients can improve their mood, reduce stress, and even slow the disease's progression.

13



Methylfolate

IMPACT3 / 5

EVIDENCE3 / 5

How to implement

Take an L-methyl folate supplement (400-800 micrograms daily), ideally with a meal, to improve absorption. This dosage is recommended for adults, including pregnant women, to support overall health, especially to reduce the risk of neural tube defects in developing fetuses. Continue daily use as part of your regular supplement routine.

TYPICAL STARTING DOSE

400 mcg

Description

Folate, a B-vitamin, is crucial for DNA synthesis, cell growth, and the formation of red blood cells. Adequate folate intake supports overall health and reduces the risk of neural tube defects during pregnancy.

Vitamin B9 (*folate*) plays an essential role in [\[R\]](#), [\[R\]](#), [\[R\]](#):

- Making DNA
- Metabolism
- Energy production

SelfDecode recommends L-methylfolate as the preferred folate supplement for those who need one. It is superior to folic acid because it doesn't require activation, but the research is still ongoing [\[R\]](#), [\[R\]](#).

How it helps

A meta-analysis of 76 studies identified low serum folate levels as a risk factor for the conversion of mild cognitive impairment to dementia. However, a meta-analysis of 11 studies concluded that folate may not be a modifiable risk factor for dementia in older adults [\[R\]](#), [\[R\]](#).

Nevertheless, a meta-analysis of 68 studies confirmed lower folic acid levels in patients with Alzheimer's [\[R\]](#).

A meta-analysis of 5 trials found no beneficial effects of B vitamin supplementation on cognitive aspects or disease progression in patients with Alzheimer's. However, adding folate to cholinesterase inhibitors improved response to these drugs in a non-placebo-controlled trial of 41 patients with Alzheimer's disease [\[R\]](#), [\[R\]](#).

Folate assists in the production of DNA and other genetic material, crucial for brain function. Its deficiency can lead to increased levels of homocysteine, a harmful amino acid linked to Alzheimer's disease.

14



Leafy Green Vegetables

IMPACT

3 / 5

EVIDENCE

2 / 5

How to implement

Incorporate at least one serving of leafy green vegetables, such as spinach, kale, or Swiss chard, into your diet daily. This can be done by adding them to salads, smoothies, or as a side dish to your meals.

Description

Leafy green vegetables like spinach and kale are packed with vitamins, minerals, and antioxidants. Incorporating them into your diet can promote overall health by providing essential nutrients, supporting digestion, and reducing the risk of chronic diseases like heart disease and certain cancers.

Leafy green vegetables, also called leafy greens, or greens, are edible plant leaves, which can include stalks and shoots as well. Common examples include: lettuce, spinach, kale, chard, endive, and fennel.

Leafy greens contain a host of vitamins and minerals, as well as fiber. Most of them are a particularly good source of vitamin K.

How it helps

A study of 581 postmortem brains found lower Alzheimer’s severity (particularly, β -amyloid load) in those with the highest dietary intake of leafy green vegetables [\[R\]](#).

In line with this, the Mediterranean diet (rich in leafy green vegetables) is linked to a lower risk of Alzheimer's disease and dementia [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#).

Leafy green vegetables are high in nutrients and antioxidants that can support brain health and reduce the risk of cognitive decline.

15



Acetyl-L-Carnitine

IMPACT2 / 5

EVIDENCE3 / 5

How to implement

Take 500-1,000 mg of Acetyl-L-Carnitine per day, split into 2 or 3 doses, with or without food. Joe prefers taking 500 mg in the morning. It can be taken indefinitely for chronic conditions or for a period of several months for acute concerns.

TYPICAL STARTING DOSE
500 mg

Description

[Carnitine](#) is a protein building block (amino acid). It comes in many forms, such as acetyl-L-carnitine. Acetyl-L-carnitine may help with nerve damage and mood problems.

[Carnitine](#) is a protein building block (amino acid). It comes in many forms, such as acetyl-L-carnitine [\[R\]](#), [\[R\]](#), [\[R\]](#).

[Acetyl-L-carnitine](#) may help with [\[R\]](#), [\[R\]](#), [\[R\]](#):

- Nerve damage
- Mood problems
- Cognitive decline

Doctors are also studying its potential effect on drug addiction [\[R\]](#).

How it helps

A meta-analysis of 21 studies involving patients with mild cognitive impairment (MCI) and/or mild Alzheimer's disease (AD) found that **ALC (acetyl-L-carnitine) showed advantages over placebo in terms of clinical improvement and cognitive function.** The benefits were observed at the 3-month assessment and continued to increase over time, with ALC being well-tolerated in all studies [\[R\]](#)

In a study with 23 mild Alzheimer's disease patients unresponsive to acetylcholinesterase inhibitors, adding ALC (2 g/day) to their treatment increased the response rate from 38% to 50%, suggesting a potential therapeutic option [\[R\]](#).

In a 12-week trial with Alzheimer's and vascular dementia patients, acetyl-L-carnitine (ALC) at doses of 2250 to 3000 mg/day showed a 2.8 times higher treatment effect compared to placebo. Clinical improvement, assessed by CGI scores, was notably better in AD patients regardless of baseline cognitive deficit, and ALC was well-tolerated [\[R\]](#).

Acetyl-L-carnitine may help by increasing the levels of acetylcholine, an important neurotransmitter in the brain.

16



Avoid Air Pollution

IMPACT2 / 5

EVIDENCE3 / 5

How to implement

Stay indoors on days when air quality indexes (AQI) indicate high pollution levels, which are often reported by weather services or government environmental agencies. **Install air purifiers** in your home, especially in bedrooms, to reduce indoor pollutants. Limit outdoor exercise when air pollution warnings are issued, opting for indoor activities instead.

Description

Avoiding air pollution by reducing exposure to pollutants in the environment is essential for respiratory and overall health. It can help lower the risk of respiratory diseases, cardiovascular conditions, and other health issues associated with poor air quality.

While city life is convenient in a lot of ways, it comes with some health hazards. Cars, factories, and other sources increase air [pollution](#) [\[R\]](#).

Air pollution plays a role in [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#):

- Lung disease
- Heart disease
- Diabetes
- Asthma
- Skin conditions

How it helps

Air pollution is linked to a greater risk of Alzheimer's disease and dementia [\[R\]](#), [\[R\]](#), [\[R\]](#).

Pollution may worsen brain health by increasing oxidative stress and inflammation [\[R\]](#).

 PERSONALIZED TO YOUR GENES

Exposure to air pollution may increase the risk of Alzheimer’s disease more in people with your [MTHFR](#) gene variant [\[R\]](#).

YOUR GENETIC VARIANTS

GENE	SNP	GENOTYPE	EVIDENCE
MTHFR	rs1801133	AA	

17



Transcutaneous Electrical Nerve Stimulation (TENS)

IMPACT2 / 5

EVIDENCE3 / 5

How to implement

Apply TENS unit electrode pads around the area in pain; begin with the device set to a low setting and gradually increase intensity to a comfortable level. Use the device for 15-30 minutes per session for pain relief, and it can be used multiple times a day as needed.

TYPICAL STARTING DOSE

30 minutes

Description

TENS is a therapy that uses low-level electrical currents to relieve pain by stimulating the nerves. It's commonly used as a non-invasive method to manage various types of pain, such as musculoskeletal pain or chronic pain conditions.

How it helps

In people with dementia, TENS may improve delayed word recall, face recognition, and motivation. However, the benefits may be short-lived [\[R\]](#).

18



Singing

IMPACT2 / 5

EVIDENCE3 / 5

How to implement

Dedicate at least 20 minutes to singing daily, choosing songs that you enjoy and that allow for a range of vocal expressions. This practice can be done alone, with a group, or during a dedicated singing class, with consistency being key for potential health benefits.

TYPICAL STARTING DOSE

20 minutes

Description

Singing is a form of expression where you use your voice to create music. It also exercises your lungs and heart by providing a kind of workout for your respiratory system. By doing so, it improves your cardiovascular performance and overall health, reducing stress and boosting your mood.

How it helps

Various non-placebo-controlled showed the positive impact of group singing on individuals with Alzheimer's and related dementias. In a study of 298 Alzheimer's patients, group singing was more effective than lyric reading in improving verbal fluency, psychiatric symptoms, and caregiver distress. Another trial with 59 mild Alzheimer's patients revealed that 12 weeks of singing group reduced pain, and anxiety, and enhanced quality of life and cognitive functions. Among 89 patients with early dementia, a 10-week group singing program improved mood, orientation, memory, attention, executive function, and overall cognition. Additionally, 10 weeks of singing group participation improved quality of life for 10 individuals with dementia and their caregivers. A singing-based music therapy intervention (six 25-minute sessions) improved emotions and social engagement, particularly for those with moderate dementia in a trial with 32 patients. However, a singing and listening program (8 weeks, 40 minutes, 3 times per week) did not significantly affect agitation and anxiety in a study of 47 participants with mild to moderate dementia [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#).

19



EPA (Omega-3)

IMPACT2 / 5

EVIDENCE2 / 5

How to implement

Take an EPA (Eicosapentaenoic acid) supplement in the form of fish oil or algae oil capsules, aiming for a dosage of 500-1000 mg per day. This should be taken with a meal to improve absorption, and continuous daily use is recommended for general heart health and to support mental well-being.

TYPICAL STARTING DOSE
500 mg

Description

EPA is an omega-3 fatty acid found in fish oil supplements and fatty fish like salmon. It is known for its anti-inflammatory properties and is associated with cardiovascular health, mood regulation, and cognitive function.

[Omega-3 fatty acids](#) are some of the healthiest fats we can eat. They help lower inflammation and protect the heart, brain, and eyes. Our bodies produce less omega-3s than we need for optimal health, so it's important to get enough through food or supplements [\[R\]](#), [\[R\]](#), [\[R\]](#).

There are three major types of omega-3s: ALA, EPA, and DHA. **EPA and DHA are vital for cognition and mental health** [\[R\]](#), [\[R\]](#).

The body can produce eicosapentaenoic acid (EPA) from alpha-linolenic acid (ALA), another type of omega-3 fatty acid found in plants. We can also get EPA directly from food sources such as oily fish, shellfish, and algae. EPA helps make DHA. [\[R\]](#), [\[R\]](#), [\[R\]](#).

Please note: Fish oil can interact with blood thinners (like aspirin, Plavix, Coumadin). Consult your doctor before taking fish oil [\[R\]](#).

How it helps

Getting more omega-3s may help protect from cognitive decline. It may also help delay the onset of Alzheimer’s disease [\[R\]](#), [\[R\]](#), [\[R\]](#).

Omega-3s may help by reducing the buildup of plaque in the brain [\[R\]](#), [\[R\]](#), [\[R\]](#).

Please note: Omega-3s can interact with blood thinners (like aspirin, Plavix, Coumadin). Consult your doctor before taking omega-3s [\[R\]](#).

20



Glucosamine

IMPACT

2 / 5

EVIDENCE

2 / 5

How to implement

Take glucosamine as a dietary supplement, commonly available in capsules or liquid form. The standard dose is 1500 mg per day, which can be taken all at once or divided into multiple doses throughout the day. It's often recommended to continue taking glucosamine for at least 3 to 4 months to evaluate its effectiveness in relieving joint pain or osteoarthritis symptoms.

TYPICAL STARTING DOSE

1500 mg

Description

Glucosamine is a supplement commonly used to support joint health and may help alleviate symptoms of osteoarthritis. It's believed to promote cartilage health and reduce joint discomfort, but individual responses can vary.

[Glucosamine](#) is a compound naturally made by the body. It helps keep the connective tissues, such as the cartilage in the joints, strong and elastic [\[R\]](#).

Many people use glucosamine supplements to support joint health [\[R\]](#), [\[R\]](#), [\[R\]](#).

How it helps

In an 8.9-year follow-up with 2458 dementia cases, glucosamine users had a 16% lower risk of all-cause dementia, a 17% lower risk of Alzheimer's disease, and a 26% lower risk of vascular dementia. The protective effect was more pronounced in those under 60 years old and remained after considering other factors [\[R\]](#).

21



DHA (Omega-3)

IMPACT

2 / 5

EVIDENCE

2 / 5

How to implement

Take an omega-3 supplement containing DHA at a dosage of 200-500 mg daily, preferable with a meal to improve absorption. It's recommended to continue this supplementation as part of your daily regimen to support heart, brain, and joint health.

TYPICAL STARTING DOSE
200 mg

Description

DHA is an omega-3 fatty acid found in fatty fish and algae-based supplements. It is essential for brain health and has been associated with cognitive function, cardiovascular health, and reducing inflammation in the body.

An **EPA/DHA supplement** can be taken to help meet omega-3 fatty acid needs not achieved through diet. Supplement amounts are generally 250-500mg/d though there are no current official recommendations other than for ALA.

How it helps

Getting more omega-3s may help protect from cognitive decline. It may also help delay the onset of Alzheimer's disease [\[R, R, R\]](#).

Omega-3s may help by reducing the buildup of plaque in the brain [\[R, R, R\]](#).

Please note: *Omega-3s can interact with blood thinners (like aspirin, Plavix, Coumadin). Consult your doctor before taking omega-3s* [\[R\]](#).

22



Dance

IMPACT

2 / 5

EVIDENCE

2 / 5

How to implement

Engage in dance activities for at least 30 minutes, three times per week. You can choose any form of dance you enjoy, such as ballroom, hip hop, or salsa, and you can dance at home, in a studio, or in a group class setting.

TYPICAL STARTING DOSE

30 minutes

Description

Dancing involves moving your body to music. Many people take dance classes to learn various styles of dance and improve their skills. Examples include:

- Ballet
- Zumba
- Belly dancing
- Hip hop
- Salsa

Dancing is a fun, creative, and relaxing activity. It can also provide a range of health benefits, improving your heart health, brain health, fitness, and more.

How it helps

Two meta-analyses (the largest one with 12 studies) concluded that dance interventions improve agitation, aggression, functionality, behavior, psychological symptoms, and quality of life in people with Alzheimer’s disease and other types of dementia [\[R\]](#), [\[R\]](#).

Dance interventions also improve depression in people with dementia according to a meta-analysis of 5 trials [\[R\]](#).

Dance stimulates brain activity, potentially improving cognition and memory. Regular dancing also relieves stress and improves mood and well-being.

23



Dietary Omega-3 Fatty Acids

IMPACT2 / 5

EVIDENCE2 / 5

How to implement

Incorporate foods high in omega-3 fatty acids into your diet daily. This includes eating fish such as salmon, mackerel, and sardines at least twice a week. Alternatively, include a tablespoon of flaxseed oil or chia seeds in your daily diet.

Description

[Omega-3 fatty acids](#) are some of the healthiest fats we can eat. They help lower inflammation and protect the heart, brain, and eyes. Our bodies produce less omega-3s than we need for optimal health, so it's important to get enough through food or supplements [\[R\]](#), [\[R\]](#), [\[R\]](#).

There are three major types of omega-3s: ALA, EPA, and DHA. **EPA and DHA are vital for mental and heart health** [\[R\]](#), [\[R\]](#), [\[R\]](#).

Fatty fish are rich in EPA and DHA. They include [\[R\]](#):

- Salmon
- Tuna
- Herring
- Sardines

For optimal health, try to get at least **two servings of fatty fish per week**. Fish oil supplements are available for those who don't eat fish regularly [\[R\]](#).

How it helps

Getting more omega-3s may help protect from cognitive decline. It may also help delay the onset of Alzheimer's disease [\[R\]](#), [\[R\]](#), [\[R\]](#).

Omega-3s may help by reducing the buildup of plaque in the brain [\[R\]](#), [\[R\]](#), [\[R\]](#).

Please note: *Omega-3s can interact with blood thinners (like aspirin, Plavix, Coumadin). Consult your doctor before taking omega-3s* [\[R\]](#).

24



Vitamin B12

IMPACT1 / 5

EVIDENCE3 / 5

How to implement

Take a 50 mcg vitamin B12 supplement daily, preferably with a meal to enhance absorption.

TYPICAL STARTING DOSE

100 mcg

Description

Vitamin B12 is a water-soluble vitamin primarily found in animal-based foods like meat, fish, and dairy products. It plays a crucial role in maintaining healthy nerve cells, DNA synthesis, and red blood cell formation. Vitamin B12 deficiency can lead to anemia, neurological issues, and fatigue.

[Vitamin B12](#) is important for [\[R\]](#), [\[R\]](#):

- Building DNA
- Nervous system function
- Energy production

You can get vitamin B12 from [\[R\]](#):

- Animal products (meat, fish, eggs, and dairy)
- Fortified foods
- Supplements

Adults should be getting **2.4 micrograms** of vitamin B12 every day [\[R\]](#).

How it helps

A meta-analysis of 35 studies and 14,325 subjects associated low levels of vitamin B12 status biomarkers (methylmalonic acid and holotranscobalamin) with increased risk of Alzheimer’s or dementia. Another meta-analysis (68 studies) confirmed lower vitamin B12 levels in patients with Alzheimer’s [\[R\]](#), [\[R\]](#).

However, genetically lower vitamin B12 levels don’t seem to be associated with a reduced risk of Alzheimer's disease [\[R\]](#).

Supplementing with vitamin B12 may help by [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#):

- Lowering homocysteine
- Protecting against the loss of brain cells

25



Maintain Optimal Vitamin D Levels

IMPACT1 / 5

EVIDENCE3 / 5

How to implement

Check your vitamin D levels, they should ideally be in the 30-66 ng/mL range. If your levels are lower than that, take a vitamin D supplement, 1000-4000 IU daily, to reach an optimal range.

TYPICAL STARTING DOSE
1000 iu

Description

Vitamin D, often referred to as the "sunshine vitamin," can be synthesized by the skin when exposed to sunlight, as well as being found in fish, eggs, and fortified milk. It helps regulate calcium absorption, promoting strong bones and a healthy immune system. Vitamin D deficiency can lead to conditions like rickets in children and osteoporosis in adults.

Your body needs [vitamin D](#) for strong bones. Vitamin D also plays a role in [\[R\]](#):

- Mood
- Immunity
- Heart health
- Blood sugar control

[Sunlight](#) is our main source of vitamin D. Experts recommend getting at least **5-15 minutes of midday sun, 2-3 times per week**. People with darker skin and those living at high latitudes may need longer periods of sun exposure [\[R\]](#), [\[R\]](#).

Foods like fish, eggs, and fortified milk provide small amounts of vitamin D. **People lacking vitamin D should consider taking a supplement** [\[R\]](#).

How it helps

Low vitamin D levels may increase the risk of Alzheimer's disease and dementia [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#).

Vitamin D may help by decreasing plaque buildup in the brain [\[R\]](#).

Please note: *Experts recommend getting 600-800 IU of vitamin D per day. Medical bodies recommend against taking more than 4,000 IU per day* [\[R\]](#).

26



Dietary B Vitamins

IMPACT1 / 5

EVIDENCE3 / 5

How to implement

Incorporate foods rich in B vitamins like whole grains, meat, eggs, dairy products, leafy green vegetables, beans, peas, and nuts into your daily meals. For a balanced intake, aim to include at least one serving of a B vitamin-rich food in each meal throughout the day.

Description

B-vitamins are a group of water-soluble vitamins that play essential roles in metabolism, energy production, and overall health. They include B1 (thiamine), B2 (riboflavin), B3 (niacin), B5 (pantothenic acid), B6 (pyridoxine), B7 (biotin), B9 (folate), and B12 (cobalamin).

B vitamins help the body function properly. Three examples are [vitamin B9 \(folate\)](#), [vitamin B12](#), and [vitamin B6](#). They play essential roles in heart, brain, and kidney health [\[R, R, R, R\]](#).

You can get these vitamins from [\[R, R, R\]](#):

- Animal products
- Green leafy vegetables
- Fortified foods
- Supplements

Every day, adults should be getting [\[R\]](#):

- **Folate:** 400 mcg
- **Vitamin B12:** 2.4 mcg
- **Vitamin B6:** 1.7 mg

Folic acid is a form of folate found in most supplements [\[R\]](#).

Folate deficiency is rare but can happen in people that don’t eat enough fruits and vegetables. Alcoholics and lactating mothers may also be at an increased risk [\[R\]](#).

Vitamin B12 deficiency often takes years to develop, as the body is able to store large amounts in the liver. Groups that may be at an increased risk include [\[R, R\]](#):

- Vegans
- Pregnant women
- Older people
- People with gut issues

People with kidney problems or gut issues may be at increased risk of vitamin B6 deficiency [\[R\]](#).

How it helps

Low B vitamin levels may lead to high homocysteine, a potential risk factor for Alzheimer’s disease and dementia [\[R, R, R, R\]](#).

Supplementing with B vitamins may help by [\[R, R, R, R, R, R\]](#):

- Lowering homocysteine
- Protecting against the loss of brain cells

However, the majority of studies show that vitamin B supplements don't have a significant effect on cognitive function [\[R, R, R, R, R\]](#). Benefits may be limited to those with a vitamin deficiency.

27



Melatonin

IMPACT1 / 5

EVIDENCE2 / 5

How to implement

Take 500 mcg of melatonin orally, about 30 minutes before bedtime, to help with sleep. It can be taken daily as needed.

TYPICAL STARTING DOSE

500 mcg

Description

Melatonin is a natural hormone produced by the pineal gland in the brain that helps regulate the sleep-wake cycle. It plays a crucial role in promoting sleep onset and maintaining a consistent sleep pattern, making it a commonly used supplement for managing sleep disorders and jet lag.

[Melatonin](#) is an important sleep hormone. Bright light at night may prevent your body from making enough melatonin [\[R, R, R\]](#).

Your body makes melatonin on its own. However, some people take melatonin supplements to help them sleep. It may help with jet lag in particular [\[R, R, R\]](#).

How it helps

A Cochrane review of 3 trials found non-significant effects of melatonin on cognition in people with all types of dementia. However, melatonin (2.5 mg/day) did improve behavioral (except sleep) and affective symptoms. Another meta-analysis (7 trials and 520 patients with dementia) found that melatonin improved total sleep time (by 24.36 minutes) and sleep efficacy (marginally), but not cognition. The most recent meta-analysis (50 trials) concluded that supplementation with melatonin (3 mg/day for 6-12 months) improved cognition and quality of life in people with Alzheimer’s disease. However, the authors warned about the high heterogeneity of the included studies [\[R, R, R\]](#).

28



Dietary Vitamin C

IMPACT1 / 5

EVIDENCE2 / 5

How to implement

Incorporate foods rich in Vitamin C into your daily diet, such as oranges, strawberries, red peppers, kale, and broccoli. Aim to consume 5 servings of fruits and vegetables per day to meet the recommended dietary allowance of Vitamin C, which is 90 mg for adult men and 75 mg for adult women.

Description

Vitamin C is an antioxidant that supports the immune system, collagen production, and wound healing. It also enhances iron absorption from plant-based foods and contributes to overall health.

[Vitamin C](#) is an essential nutrient. This means that our bodies can’t produce it on their own, so we have to get it from food or supplements [\[R\]](#).

Vitamin C has antioxidant properties. It supports immunity, heart health, and wound healing [\[R\]](#), [\[R\]](#).

Vitamin C deficiency is called *scurvy*. In the past, many sailors suffered from it [\[R\]](#).

How it helps

A meta-analysis of 7 studies found that dietary vitamin C may reduce the risk of dementia. However, vitamin E may have greater protective effects [\[R\]](#).

AD patients have significantly lower levels of vitamin C compared to healthy controls. In one meta-analysis, higher vitamin C levels were linked to a lower risk of AD mortality, but levels above 2.3 mg/dL were linked to a higher risk [\[R\]](#), [\[R\]](#).

Vitamin C may help by protecting the brain against oxidative stress.

How to implement

TYPICAL STARTING DOSE

2000 mg

Description

Foods rich in Vitamin C include: [[R](#)]

- Citrus Fruits
- Peppers
- Brussel sprouts
- Kiwi
- Broccoli
- Tomato
- Cantaloupe
- Cauliflower
- Spinach

Vitamin C has antioxidant properties. It supports immunity, heart health, and wound healing [R, R].

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How it helps

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Vitamin C may help by protecting the brain against oxidative stress.

30



Moderate Computer Use

IMPACT1 / 5

EVIDENCE1 / 5

How to implement

Limit your computer use to no more than 2 hours per day for recreational purposes. Ensure to take a 5-minute break every 30 minutes to rest your eyes and move around.

TYPICAL STARTING DOSE

2 hours

Description

In the modern world, computers have become an integral part of daily life for work, education, communication, and entertainment.

Moderate computer use and computer-based therapy has proven useful to help with conditions related to [R, [R](#), [R](#), [R](#)]:

- Mental health
- Brain health

While computer use offers numerous benefits, extensive computer use, especially without proper ergonomics and breaks, can lead to various physical and mental health concerns.

Excessive computer use may lead to [[R](#), [R](#), [R](#), [R](#)]:

- Eye strain, which is characterized by dry eyes, blurred vision, and headaches.
- Musculoskeletal issues, including poor posture and back, neck, and shoulder pain
- Repetitive strain injuries like carpal tunnel syndrome.
- Sleep disturbances due to exposure to blue light at night
- Digital addiction

How it helps

Research suggests that not using a computer or using it too much (2 hours or more) may increase the risk of dementia compared to using it moderately (1-2 hours) [[R](#), [R](#)].

However, engaging in strenuous physical activity instead of using a computer may offer a greater benefit [[R](#)].

31



Alpha-GPC Choline

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Take 300-600 mg of Alpha-GPC choline supplement daily, preferably in the morning or early afternoon to avoid interference with sleep. It can be taken with or without food. Continue this supplementation for at least 4-6 weeks to assess its effectiveness.

TYPICAL STARTING DOSE

300 mg

Description

Alpha-GPC (L-alpha glycerylphosphorylcholine) is a natural compound that can be found in small amounts in various foods, including soy, and is also produced in the body. It is a choline-containing compound that may support cognitive function and memory.

How it helps

A meta-analysis found that choline alphoscerate, both alone and in combination with conventional therapy, may improve cognition, behavior, and functional outcomes among patients with neurological conditions including dementia [R].

Choline may help by boosting acetylcholine, a crucial brain chemical for cognitive function [R].

32



Reduce TV Watching

IMPACT1 / 5

EVIDENCE1 / 5

How to implement

Limit TV watching to less than 2 hours per day. Engage in physical activities, reading, or hobbies during the time you would normally watch TV.

TYPICAL STARTING DOSE

2 hours

Description

Television (TV) watching is a common leisure activity, especially among older adults. It is considered a major sedentary behavior in the United States [R, R].

TV watching is associated with [R, R, R, R, R]:

- Obesity
- Type 2 diabetes
- Poor well-being, mental well-being, and vitality
- Loneliness and social isolation in late life
- A short life

How it helps

Watching a lot of TV may increase the risk of dementia, especially in people who have a family history of the disease [R, R].

Those who watch more than 3 hours of TV daily may have a 42% higher dementia risk if they have a family history of the condition. Even in those without a family history, 3 hours of TV a day may still increase the risk by 30% [R, R].

33



Lemon Balm

IMPACT1 / 5

EVIDENCE1 / 5

How to implement

Take a 500 mg lemon balm supplement daily. This dosage can be consumed at once or divided into smaller doses throughout the day, according to personal preference or the guidance of a healthcare provider.

TYPICAL STARTING DOSE

500 mg

Description

Lemon balm is an herb known for its calming and soothing properties. It is often used in herbal teas and aromatherapy to reduce stress and anxiety, promote relaxation, and improve sleep quality.

[Lemon balm](#) (*Melissa officinalis*) is an herb used in gardening and traditional medicine. **It’s rich in antioxidants and relaxing components** [\[R\]](#), [\[R\]](#).

People use lemon balm as a tea or supplement to [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#):

- Relieve anxiety
- Improve sleep quality
- Reduce stress

How it helps

In a placebo-controlled trial on 23 patients with mild dementia due to Alzheimer's disease, lemon balm extract rich in rosmarinic acid (500 mg/day for 24 weeks) did not cause differences in cognitive measures. However, it improved the mean Neuropsychiatric Inventory Questionnaire (NPI-Q) score by 0.5 points [\[R\]](#).

Lemon balm may help by acting on the cholinergic system that is impaired in this disease.

34



Red Light Therapy

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Position yourself or the specific area of your body that needs treatment about 6 inches away from a red light therapy device. Use the device for 10 to 20 minutes daily. It is recommended to continue this daily regimen for at least several weeks to notice benefits.

TYPICAL STARTING DOSE

20 minutes

Description

Red light therapy involves exposure to low-level red or near-infrared light, which may promote skin rejuvenation, reduce inflammation, and improve circulation when used for therapeutic purposes in skin care and wellness treatments.

How it helps

In a placebo-controlled trial of 11 dementia patients, red and near-infrared light therapy improved memory, attention, and executive function [R].

35



SAM-e

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Take 400-1600 mg of SAM-e as a supplement daily, preferably on an empty stomach to enhance absorption. It is often recommended to start with low dosage and observe how your body responds over a few weeks, adjusting as necessary under the guidance of a healthcare provider.

TYPICAL STARTING DOSE
400 mg

Description

SAM-e is a chemical that helps maintain liver and brain health. Your body makes SAM-e from the amino acid *methionine*, but it’s also available as a supplement [\[R\]](#).

SAM-e supplementation may help with:

- Joint pain [\[R\]](#)
- Liver disease [\[R\]](#)
- Depression [\[R\]](#)

Please note: SAM-e may not be safe for people with a bipolar disorder. It may also interact with 5-HTP, St. John’s wort, and different medications. Combining it with antidepressants can be dangerous and even life-threatening. Never take SAM-e supplements without consulting your doctor [\[R\]](#), [\[R\]](#), [\[R\]](#).

How it helps

A study found that higher serum s-adenosylmethionine (SAM) levels and SAM/SAH ratios were linked to a lower risk of dementia and death, while higher s-adenosylhomocysteine (SAH) levels increased the risk in older Japanese individuals [\[R\]](#).

36



Carnosine And Anserine

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Take a combined dose of 1 to 1.5 grams of carnosine and anserine supplements daily. Divide this total dose into two smaller doses to take in the morning and evening. Continue this supplementation daily for at least 8 to 12 weeks to observe benefits.

TYPICAL STARTING DOSE

1 g

Description

Carnosine is a naturally occurring compound found in muscle tissues and certain foods. It is believed to have antioxidant properties and may support muscle function and overall cellular health. Anserine is a naturally occurring amino acid compound found in certain meats, particularly poultry. It is often considered a dietary source of beta-alanine, which may support muscle function and endurance.

How it helps

Carnosine and anserine may help APOE patients by reducing oxidative stress and inflammation in the brain, which are linked to Alzheimer's disease progression. They may also inhibit the formation of amyloid beta plaques, a hallmark of Alzheimer's disease often found in APOE4 allele carriers [R].

In a 12-week placebo-controlled trial with 54 mild cognitive impairment patients, supplementation with anserine (750 mg/day) and carnosine (250 mg/day) improved the global Clinical Dementia Rating score in all patients, and MMSE and gloCDR scores in APOE4 carriers [R].

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Hyperbaric Oxygen Therapy

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Schedule and attend sessions in a hyperbaric oxygen therapy chamber as your doctor prescribes, typically for about 60 to 90 minutes per session. The exact number of sessions required can vary based on the condition being treated, but it often ranges from 20 to 40 sessions, which may be conducted daily or a few times a week.

TYPICAL STARTING DOSE

90 minutes

Description

Hyperbaric oxygen therapy increases the amount of oxygen in the blood and tissues, which can help to improve circulation, reduce inflammation, and promote healing.

How it helps

In a non-placebo-controlled trial of 158 patients with vascular dementia, receiving hyperbaric oxygen therapy (5 days/week, 60 min/day for 12 weeks) improved cognitive function. The therapy may have worked by increasing humanin levels [R].

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Lycopene

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Take a lycopene supplement of 10 to 30 mg per day. It can be consumed with a fat-containing meal to enhance absorption. This supplementation can be ongoing daily to support overall health benefits such as heart health and antioxidant protection.

TYPICAL STARTING DOSE

10 mg

Description

Lycopene is a powerful antioxidant found in tomatoes and other red or pink fruits and vegetables. Consuming lycopene-rich foods may help reduce the risk of chronic diseases and support heart and prostate health.

[Lycopene](#) is a bright red substance that gives color to a number of fruits such as [R](#), [R](#):

- Tomato
- Watermelon
- Papaya
- Apricot

Lycopene has antioxidant properties. It may help support [R](#), [R](#), [R](#):

- Heart health
- Prostate health
- Cognition

How it helps

Two meta-analyses (the largest one with 52 studies) found that people with Alzheimer's disease or dementia had lower blood lycopene levels [R](#), [R](#).

Lycopene may help by protecting the brain against oxidative damage.

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Art Therapy

IMPACT

0 / 5

EVIDENCE

0 / 5

How to implement

Participate in art therapy sessions, which can include activities such as painting, sculpting, or drawing, for 1-2 hours per week. These sessions can be done either in group settings guided by a trained art therapist or individually, depending on your comfort level and goals. It is beneficial to engage in this practice consistently for several months to observe the therapeutic benefits.

TYPICAL STARTING DOSE

1 hour

Description

Art therapy is a type of therapy that encourages free self-expression and reflection through [\[R\]](#):

- Painting
- Drawing
- Clay modeling

It may be combined with mindfulness. Mindfulness is the practice of being aware of the present moment without any judgment [\[R\]](#).

Art therapy is used to improve [\[R\]](#):

- Self-esteem
- Self-awareness
- Emotional resilience
- Social skills

How it helps

A Cochrane review of 2 randomized controlled trials with a total of 60 participants found insufficient evidence about the efficacy of art therapy (for 12-40 weeks) for people with Alzheimer's and dementia [\[R\]](#).

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Walking

IMPACT

0 / 5

EVIDENCE

0 / 5

How to implement

Incorporate at least 30 minutes of brisk walking into your daily routine, aiming for a minimum of five days a week. This can be done in one continuous session or broken into shorter periods, such as three 10-minute walks throughout the day.

TYPICAL STARTING DOSE
30 minutes

Description

Walking is a low-impact form of exercise that can contribute to cardiovascular fitness, weight management, and improved overall health. It is used to support physical activity goals, enhance mood, and promote better cardiovascular health.

How it helps

Regular walking can enhance memory and overall cognitive function. Physical activity increases blood circulation to the brain, supporting neuron health.

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Methylsulfonylmethane (MSM)

IMPACT

0 / 5

EVIDENCE

0 / 5

How to implement

Take 1 to 3 grams of Methylsulfonylmethane (MSM) per day, divided into three doses. This can be in the form of capsules or powder that is mixed with water. It is recommended to start with a lower dose to assess tolerance, then gradually increase to the desired dose over a period of 1 to 2 weeks.

TYPICAL STARTING DOSE
1g

Description

MSM is a naturally occurring sulfur compound found in foods and used in dietary supplements. It has anti-inflammatory properties and may be used to support joint health and reduce exercise-related muscle soreness.

A molecule of MSM is broken down in the body into a sulfate (sulfur) group and two methyl groups.

The following may increase people’s needs for sulfur and methyl groups: physical activity, recovery from injuries, inflammation, infections/sickness, toxins, etc.

People also need more sulfur when taking hormones (DHEA, pregnenolone, etc.), drugs (Aspirin, Tylenol, NSAIDs, birth control, etc.) or supplements (flavonoids & polyphenols - resveratrol, quercetin, curcumin, etc.) that undergo sulfation.

How it helps

MSM may be a precursor to the production of methionine and cysteine, which are sulfur-containing amino acids. Elevated levels of methionine may be associated with a decreased risk of dementia [\[R\]](#), [\[R\]](#)

Next Steps

Remember, your genes only tell one important part of your health story!

Now that you've seen your DNA-based results for this health topic, let's take a look at other contributing factors.

Your lab results

Your lab results are impacted by the combined effect of your genes, environment and lifestyle.

Lab tests will give you the best picture of your current health status, while your genes provide insight into your health predispositions and which recommendations are best for you.

	TSH	2.76 mIU/mL		9 Nov 2025
	Vitamin B12	687 pg/mL		9 Nov 2025
	Vitamin D, 25-Hydroxy, Total	58.59 ng/mL		9 Nov 2025
	Active B12	500 pmol/L		13 Jan 2026
	Homocysteine	12.84 umol/L		9 Nov 2025