SelfDecode™

# Alzheimer's Disease

## Disease Report

REPORT CATEGORIES

MENTAL HEALTH

COGNITION

NERVE HEALTH

## Sample Client

Report date: 29 July 2025

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## Personal information

NAME

**Sample Client**

SEX AT BIRTH

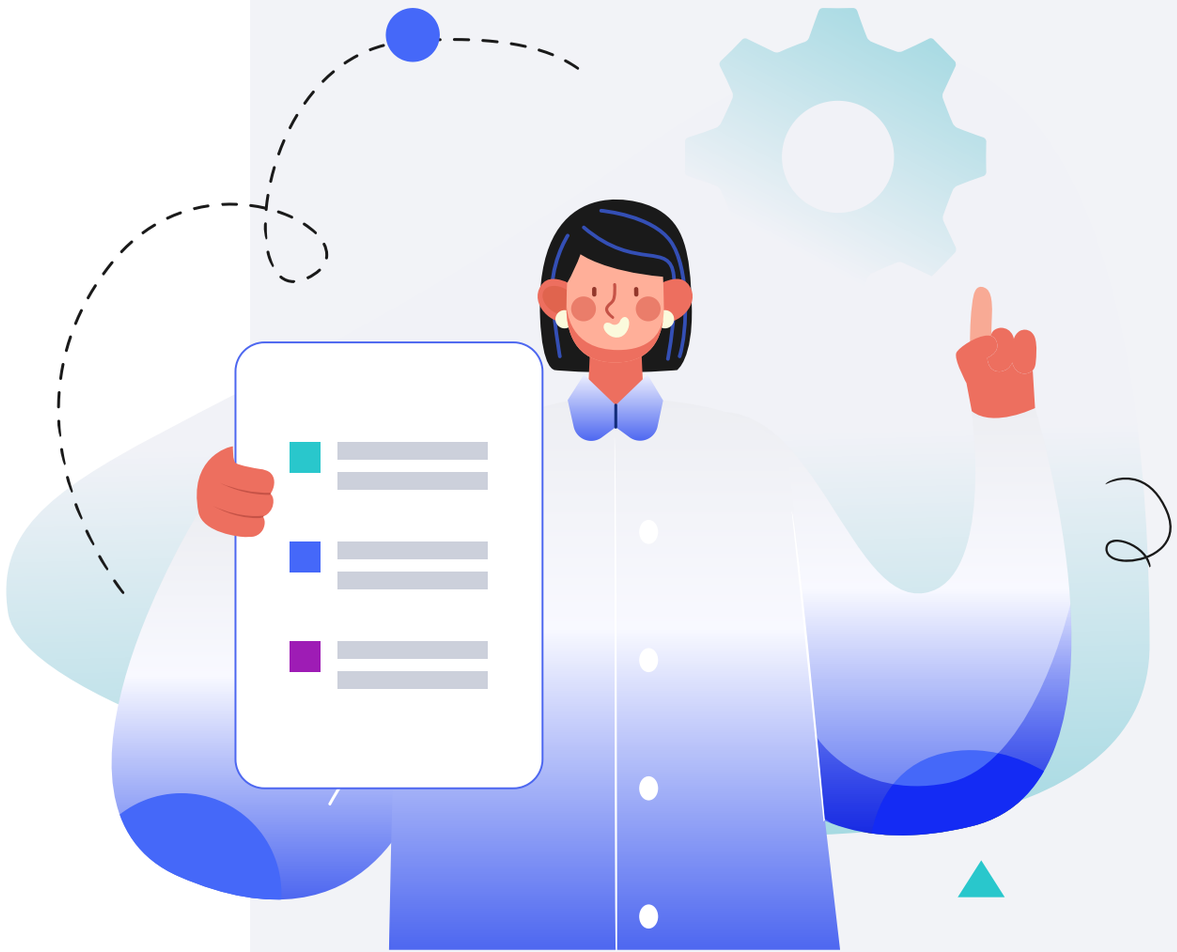
**Male**

HEIGHT

**5ft 9"** 175.0cm

WEIGHT

**165lb** 75.0kg



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.

# Introduction

**Alzheimer's disease is a progressive neurological disorder that affects memory, thinking, and behavior**. It is the most common cause of dementia in older adults. It's characterized by the loss of brain cells and the deterioration of the brain's structure and function.

Symptoms of Alzheimer's disease include [R, R]:

- Progressive memory loss, especially of short-term memory
- Problems with language
- Difficulty with planning, organizing, and performing familiar tasks
- Difficulty with concentration and abstract thinking
- Behavioral, personality, and mood changes
- Poor judgment
- Disorientation
- Difficulty recognizing familiar people (in advanced stages)

There is currently no cure for Alzheimer's disease, but there are medications and other treatments that can help manage the symptoms, slow down their progression, and improve quality of life.

# Longevity Screener

Longevity Screener analyzes your DNA and biometric data to holistically determine your risk of developing serious medical conditions.

**Your lifetime risk is Normal**

**Your 10-year risk is Normal**

## Summary or results

Your results are indicating a Normal risk of developing Alzheimer's Disease in your lifetime and within the next decade.

Monitor your risk by regularly checking your related labs and implementing the recommendations provided.

The risk of developing Alzheimer's disease can be influenced by non-genetic factors such as High blood pressure, elevated BMI, Stroke, Type 2 diabetes, Type 1 diabetes.

## What to do if you get a High risk

### Analyze your labs

Analyze your lab results to establish a baseline and track any changes or improvements in your health markers over time.

### Find out your out-of-optimal labs

We will pinpoint any values that fall outside the optimal range, allowing you to focus on what matters most.

### Optimize labs

Aim to bring all your lab results to optimal levels through lifestyle changes, treatments, and ongoing monitoring for the best health outcomes.

## Disclaimer

The Longevity Screener feature is designed to provide insights based on genetic predispositions and basic health data to help you understand factors that may influence your longevity. This tool is for informational purposes only and does not constitute medical advice, diagnosis, or treatment. Always consult with a qualified healthcare provider before making any decisions related to your health, lifestyle, or medical treatments. The information provided by the Longevity Screener is based on current scientific research and should be used as a supplementary tool in conjunction with professional medical advice.

# Risk Factors

**Key Takeaways:**

- About **60-80%** of differences in people's chances of getting Alzheimer's disease may be due to genetics.
- Alzheimer's disease can wipe out cognitive abilities.
- **5.8 million** Americans have Alzheimer's disease, the vast majority of them being over 75 years of age.
- Other risk factors include old age, female sex, air pollution, alcohol abuse, and obesity.
- **This report doesn't take into account the APOE-e4 variant.**

Some of the risk factors for Alzheimer's include [R]:

- Being over the age of 75
- Being female
- High exposure to air pollution
- Poor sleep patterns
- Alcohol abuse
- Sedentary lifestyle
- Low social interaction
- Low involvement in mentally stimulating activities

The following conditions may contribute to Alzheimer's disease [R]:

- Mild cognitive impairment
- Head trauma
- Obesity
- Diabetes
- High cholesterol
- Down syndrome

About **60-80%** of differences in people's chances of getting Alzheimer's disease may be due to genetics [R].

Genetically high fasting insulin, ApoB, and neutrophil levels may be causally associated with a higher risk of Alzheimer's disease [R, R, R, R].

TYPICAL LIKELIHOOD

**Typical likelihood of Alzheimer's disease based on 1,049,157 genetic variants we looked at**

65th

PERCENTILE

Your risk is **greater than 65% of the population** and **lower than 35% of the population.**

**Your top variants that most likely impact your genetic predisposition:**

| GENE | SNP | GENOTYPE |
|---|---|---|
| CHRM2 | rs6962027 | TT |
| PICALM | rs3851179 | TT |
| GSK3B | rs334558 | AG |
| CD55 | rs3818361 | GA |
| POLR2E | rs12151021 | AA |
| HLA-DRB1 | rs9271192 | AC |
| CD55 | rs679515 | CT |
| ECHDC3 | rs7912495 | GG |
| SORT1 | rs11102972 | TC |
| CLNK | rs6846529 | CT |
| COX7C | rs62374257 | CT |
| CPSF3 | rs72777026 | AG |
| WDR81 | rs35048651 | IT |
| IGHG3 | rs7157106 | GA |
| LILRB5 | rs587709 | CT |
| SNX1 | rs3848143 | GA |
| GC | rs2282679 | GT |
| CLU | rs11136000 | CC |
| APOE | rs429358 | TT |
| TREM2 | rs75932628 | CC |

In contrast, genetic predisposition to high total testosterone and glucosamine supplement use may be causally associated with a lower risk [R, R].

**Please note:** Genetic models analyzing a lot of variants (PRS models) usually don't take into account variants with large effects, such as **APOE-e4**. This variant is by far the strongest genetic factor for Alzheimer's disease. If you carry it, your predisposition to Alzheimer's disease is higher, regardless of your result for this report.

| GENE | SNP | GENOTYPE |
|---|---|---|
| PTGS2 | rs20417 | GG |
| RELN | rs528528 | CC |
| SETD7 | rs535347112 | CC |
| BDNF | rs56164415 | GG |
| SYPL2 | rs17646665 | AA |
| NGFR | rs2072446 | CC |
| SLC20A1 | rs1800587 | GG |
| TREML1 | rs60755019 | AA |
| SORL1 | rs11218343 | TT |
| NCK2 | rs143080277 | TT |
| TREM2 | rs143332484 | CC |
| SORT1 | rs141749679 | TT |
| GPX4 | rs3764650 | TT |
| ABI3 | rs616338 | CC |
| WWC1 | rs17070145 | TT |
| ATP8B4 | rs138799625 | CC |
| PILRB | rs1476679 | TT |
| BIN1 | rs744373 | AA |
| SORL1 | rs74685827 | TT |
| BIN1 | rs6733839 | CC |
| MME | rs61762319 | AA |
| SHARPIN | rs34173062 | GG |
| FOXF1 | rs16941239 | TT |
| C1QTNF4 | rs10838725 | TT |
| DBNDD1 | rs56407236 | GG |
| APH1B | rs117618017 | CC |
| CD2AP | rs9349407 | GG |
| STYX | rs17125924 | AA |
| RASGEF1C | rs113706587 | GG |
| OTULIN | rs112403360 | TT |

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 |
|---|---|---|
| 1 | Practice Exercise Snacks | 1 minutesute |
| 2 | Huperzine A | 50 mcg |
| 3 | Ginkgo | 120 mg |
| 4 | Cognitive Activity | 15 minutes |
| 5 | Mediterranean Diet | |
| 6 | Fruits And Vegetables | |
| 7 | Social Activity | 1 hour |
| 8 | Cognitive Training | 15 minutes |
| 9 | Tea | |
| 10 | Music Therapy | 30 minutes |
| 11 | Pet Therapy | 30 minutes |
| 12 | Physical Therapy | 30 minutes |
| 13 | Methylfolate | 400 mcg |
| 14 | Leafy Green Vegetables | |
| 15 | Acetyl-L-Carnitine | 500 mg |

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# Practice Exercise Snacks

IMPACT 3 / 5

EVIDENCE 4 / 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]

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## Huperzine A

IMPACT 3 / 5

EVIDENCE 4 / 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

# 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 Alzheimer's (and other dementias). However, supplementation doesn't prevent Alzheimer's [R, R, R, R, R, R, R, R].

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

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# 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]

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# Mediterranean Diet

IMPACT 3 / 5

EVIDENCE 3 / 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

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## Fruits And Vegetables

IMPACT 3 / 5

EVIDENCE 3 / 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.

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# 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 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

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# Cognitive Training

IMPACT 3 / 5

EVIDENCE 3 / 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

Keeping your brain active helps maintain cognitive functions. Practicing cognitive training (e.g., dual task training) may reduce the risk of Alzheimer's disease and cognitive decline [R, R, R, R, R].

The **combination of cognitive training and exercise** may be particularly beneficial for cognition in the elderly [R, R, R, R].

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# 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, 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].

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# Music Therapy

IMPACT 3 / 5

EVIDENCE 3 / 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 (including Alzheimer's disease). 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, R].

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

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# 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].

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# Physical Therapy

IMPACT 3 / 5

EVIDENCE 3 / 5

## How to implement

Attend physical therapy sessions 2-3 times per week for a duration of 4-6 weeks, depending on your specific condition and the advice of your healthcare provider. Each session typically lasts about 30-60 minutes, where a licensed therapist will guide you through targeted exercises, stretches, and possibly other treatments like electrical stimulation or ultrasound therapy.

TYPICAL STARTING DOSE

**30 minutes**

## Description

Physical therapy is a therapeutic practice focused on optimizing physical function and mobility through specialized exercises, manual techniques, and therapeutic modalities. It helps individuals recover from injuries, manage chronic conditions, and improve overall physical well-being by enhancing strength, flexibility, and pain management.

**Physical therapy** (**physiotherapy**) helps people regain or maintain their ability to move [R].

Physical therapy can involve [R]:

- Joint or muscle exercises
- Corrective movements
- Massage
- Education and advice

People mainly use physical therapy to help with [R, R]:

- Pain and injury
- Stroke recovery
- Chronic health conditions
- Headaches

**Mirror therapy** uses a mirror placed between the arms or legs. The image of a moving arm or leg gives the illusion of normal movement in the affected one. This therapy stimulates different brain regions and aims to improve mobility [R].

**Constraint-induced movement therapy** is another type of physical therapy. It consists of restraining the healthy leg or arm to increase the use of the affected one [R].

## How it helps

A meta-analysis of 23 trials concluded that physical therapy improves overall cognitive function, verbal fluency, and physical function in patients with Alzheimer's disease [R].

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# Methylfolate

IMPACT 3 / 5

EVIDENCE 3 / 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.

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# 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.

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# Acetyl-L-Carnitine

IMPACT 2 / 5

EVIDENCE 3 / 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.