

Amyotrophic Lateral Sclerosis (ALS)

Disease Report

REPORT CATEGORIES —



INFLAMMATION &
AUTOIMMUNITY



NERVE HEALTH

Sample Client

Report date: 15 January 2026

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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.

Personal information

NAME

Sample Client

SEX AT BIRTH

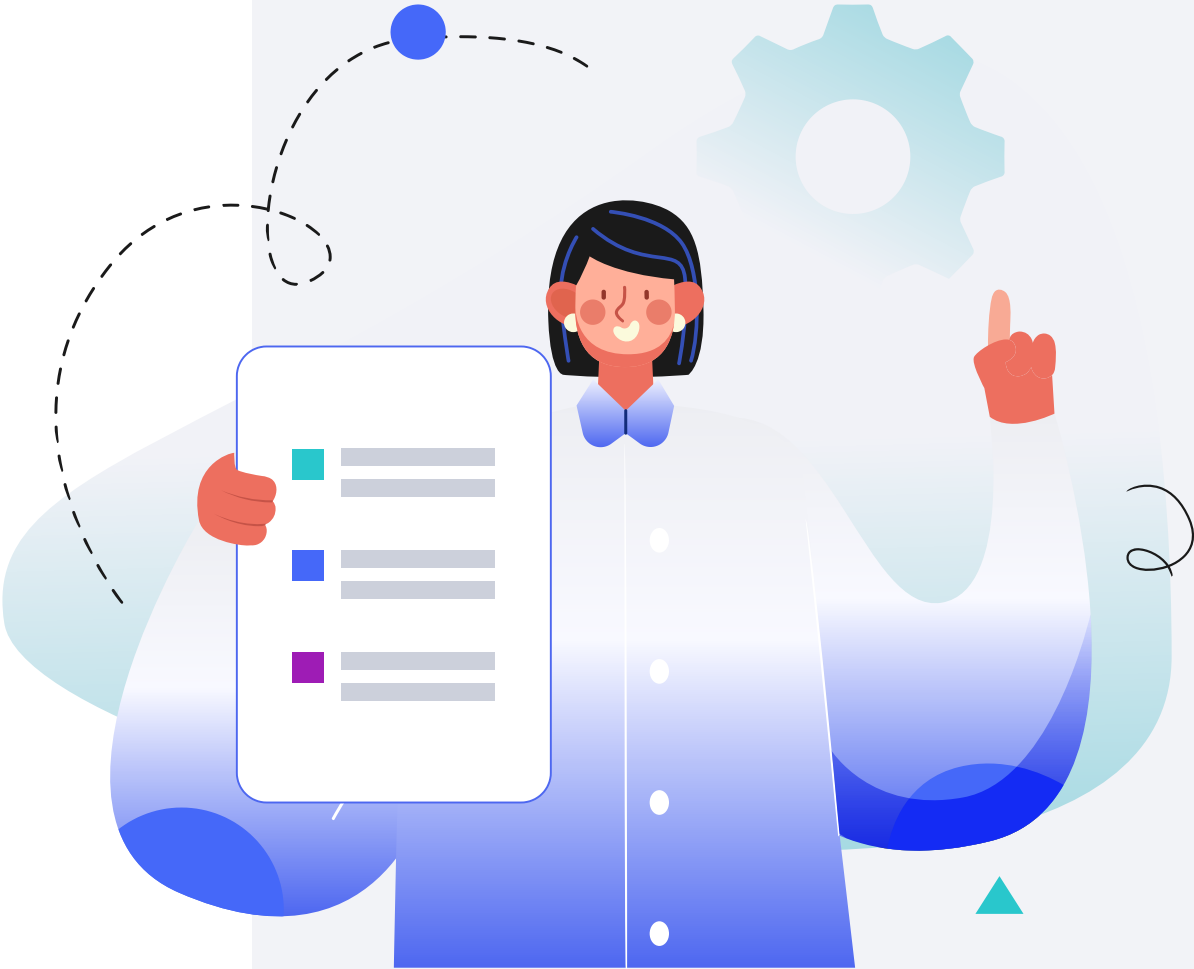
Male

HEIGHT

5ft 5" 165cm

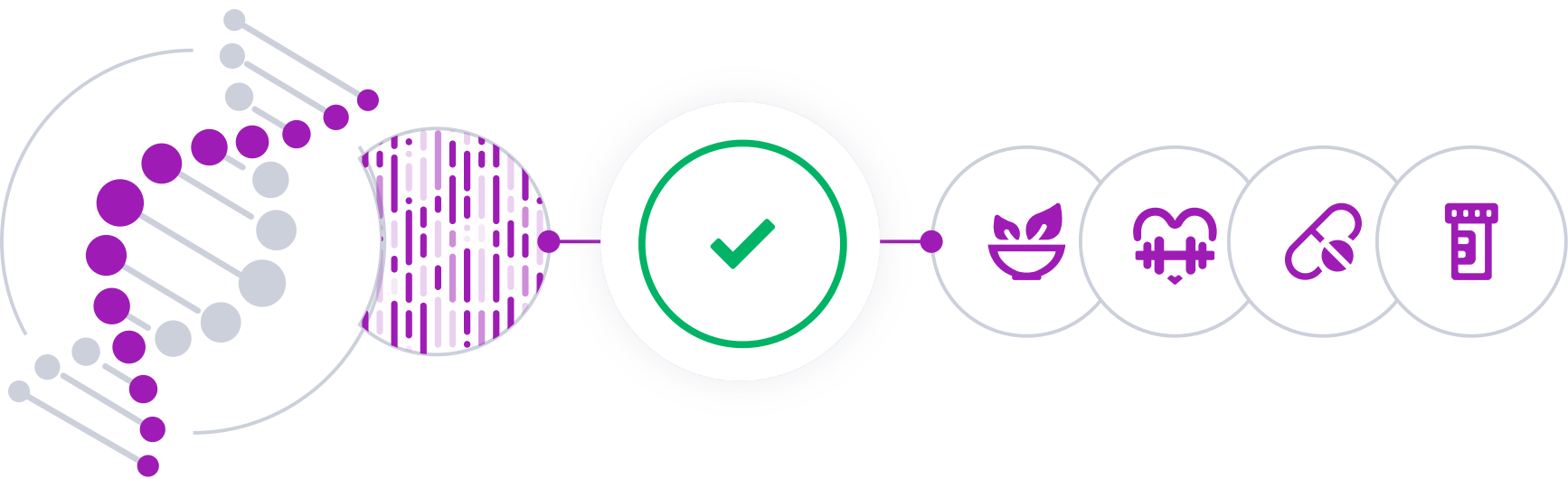
WEIGHT

137lb 62kg



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.

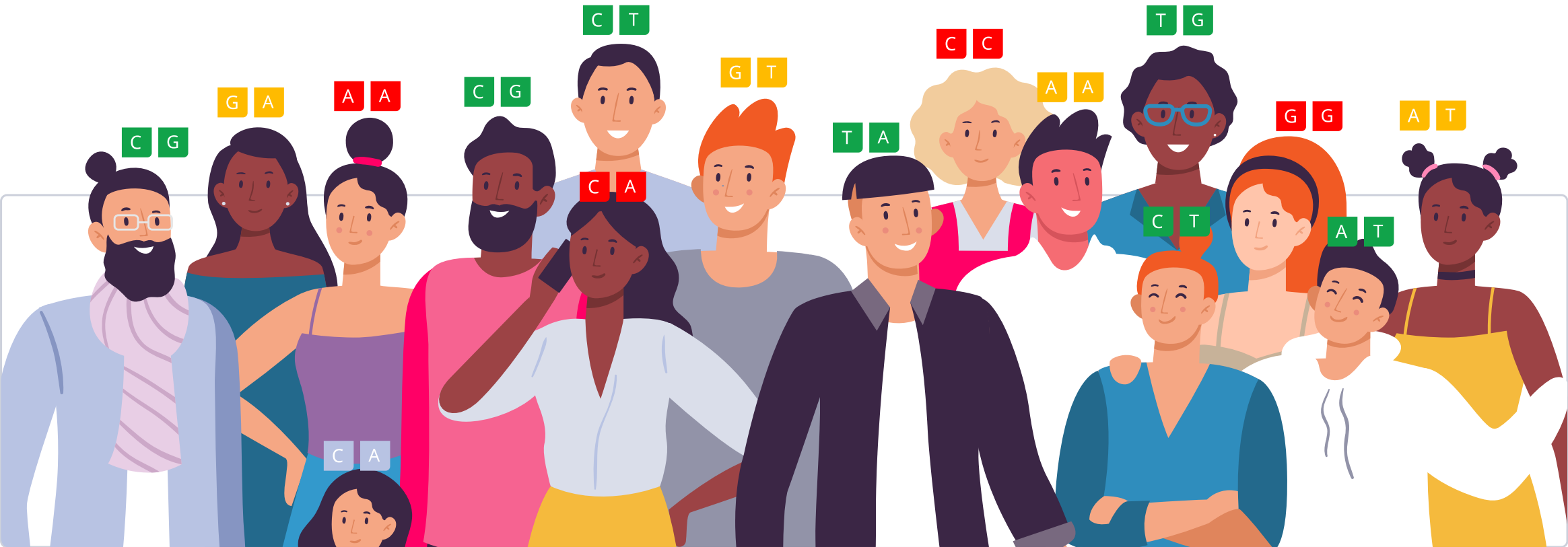


Similarly, our Trait Reports look at how your DNA influences your traits.



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

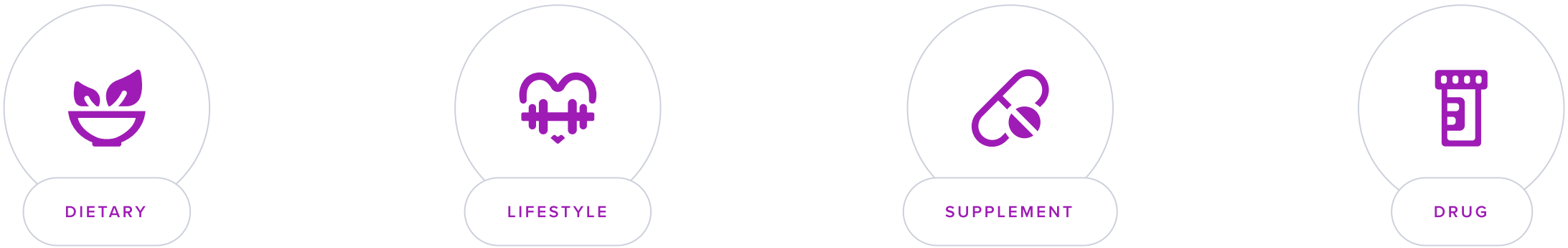
You have 2 risk alleles

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

Amyotrophic Lateral Sclerosis (ALS) is also known as "Lou Gehrig's disease". It is a **progressive neurodegenerative disorder** that affects nerve cells in the brain and spinal cord. The condition primarily impacts the neurons responsible for controlling voluntary muscles, leading to:

- **Progressive muscle weakness and atrophy.**
- Difficulty speaking, swallowing, and breathing.
- Muscle cramps and twitching.
- Impaired use of arms and legs.

There is currently no cure for ALS, and its progression can be rapid, impacting physical functioning, and leading to severe disability. A supportive care program and certain medications can help:

- Manage symptoms
- Slow the progression of the disease
- Improve quality of life

Risk Factors and Genetics

Please note: Your genetic predisposition in this report is measured relative to the rest of the population. Even if your predisposition is higher, your absolute risk of ALS is still very low because it’s a very rare condition. The vast majority of people with higher genetic predisposition won’t develop ALS.

Most cases of ALS are sporadic, meaning they occur without a clear cause. However, about **5-10%** of cases are familial, implying **genetic inheritance**. Researchers have identified several genes associated with ALS, with [C9orf72](#) and [SOD1](#) being the most well-known [\[R\]](#).

Genetically high leukocyte count and ApoB levels may be associated with a lower risk of ALS [\[R\]](#), [\[R\]](#).

Several risk factors are associated with ALS, such as:

- Age: more common between the ages of 40 and 70
- Being a male
- Exposure to heavy metals or pesticides



LOWER PREDISPOSITION

Lower predisposition to ALS based on 7,814 genetic variants we looked at

Your top variants that most likely impact your genetic predisposition:

GENE	SNP	GENOTYPE
UNC13A	rs12608932	CA
TLE3	rs1971791	AG
ZNF142	rs2303565	CT
CNOT9	rs7607369	AG
CENPV	rs7477	AA
KIAA0513	rs8056742	TT
TSNARE1	rs4917300	CC
C9ORF72	rs3849942	CC
TSC22D1	rs9533799	CC
LAMA3	rs11082762	GG

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	Avoid Formaldehyde Exposure	2	Aerobic Exercise (Cardio)1 hour
3	Avoid Organochlorine Pesticide Exposure	4	Airway Muscle Training30 minutes
5	Avoid Lead Exposure	6	Reduce EMF Exposure
7	Avoid BCAA Supplements	8	Avoid Pesticide Exposure
9	Whey Protein25 g	10	TUDCA (Tauroursodeoxycholic Acid)250 mg
11	L-Serine500 mg	12	Acetyl-L-Carnitine500 mg
13	Stretching15 minutes	14	Aquatic Therapy30 minutes
15	Walking30 minutes	16	Breathing Techniques10 minutes
17	Exercise At Least One Hour a Day1 hour	18	Sufficient Calorie Intake
19	Social Activity1 hour	20	Dietary Omega-3 Fatty Acids
21	Speech Therapy45 minutes	22	Aquatic Exercise1 hour
23	Balance And Mobility Training30 minutes	24	Physical Therapy30 minutes
25	Support Groups	26	Dietary Antioxidants

1



Avoid Formaldehyde Exposure

IMPACT

3 / 5

EVIDENCE

3 / 5

How to implement

To minimize formaldehyde exposure, choose household products and building materials labeled low-VOC (Volatile Organic Compounds) or formaldehyde-free. Ensure proper ventilation in your living and working spaces, especially when using products known to contain formaldehyde like certain adhesives, cleaning agents, and cosmetics. Aim to reduce use of pressed wood products and seek out alternatives when possible.

Description

Avoiding exposure to formaldehyde, a chemical commonly found in building materials and certain products, is crucial to prevent respiratory problems and potential carcinogenic effects.

How it helps

A meta-analysis of 19 studies found a 78% increased risk of ALS and a 71% increased risk of brain cancer in individuals highly exposed to formaldehyde. Bioinformatics analysis identified relevant genes and pathways linking formaldehyde exposure to these diseases, supporting the association [\[R\]](#).

2



Aerobic Exercise (Cardio)

IMPACT3 / 5

EVIDENCE3 / 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

Two trials examined ALS patients' exercise interventions: one with moderate-load endurance exercise vs. usual activities (25 participants, unclear bias risk), and the other with moderate-intensity resistance exercises vs. stretching (27 participants, low bias risk). Combining results (43 participants) after three months showed ALS Functional Rating Scale (ALSFRS) improvement, but no differences in quality of life, fatigue, or muscle strength [\[R\]](#).

A meta-analysis of 7 trials (322 patients) shows improved function and lung capacity with exercise, particularly endurance/aerobic, without worsening fatigue or harm [\[R\]](#).

Two randomized controlled trials in ALS patients compared exercise to usual activities or stretching. After three months, they found a significant improvement in function but couldn't determine overall benefits or harm [\[R\]](#).

3



Avoid Organochlorine Pesticide Exposure

IMPACT

3 / 5

EVIDENCE

3 / 5

How to implement

Minimize exposure by choosing organic fruits and vegetables, thoroughly washing produce before consumption, and avoiding areas where organochlorine pesticides are applied. Consider using air purifiers in homes close to agricultural areas to reduce indoor pesticide levels.

Description

Reducing organochlorine pesticide exposure involves minimizing contact with pesticides like DDT, which can accumulate in the body and potentially lead to adverse health effects, including disruption of hormonal functions and carcinogenicity.

How it helps

A meta-analysis of ALS studies showed a link with pesticide use. In the Agricultural Health Study, ALS was associated with organochlorine insecticides, pyrethroids, herbicides, and fumigants, but not statistically significant [R].

4



Airway Muscle Training

IMPACT

2 / 5

EVIDENCE

2 / 5

How to implement

Perform airway muscle training exercises daily for at least 30 minutes. This can involve using specific devices designed to resist airflow in and out, thereby strengthening the respiratory muscles, or practicing breathing exercises that focus on inhaling and exhaling against resistance. Consistency is key, so aim to integrate this practice into your daily routine for ongoing respiratory health.

TYPICAL STARTING DOSE

30 minutes

Description

Airway muscle training is exercise that builds strength in the throat and tongue muscles. This can involve anything from controlled breathing to singing long notes. People use airway muscle training to improve sleep apnea, respiratory conditions, and exercise performance.

Airway muscle training is exercise that builds strength in the throat and tongue muscles. This can involve anything from controlled breathing to singing long notes. People use airway muscle training to improve [R, R, R, R]:

- Sleep apnea
- Respiratory conditions like COPD
- Exercise performance

How it helps

Two meta-analyses (the largest one with 9 studies and 194 patients) concluded that inspiratory muscle training may slightly improve ventilatory function and respiratory strength in patients with ALS [R, R].

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7



Avoid BCAA Supplements

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Do not purchase or consume branched-chain amino acid (BCAA) supplements, which are often found in the form of powders, pills, or energy bars marketed for muscle building and recovery. Check the labels of your dietary supplements and sports nutrition products to ensure they do not contain BCAAs.

Description

BCAA supplements, which are amino acids, aren't needed for most people as they're generally gotten from a balanced diet. If you rely on these for muscle build-up, they might push your body to produce less muscle-supporting hormones. Plus, too much BCAA can potentially harm the kidneys over time. For overall health, eat a variety of nutritious foods instead.

How it helps

In a placebo-controlled trial of ALS patients, supplementation with BCAAs failed to improve the disability scale and instead increased mortality rates [\[R\]](#).

8



Avoid Pesticide Exposure

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Purchase organic produce when possible, wash fruits and vegetables thoroughly under running water, and peel them if not organic. Use natural pest control methods instead of chemical pesticides at home and garden. Limit the use of non-organic lawn and garden chemicals.

Description

Pesticides include all chemicals used to kill weeds, insects, fungi, and microbes. Reducing pesticide exposure involves choosing organic or pesticide-free foods and using natural pest control methods to limit contact with potentially harmful chemical residues. It supports overall health by reducing the risk of pesticide-related health issues.

Pesticides include all chemicals used to kill weeds, insects, fungi, and microbes. They are widely used in agriculture to improve crop yields. Common groups of pesticides include:

- Organophosphates (glyphosate, parathion, malathion, chlorpyrifos, diazinon, phosmet)
- Neonicotinoids (imidacloprid, acetamiprid, thiacloprid, clothianidin)
- Pyrethroids (permethrin, alpha-cypermethrin)

Chronic exposure to pesticides has been linked to:

- Fertility problems [\[R\]](#)
- Cognitive problems [\[R\]](#)
- Alzheimer’s and Parkinson’s disease [\[R\]](#), [\[R\]](#)
- Thyroid problems [\[R\]](#)
- Obesity [\[R\]](#)
- DNA damage and cancer [\[R\]](#), [\[R\]](#), [\[R\]](#)

How it helps

A meta-analysis of ALS studies found an association with pesticide use. In the Agricultural Health Study, ALS was linked to organochlorine insecticides and other pesticides, though not statistically significant. Further research is needed for confirmation [\[R\]](#).

A meta-analysis of six studies with 1,517 ALS deaths and 589 ALS/motor neuron disease cases in males found a significant association between pesticide exposure and ALS risk (OR=1.88, 95% CI: 1.36-2.61) [\[R\]](#).

9



Whey Protein

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Mix one scoop (approximately 25-30 grams) of whey protein powder with 8-12 ounces of water, milk, or your preferred beverage. Consume this drink 1-2 times per day, ideally post-workout or as a meal replacement.

TYPICAL STARTING DOSE

25 g

Description

Whey protein is a complete protein derived from milk during cheese production. It is rich in essential amino acids and is used to support muscle recovery, promote muscle growth, and provide a convenient protein source for athletes and fitness enthusiasts.

Whey is the liquid that separates from milk when cheese is made. [Whey protein](#) is full of amino acids (protein building blocks) that the body needs [\[R\]](#), [\[R\]](#).

Whey protein usually comes in the form of a powder that can be added to soft foods and drinks. People often use it to help with [\[R\]](#), [\[R\]](#):

- Athletic performance
- Nutritional deficiencies

How it helps

A prospective randomized double-blind study involving 16 ALS patients divided into two groups (a treatment group receiving 70%WPI:30%MS and a control group receiving maltodextrin) showed positive outcomes in the treatment group, including weight gain, increased BMI, improved muscle measurements, higher albumin, WBC, and lymphocyte counts, and reduced enzyme levels. The control group experienced weight and BMI decline. This suggests that the 70%WPI:30%MS blend may be beneficial in ALS nutritional therapy [\[R\]](#).

10

TUDCA (Tauroursodeoxycholic Acid)

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Take 250 to 1500 mg of TUDCA (tauroursodeoxycholic acid) per day, divided into two or three doses with meals. This recommendation is based on general guidelines from clinical studies; for specific conditions or as directed by a healthcare professional, dosages may vary.

TYPICAL STARTING DOSE
250 mg

Description

TUDCA is a bile acid derivative naturally produced in small quantities in the human body and also found in the bile of bears. It is often used as a supplement due to its potential to support liver health, reduce inflammation, and protect against bile acid buildup, making it valuable in managing liver conditions like cholestasis and certain liver diseases.

TUDCA, short for tauroursodeoxycholic acid, is a [bile acid](#) that naturally occurs in the body. It consists of ursodeoxycholic acid (UDCA) and taurine [\[R\]](#).

TUDCA is known for its liver-protective effects. People often use it as a dietary supplement to support liver health and promote overall well-being [\[R\]](#).

How it helps

In a [placebo-controlled trial of 34 ALS patients](#), supplementation with TUDCA (1 g, 2x/day) for 54 weeks **delayed disease progression and was well tolerated** [\[R\]](#).

The combination of TUDCA (1-2 g/day for at least 6 months) and sodium phenylbutyrate also **slowed disease progression and prolonged survival (by 6.5 months)** in a [placebo-controlled trial of 137 patients](#) [\[R\]](#), [\[R\]](#).

PERSONALIZED TO YOUR GENES

People with your [SLCO1B](#) gene variant may absorb TUDCA better [\[R\]](#).

YOUR GENETIC VARIANTS			
GENE	SNP	GENOTYPE	EVIDENCE
SLCO1B1	rs4149056	TC	

11



L-Serine

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Take l-serine supplements orally, starting with a dose of 500 mg per day. If well tolerated and based on the desired effect, the dose can be gradually increased, but it should not exceed 2,000 mg per day without medical advice. It's best taken with meals to enhance absorption.

TYPICAL STARTING DOSE

500 mg

Description

L-serine is an amino acid essential for the production of proteins and other important molecules in the body. It plays a role in supporting brain health, immune function, and overall well-being.

How it helps

In a six-month phase I ALS trial, 20 patients received varying oral L-serine doses. Patients had probable or definite ALS with less than 3 years disease duration and $\geq 60\%$ FVC. L-serine was generally well-tolerated, with some gastrointestinal withdrawals. Three patients died, but L-serine didn't accelerate functional decline, indicating safety in ALS. [\[R\]](#)

BMAA, associated with ALS, leads to neurodegeneration. L-serine inhibits BMAA misincorporation. ALS cases cluster near cyanobacterial blooms; GIS studies investigate environmental toxins. A phase I L-serine trial in 20 ALS patients shows safety, tolerability, and potential disease progression slowing. Phase II trial planned. [\[R\]](#)

12



Acetyl-L-Carnitine

IMPACT

1 / 5

EVIDENCE

1 / 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

In a pilot double-blind, placebo-controlled trial, the effects of acetyl-L-carnitine (ALC) with riluzole on amyotrophic lateral sclerosis (ALS) were assessed. ALC appeared to be effective in improving self-sufficiency, ALSFRS-R scores, and survival [\[R\]](#).

13

Stretching

IMPACT

0 / 5

EVIDENCE

0 / 5

How to implement

Incorporate stretching exercises into your daily routine, dedicating at least 10-15 minutes each day. Focus on major muscle groups such as the neck, shoulders, chest, back, hips, and legs. For best results, stretch both before and after other physical activities, holding each stretch for 15-30 seconds without bouncing.

TYPICAL STARTING DOSE

15 minutes

Description

Stretching involves gently elongating the muscles to improve flexibility, reduce muscle tension, and enhance joint mobility. Regular stretching can help prevent injuries, promote better posture, and increase overall physical comfort.

Stretching is a form of physical exercise that involves moving a muscle or group of muscles to their maximum range of motion. The most common types are **dynamic** (involving movement) and **static** stretching.

Stretching can help **improve flexibility, range of motion, and posture**. It may also relieve stress, reduce muscle soreness and tension, increase blood flow, and reduce the risk of injuries.

To get the most out of stretching, try to do it regularly, breathe deeply, and ease into the stretches.

How it helps

Regular stretching can help reduce stiffness and maintain range of motion in joints, which is beneficial for ALS patients who may experience muscle tightness.

14

Aquatic Therapy

IMPACT

0 / 5

EVIDENCE

0 / 5

How to implement

Participate in aquatic therapy sessions 2-3 times a week for at least 30 minutes. These sessions should be guided by a professional therapist who specializes in aquatic therapy, and the program should be tailored to your specific health condition and physical capabilities.

TYPICAL STARTING DOSE

30 minutes

Description

Aquatic therapy involves performing exercises and rehabilitation activities in a water environment. It is particularly beneficial for individuals recovering from injuries, surgeries, or certain medical conditions, as the buoyancy of water reduces the impact on joints, eases pain, and improves mobility and muscle strength.

How it helps

Aquatic therapy can provide gentle resistance and support for muscles, which may help ALS patients maintain mobility and manage symptoms.

15



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

Walking helps maintain mobility, muscle strength, and cardiovascular health, which can be beneficial in the early stages of ALS.

16



Breathing Techniques

IMPACT

0 / 5

EVIDENCE

0 / 5

How to implement

Practice deep breathing exercises for 10 minutes daily, preferably in a quiet space where you won't be disturbed. Sit or lie down in a comfortable position, slowly inhale through your nose, allowing your chest and lower belly to rise, hold the breath for a moment, and then exhale slowly through your mouth or nose. This can be done at any time of day to reduce stress and improve focus.

TYPICAL STARTING DOSE

10 minutes

Description

Breath awareness and specific breathing techniques, such as deep breathing or mindfulness-based practices, can help reduce stress, improve focus, and enhance overall mental well-being. These techniques are valuable tools for managing anxiety and promoting relaxation.

Most breathing techniques involve taking slow and even breaths. Their main goal is to prevent rapid breathing (**hyperventilation**) [\[R\]](#).

Breathing techniques tend to help with [\[R\]](#), [\[R\]](#), [\[R\]](#):

- Stress
- Anxiety
- Sleep problems
- Asthma

One example is the **Buteyko breathing technique**. It's often used by people with asthma or other conditions that affect the lungs [\[R\]](#).

Another example is **yogic breathing**. [Yoga](#) is a practice that combines breathing techniques with exercise and meditation [\[R\]](#), [\[R\]](#).

How it helps

Breathing techniques may assist ALS patients in managing respiratory symptoms as the disease affects their ability to breathe independently.

17



Exercise At Least One Hour a Day

IMPACT

0 / 5

EVIDENCE

0 / 5

How to implement

Dedicate a minimum of 60 minutes to moderate-intensity activities such as brisk walking, swimming, or cycling. Do this most days of the week, aiming for at least 5 days to optimize benefits.

TYPICAL STARTING DOSE

1 hour

Description

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

There are many ways you can be active. You can walk, run, swim, dance, or play team sports. **Everything counts, and it's never too late to start!**

Try to get at least **60 minutes of moderate physical activity on most days**, including walking. **Getting a mix of cardio (min 150 min/day) and strength training (min 2 times a week) may be optimal.**

How it helps

Regular moderate exercise can help maintain muscle function and improve quality of life in ALS patients. It can also help manage symptoms such as fatigue and depression.

18



Sufficient Calorie Intake

IMPACT

0 / 5

EVIDENCE

0 / 5

How to implement

Consume a daily amount of calories that meets your body's energy needs based on your age, sex, weight, height, and physical activity level. Use an online calorie calculator or consult a dietitian to determine your specific caloric needs. Aim to distribute your calorie intake evenly across meals throughout the day.

Description

Calories measure the amount of energy supplied by food. Your body needs this energy to support all of its functions [\[R\]](#).

You get calories from eating foods rich in carbs, fat, and protein. These calories can be used for energy or stored as fat. Fat is used for energy during a calorie deficit. This may happen when there’s a low intake of calories or when calories are lost with exercise [\[R\]](#).

The average adult needs 30-40 calories per kilogram of body weight to have enough energy for the day. Exact needs can vary widely depending on age, gender, and physical activity. Not eating enough calories may result in [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#):

- Weight loss
- [Nutrient deficiency](#)
- Fatigue

How it helps

ALS patients often need a high-calorie diet to offset energy deficits due to muscle atrophy and to maintain weight and overall nutritional status.

19



Social Activity

IMPACT

0 / 5

EVIDENCE

0 / 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

Participating in social activities can help maintain mental health and emotional well-being, providing support and potentially slowing cognitive decline associated with ALS.

20



Dietary Omega-3 Fatty Acids

IMPACT

0 / 5

EVIDENCE

0 / 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

Omega-3 fatty acids have been shown to have neuroprotective and anti-inflammatory effects, which can potentially slow the progression of ALS.

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Speech Therapy

IMPACT

0 / 5

EVIDENCE

0 / 5

How to implement

Attend speech therapy sessions with a certified speech-language pathologist for 45 to 60 minutes per session, 1-2 times per week, for a period that can range from a few months to over a year, depending on the specific needs and progress.

TYPICAL STARTING DOSE

45 minutes

Description

Speech therapy is a specialized form of therapy that focuses on improving communication skills, speech fluency, and language development in individuals with speech and language disorders, offering support for improved communication and quality of life.

Speech therapy is used to assess and treat speech and communication problems. It helps people develop the skills needed for more effective communication. It is used to treat everything from childhood speech disorders to speech impairments caused by stroke or brain injury.

Speech and language therapy (SLT) aims to improve [\[R\]](#), [\[R\]](#):

- Communication
- Eating
- Drinking
- Swallowing

These programs support children and adults who [\[R\]](#):

- Recover from a stroke or brain injury
- Have speech disorders (e.g., stuttering)
- Have swallowing or joint disorders

How it helps

Speech therapy can assist ALS patients in maintaining their communication skills and swallowing functions for as long as possible.

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Aquatic Exercise

IMPACT

0 / 5

EVIDENCE

0 / 5

How to implement

Participate in aquatic exercise sessions, such as swimming or water aerobics, for 60 minutes, 3 to 5 times per week. Ensure the exercise intensity is moderate, allowing you to talk but not sing during the activity. Consistency over time is key, so aim to incorporate this into your weekly routine for at least 3 to 6 months to observe benefits.

TYPICAL STARTING DOSE

1 hour

Description

Aquatic exercise involves physical activity performed in water, such as swimming, water aerobics, or aquatic therapy. It is gentle on the joints, making it suitable for individuals with mobility issues, and can help improve cardiovascular fitness and muscle strength.

Aquatic exercise is any type of low-impact physical activity performed in a pool. In this type of cardio exercise, water helps the body float, which reduces gravity and makes the practice more comfortable and tolerable [\[R\]](#), [\[R\]](#).

Compared to land-based exercise, aquatic exercise may be better by [\[R\]](#):

- Reducing the stress and impact on joints
- Lowering fracture risk

Hence, it is usually **recommended for the elderly**. Aquatic exercise is also suitable for people who don't know how to swim [\[R\]](#).

How it helps

Aquatic exercise is beneficial for people with ALS as the water supports the body and reduces the risk of falls, while also providing resistance to help maintain muscle strength.

23



Balance And Mobility Training

IMPACT

0 / 5

EVIDENCE

0 / 5

How to implement

Incorporate balance and mobility exercises into your routine three to four times per week. Each session should last approximately 30 minutes and include activities such as standing on one foot, walking heel to toe, and tai chi or yoga. Start with simple exercises and gradually increase difficulty as your balance improves.

TYPICAL STARTING DOSE

30 minutes

Description

Balance and mobility training exercises, such as yoga or tai chi, can improve stability and reduce the risk of falls, particularly among older adults. These exercises enhance overall physical function.

How it helps

Balance and mobility training can help ALS patients preserve their independence for as long as possible by improving their functionality and reducing the risk of falls.

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Physical Therapy

IMPACT

0 / 5

EVIDENCE

0 / 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

Physical therapy can help in maintaining mobility and muscle function in ALS patients, potentially slowing progression and preserving quality of life.

25



Support Groups

IMPACT

0 / 5

EVIDENCE

0 / 5

How to implement

Attend a support group meeting related to your condition at least once a week. These meetings can be found through local hospitals, online platforms, or health organizations specific to your condition. Participation can be in-person or virtual, depending on what is offered and your preference.

Description

Support groups are gatherings of individuals facing similar challenges, where they can share experiences, emotions, and coping strategies. They offer emotional support, camaraderie, and valuable insights for those dealing with various health conditions or life circumstances.

Support groups involve people with similar struggles helping each other. Support groups usually take place in a casual setting. During sessions, people share their [\[R\]](#):

- Knowledge
- Experiences
- Coping strategies
- Understanding of the recovery process

Support groups may help support recovery from addictions [\[R\]](#).

How it helps

Support groups provide emotional support and practical tips from others experiencing similar challenges, improving mental health and reducing feelings of isolation.

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Dietary Antioxidants

IMPACT

0 / 5

EVIDENCE

0 / 5

How to implement

Incorporate foods rich in antioxidants, such as fruits (berries, oranges, plums), vegetables (spinach, kale, bell peppers), nuts (walnuts, almonds), and seeds (flaxseeds, chia seeds) into your daily meals. Aim for at least 5 servings of fruits and vegetables per day, ensuring a variety of colors to cover different antioxidants.

Description

Dietary antioxidants are compounds found in foods that help neutralize harmful molecules called free radicals, potentially reducing the risk of oxidative stress-related diseases and supporting overall health. Examples include vitamins C and E, beta-carotene, and polyphenols.

Our cells sometimes produce molecules called **reactive oxygen species (ROS)** [\[R\]](#).

High levels of ROS can cause [oxidative stress](#) and damage our cells. Oxidative stress plays a role in many health conditions, including [\[R\]](#):

- High blood sugar
- Type 2 diabetes
- Heart disease

Antioxidants are substances that help combat ROS [\[R\]](#).

Antioxidants are found in many plants. Good sources include [\[R\]](#), [\[R\]](#), [\[R\]](#):

- Fruits like tomatoes, berries, and pomegranates
- Vegetables like onions, spinach, and celery
- Chocolate
- Olive oil
- Wine

How it helps

Antioxidants help to reduce oxidative stress, which is believed to be one of the contributing factors to the progression of ALS.

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.

