

Parkinson's Disease

Disease Report

REPORT CATEGORIES —



MENTAL HEALTH



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

Parkinson's disease is a progressive disorder that damages the nerves. This affects a person’s ability to control movement, mood, and other brain functions. About **1 million people in the US** have the disease, with 90,000 diagnosed with it each year [\[R\]](#), [\[R\]](#).

Symptoms of Parkinson's disease include [\[R\]](#):

- **Tremors (usually shaking hands)**
- Impaired movement
- A lack of facial expression
- Speech and swallowing difficulties
- Cognitive impairment
- Dementia

There is currently no cure for Parkinson's disease, but medications and other therapies can help manage symptoms and improve quality of life [\[R\]](#).

Longevity Screener

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

8x higher risk

Your odds of developing Parkinson's Disease are 8 times higher than someone with Normal risk.

⚠️

Your lifetime risk is **High**

✅

Your 10-year risk is **Normal**

Summary or results

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

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

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.

☰

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Risk Factors and Genetics

Key Takeaways:

- About **20-40%** of the differences in people's chances to develop Parkinson's disease may be due to genetics.
- Other risk factors include age (over 60), being male, and toxin exposure.
- PD is an underdiagnosed disease, with about **90,000** diagnosed each year in the U.S.
- PD has no cure, but is managed better the earlier it is diagnosed.
- If you are at high genetic risk be aware of symptoms and talk to your doctor immediately if you notice any.

The causes of Parkinson's disease are not fully understood, but it likely involves a combination of **genetic and environmental factors**. These factors reduce the brain's ability to produce certain chemicals, mainly **dopamine** [R].

About **20-40%** of the differences in people's chances of developing Parkinson's disease may be due to **genetics**. Approximately **15%** of cases have a **family history** of the condition [R, R, R].

Genetically high betaine and choline levels may be causally associated with Parkinson's disease, while genetically high levels of DHA may be causally associated with a lower risk [R, R].

Beyond genetics, other risk factors for Parkinson's include [R]:

- Age: typically over 60
- Sex: men are at a higher risk
- Exposure to toxins like pesticides



MORE LIKELY

More likely to get Parkinson's disease based on 1,031,982 genetic variants we looked at



Your top variants that most likely impact your genetic predisposition:

GENE	SNP	GENOTYPE
MAPT	rs17649553	CC
LINGO2	rs10812774	TC
STK39	rs1474055	TT
HLA-DQA2	rs9275326	CC
MCCC1	rs12637471	GG
SNCA	rs356182	AG
TMEM175	rs34311866	TC
FYN	rs943437	AA
TMEM229B	rs1555399	TT
COQ8A	rs4653767	TT
MED13	rs6416935	GG
LRRK2	rs76904798	TC
NDUFAF2	rs2694528	AC
NUCKS1	rs823118	TC
TMEM163	rs6430538	CT
VPS37B	rs11060180	AG
RIT2	rs12456492	AG
ZDHHC2	rs591323	GA
GPNMB	rs199347	AG
GCH1	rs11158026	TC
IGSF9B	rs329648	TC
FAM47E	rs6812193	TC
SH3GL2	rs13294100	GT
GALC	rs8005172	CT

GENE	SNP	GENOTYPE
LSM7	rs62120679	TC
BCKDK	rs14235	AG
DLG2	rs3793947	GA
DRD1	rs686	GA
ADAM15	rs35749011	GG
LINGO2	rs7033345	TT
BAG3	rs117896735	GG
ITIH1	rs143918452	GG
CAMK2D	rs78738012	TT
ANKK1	rs12364283	AA
SIPA1L2	rs10797576	CC
BST1	rs11724635	AA
ZSCAN31	rs9468199	GG
ZSCAN31	rs17767294	AA
TBC1D5	rs4073221	TT
C2CD4A	rs2414739	GG
TOX3	rs4784227	CC
FDFT1	rs2740594	GG
GBF1	rs2296887	TT
MAP4K4	rs34043159	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			DOSAGE
1	Exercise At Least One Hour a Day	1 hour	2	Dance	30 minutes
3	Aerobic Exercise (Cardio)	1 hour	4	Strength Training	1 hour
5	Aquatic Exercise	1 hour	6	Aquatic Therapy	30 minutes
7	Physical Therapy	30 minutes	8	Yoga	30 minutes
9	Avoid Pesticide Exposure		10	Balance And Mobility Training	30 minutes
11	Occupational Therapy	45 minutes	12	Repetitive Transcranial Magnetic Stimulation	
13	Dietary Vitamin E		14	Nerve Stimulation	30 minutes
15	Tea		16	Tai Chi	1 hour
17	Qigong	1 hour	18	Limit Dairy Intake	
19	Pilates	30 minutes	20	Maintain Optimal Vitamin D Levels	1000 iu
21	Mucuna Pruriens	300 mg	22	Transcranial Pulsed Electromagnetic Field (PEMF)	
23	Probiotics	10 billion	24	Avoid Organophosphate Pesticide Exposure	
25	Speech Therapy	45 minutes	26	Meditation	30 minutes
27	Vitamin B12	10 mcg	28	Music Therapy	30 minutes
29	Dietary Antioxidants		30	Stability Training	30 minutes

31	Avoid Air Pollution		32	Methylfolate	400 mcg
33	Mediterranean Diet		34	Yerba Mate	1 g
35	Mindfulness Yoga		36	Walking	30 minutes
37	Singing	20 minutes	38	Polyunsaturated Fatty Acids (PUFAs)	
39	Transcutaneous Electrical Nerve Stimulation (TENS)	30 minutes	40	Citicoline (CDP Choline)	250 mg
41	Whole-Body Vibration	15 minutes	42	Biofeedback	
43	Limit Saturated Fat		44	Coenzyme Q10 (CoQ10)	100 mg
45	Mindfulness-Based Stress Reduction (MBSR)	2 hours	46	Acupuncture	1 hour
47	Neurofeedback	1 hour	48	Climbing	1 hour
49	D-Serine		50	Reduce TV Watching	2 hours
51	Avoid PCBs		52	Ubiquinol	100 mg
53	Pyridoxine (Vitamin B6)	50 mg	54	Fenugreek	500 mg
55	N-acetylcysteine (NAC)	1200 mg	56	Hydrogen Water	
57	Pycnogenol	100 mg	58	Binaural Beats	30 minutes
59	Emoxypine		60	Avoid Organochlorine Pesticide Exposure	
61	Palmitoylethanolamide (PEA)		62	Walking Meditation	30 minutes
63	PEMF	30 minutes	64	Sarcosine	2 g
65	Laughter Yoga	30 minutes	66	Inosine	
67	Autogenic Training	10 minutes	68	Moderate Computer Use	2 hours
69	Nicotinamide Riboside (NR)	250 mg	70	5-HTP	100 mg

71	Plasmalogens		72	Avoid Betaine (TMG) Supplements	
73	Guided Imagery	30 minutes	74	Ginkgo	120 mg
75	Choline Supplements	425 mg	76	Glutamine	5 g
77	L-Carnitine	1 g	78	Isoleucine	20 g
79	Avoid Leucine Supplements		80	Dietary Iron	
81	L-Phenylalanine				

1



Exercise At Least One Hour a Day

IMPACT

5 / 5

EVIDENCE

5 / 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 exercise is linked to a **25%** lower risk of Parkinson’s disease. The risk may be **40%** lower in those who practice intense exercise [\[R\]](#), [\[R\]](#).

All health experts recommend exercise for people with Parkinson’s disease. It may improve [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#):

- Motor symptoms and balance
- Fitness, muscle strength, and flexibility
- Participation in daily activities
- Mental health and well-being

The most beneficial types of exercise for Parkinson’s disease are [\[R\]](#):

- Cardio
- Strength training
- Dance

Other potential options include [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#):

- Yoga
- Aquatic exercise
- Tai chi
- Qigong
- Pilates

2



Dance

IMPACT

4 / 5

EVIDENCE

5 / 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

Regular exercise is linked to a **25%** lower risk of Parkinson’s disease. The risk may be **40%** lower in those who practice intense exercise [\[R, R\]](#).

Dance (1 hour, 2x/week for at least 12 weeks) is one of the best options for people with Parkinson’s disease. It may improve [\[R, R, R, R, R, R, R, R, R\]](#):

- Motor symptoms
- Balance and gait
- Movement
- Cognition and mood

3



Aerobic Exercise (Cardio)

IMPACT

4 / 5

EVIDENCE

5 / 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

Regular exercise is linked to a **25%** lower risk of Parkinson’s disease. The risk may be **40%** lower in those who practice intense exercise [\[R, R\]](#).

Cardio is one of the best options for people with Parkinson’s disease. It may improve [\[R, R, R, R, \]](#):

- Motor symptoms, balance, and gait
- Fitness
- Participation in daily activities
- Mental health

Treadmill training may be particularly good at improving balance and gait [\[R, R, R, R\]](#).

4



Strength Training

IMPACT

4 / 5

EVIDENCE

5 / 5

How to implement

Engage in strength training exercises, such as weight lifting or bodyweight exercises, for 60 minutes per session, 2 to 3 times per week. Ensure you work all major muscle groups and rest each muscle group for at least 48 hours before exercising it again.

TYPICAL STARTING DOSE

1 hour

Description

Strength training, also called resistance or *anaerobic* training, contracts the muscles against an external resistance for short periods of time. This helps gain muscle strength, tone, and mass. This can include activities like weight lifting, pushups, and crunches.

Strength training, also known as resistance training, is a type of physical exercise that uses resistance to build strength, anaerobic endurance, and size [R]. Some of the most common strength training methods include [R]:

- Weight lifting
- Bodyweight exercises like push-ups, pull-ups, squats, and lunges.
- Resistance bands
- Plyometrics or explosive force exercises

The benefits of strength training are numerous, and include [R]:

- Increased muscle strength
- Improved bone health
- Reduced risk of injury
- Improved balance and coordination
- Enhanced mood
- Boost metabolism

Consult with a doctor before starting any new exercise program, especially if you have any health conditions.

How it helps

Regular exercise is linked to a **25%** lower risk of Parkinson’s disease. The risk may be **40%** lower in those who practice intense exercise [R, R].

Strength training is one of the best options for people with Parkinson’s disease. It may improve [R, R, R, R, R, R]:

- Motor symptoms and balance
- Fitness, muscle strength, and flexibility
- Participation in daily activities
- Sleep quality and cognition
- Mental health and quality of life

Programs with sessions of **60-90 minutes, 4 times a week, for 12 weeks** may be most effective [R].

Specific **core exercises** may be particularly helpful for improving balance and posture [R].

5



Aquatic Exercise

IMPACT

4 / 5

EVIDENCE

4 / 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

Regular exercise is linked to a **25%** lower risk of Parkinson’s disease. The risk may be **40%** lower in those who practice intense exercise [\[R\]](#), [\[R\]](#).

Aquatic exercise may reduce motor symptoms of Parkinson’s disease. According to some studies, it may even be more effective than land-based exercise at improving [\[R\]](#), [\[R\]](#), [\[R\]](#):

- Balance and movement
- Fear of falling
- Quality of life

6



Aquatic Therapy

IMPACT

4 / 5

EVIDENCE

4 / 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 physiotherapy (hydrotherapy) improves motor performance, quality of life, balance, and gait in Parkinson's patients as effectively as land-based exercises according to 3 meta-analyses (the largest one with 19 studies) [\[R, R, R\]](#).

Similarly, 2 meta-analyses (the largest one with 15 trials) found water-based exercise effective at improving balance, mobility, and quality of life in people with Parkinson's disease [\[R, R\]](#).

7



Physical Therapy

IMPACT

4 / 5

EVIDENCE

4 / 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

Most health experts say that people with Parkinson’s disease may benefit from physical therapy. It may help improve [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#):

- Motor symptoms
- Balance and gait
- Participation in daily activities
- Mental health and quality of life

Helpful options include:

- Massage [\[R\]](#), [\[R\]](#)
- Exercise therapy [\[R\]](#)
- Alexander Technique [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#)
- Aquatic physical therapy (hydrotherapy) [\[R\]](#), [\[R\]](#), [\[R\]](#)

8



Yoga

IMPACT

4 / 5

EVIDENCE

4 / 5

How to implement

Practice yoga for at least 20 to 30 minutes a day, most days of the week. Choose a style that matches your fitness level and goals, and consider attending a class or using online resources to guide your practice.

TYPICAL STARTING DOSE

30 minutes

Description

Yoga is a mind-body practice that combines physical postures, breathing exercises, and meditation. It enhances flexibility, strength, and mental well-being and is used for stress reduction, relaxation, and overall health improvement.

[Yoga](#) combines breathing, stretching, and relaxation techniques. Practicing yoga may help [\[R, R, R\]](#):

- Reduce [stress](#)
- Improve fitness
- Lower blood pressure and heart rate
- Manage pain

How it helps

Regular exercise is linked to a **25%** lower risk of Parkinson’s disease [\[R\]](#).

Yoga is a great exercise type for people with Parkinson’s disease. It may help them improve [\[R, R, R, R, R\]](#):

- Motor symptoms
- Flexibility and balance
- Anxiety and depression
- Quality of life

Yoga may be at least as effective as other types of exercise [\[R, R\]](#).

9

Avoid Pesticide Exposure

IMPACT4 / 5

EVIDENCE4 / 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

Health experts mention pesticide exposure among risk factors for Parkinson’s disease [\[R\]](#), [\[R\]](#).

Studies have linked pesticide exposure to a **25-150% higher risk** of Parkinson’s disease [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#).

Paraquat and **maneb** are among the pesticides with a strong link to this condition [\[R\]](#), [\[R\]](#), [\[R\]](#).

Pesticides may damage the nerves and cause mutations in genes involved in Parkinson’s disease [\[R\]](#), [\[R\]](#), [\[R\]](#).

Ways to reduce your pesticide exposure include [\[R\]](#), [\[R\]](#):

- Eating a variety of fruits and vegetables to avoid high exposure to one pesticide
- Buying organic food when possible
- Thoroughly washing and drying your food, even if it’s labeled organic
- Scrubbing or peeling fruits and vegetables when possible
- Discarding the outer layer of leafy vegetables



PERSONALIZED TO YOUR GENES

Exposure to pesticides may cause greater DNA damage in people with your [GSTP1](#) gene variant [R].

Exposure to pesticides may cause greater DNA damage in people with your [XRCC1](#) gene variant [R].

Exposure to pesticides may cause greater DNA damage in people with your [PON1](#) gene variant [R].

Exposure to pesticides may increase the risk of Parkinson’s disease more in people with your [PPARGC1A](#) gene variant [R].

Exposure to pesticides may increase the risk of Parkinson’s disease more in people with your [PPARGC1A](#) gene variant [R].

Exposure to pesticides may cause greater DNA damage in people with your [SOD2](#) gene variant [R].

Your [ERCC6L2](#) gene variant may be linked to Parkinson’s disease in people exposed to pesticides [R].

The link between pesticide exposure and Parkinson’s disease may be stronger in people with your [NOS1](#) gene variant [R].

YOUR GENETIC VARIANTS

GENE	SNP	GENOTYPE	EVIDENCE
GSTP1	rs1695	AA	
XRCC1	rs25487	CC	
PON1	rs662	TT	
PPARGC1A	rs6821591	TC	
PPARGC1A	rs8192678	TC	
SOD2	rs4880	GG	
ERCC6L2	rs591486	AA	
FBXO21	rs12829185	CC	

10



Balance And Mobility Training

IMPACT

4 / 5

EVIDENCE

3 / 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

A meta-analysis of 22 studies and 901 patients with Parkinson's disease found balance training, especially if based on virtual reality, effective at improving balance and mobility [R].

Balance and mobility training can reduce the risk of falls by improving steadiness in individuals with Parkinson's.

11



Occupational Therapy

IMPACT

3 / 5

EVIDENCE

4 / 5

How to implement

Participate in occupational therapy sessions 1-2 times per week for a duration of 45-60 minutes each session. These sessions should be guided by a licensed occupational therapist who will tailor activities to your specific needs. Continue therapy for as long as recommended by your healthcare provider to achieve the best outcomes.

TYPICAL STARTING DOSE

45 minutes

Description

Occupational therapy is a healthcare profession focused on helping individuals of all ages develop or regain skills for everyday activities, improve physical and mental well-being, and enhance overall quality of life.

Occupational therapy helps people do everyday activities. A therapist teaches them new ways and methods to perform the activities. This therapy helps people adapt to issues like chronic pain. It also helps them learn to use assistive devices [\[R\]](#), [\[R\]](#).

Occupational therapy aims to help people with injury or illness. It may help with things like [\[R\]](#):

- Eating without help from others
- Taking part in leisure activities
- Doing office or school work
- Bathing and getting dressed
- Doing laundry or house cleaning

How it helps

Occupational therapy help people with Parkinson’s disease by improving [\[R\]](#), [\[R\]](#), [\[R\]](#):

- Participation in daily activities
- Mobility and movement control
- Quality of life

In line with this, some health experts recommend occupational therapy for people with this condition [\[R\]](#), [\[R\]](#).

12



Repetitive Transcranial Magnetic Stimulation

IMPACT3 / 5

EVIDENCE4 / 5

How to implement

Attend sessions at a certified medical facility, where a healthcare professional will use a coil placed near your head to generate brief magnetic pulses. Typically, sessions occur 5 days a week for 4-6 weeks.

Description

Repetitive transcranial magnetic stimulation (rTMS) is a noninvasive procedure that stimulates the brain to improve symptoms of [\[R, R\]](#):

- Depression
- Muscle disease
- Parkinson's disease

rTMS delivers several magnetic pulses through an electromagnetic coil placed on the scalp. The pulses stimulate the region of the brain involved in mood and depression [\[R, R\]](#).

This technique is used in people who don’t respond to standard care. rTMS is generally painless and safe when performed by trained professionals [\[R, R\]](#).

How it helps

Multiple meta-analyses found beneficial effects of repetitive transcranial magnetic stimulation on motor symptoms, freezing of gait, cognitive dysfunction, and depression in patients with Parkinson's disease [\[R, R, R, R, R, R, R, R, R, R, R, R\]](#).

Repetitive transcranial magnetic stimulation may help by stimulating the underactive parts of the brain that control movement and cognition.

13



Dietary Vitamin E

IMPACT

3 / 5

EVIDENCE

3 / 5

How to implement

Incorporate foods high in Vitamin E into your daily diet. This includes almonds, hazelnuts, sunflower seeds, and green leafy vegetables such as spinach and broccoli. Aim for a daily intake of 15mg of Vitamin E from your diet, which is roughly a handful of almonds (about 23 almonds) or 2 tablespoons of sunflower seeds.

Description

Dietary vitamin E is a fat-soluble antioxidant vitamin found in nuts, seeds, and vegetable oils. It helps protect cells from oxidative damage and supports immune function.

[Vitamin E](#) is an antioxidant important for the immune system and for heart health [\[R\]](#).

Plant-based foods have the most vitamin E. These include [\[R\]](#):

- Wheat germ
- Sunflower seeds
- Almonds
- Plant oils

Adults need about **15 mg** of vitamin E per day [\[R\]](#).

How it helps

People with high vitamin E levels may have a **30% lower risk** of Parkinson’s disease [\[R\]](#).

Likewise, dietary vitamin E may protect against this condition. For every **5-mg increase** in daily vitamin E intake, the risk may be **20% lower**. Vitamin E may protect the nerves against oxidative stress [\[R\]](#), [\[R\]](#), [\[R\]](#).

Please note: *While dietary vitamin E is generally considered safe, vitamin E supplements have been linked to prostate cancer. They may also not be the best option for people who are pregnant or have heart disease, bleeding disorders, or other conditions. Consult your doctor before taking vitamin E supplements* [\[R\]](#).

14



Nerve Stimulation

IMPACT3 / 5

EVIDENCE3 / 5

How to implement

Nerve stimulation can be implemented by daily sessions of 15-30 minutes using a device specifically designed for this purpose. These devices often use electrical currents to stimulate nerves through the skin, which can be adjusted in intensity according to comfort. It's important to consult a healthcare provider for guidance on the specific type of nerve stimulation that may be most beneficial for your condition.

TYPICAL STARTING DOSE

30 minutes

Description

Nerve stimulation techniques involve the use of electrical impulses, like transcutaneous electrical nerve stimulation (TENS) or other methods to activate nerves, potentially providing relief from chronic pain, improving muscle function, and aiding in physical therapy.

Health professionals can stimulate your nerves using different strategies [\[R\]](#).

Many strategies use magnetic fields or electric currents. Examples include [\[R\]](#), [\[R\]](#), [\[R\]](#):

- [Transcutaneous electrical nerve stimulation](#) (TENS)
- Transcranial direct current stimulation (tDCS)
- Transcranial magnetic stimulation (TMS)
- Transcutaneous auricular vagus nerve stimulation (taVNS)

Nerve stimulation may improve [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#):

- Cognition
- Mood
- Pain
- Seizures
- Tinnitus

How it helps

In people with Parkinson’s disease, **repetitive transcranial magnetic stimulation (rTMS)** may improve [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#):

- Motor symptoms
- Cognition
- Depression

Increasing the number of pulses may cause larger effects [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#).

Transcranial direct current stimulation (tDCS) may provide small, short-term improvements for people with Parkinson’s disease. However, some studies didn’t find any benefits [\[R\]](#), [\[R\]](#), [\[R\]](#).

Please note: *Nerve stimulation may not be safe for people that have metal implanted devices, have epilepsy, or are pregnant. Some types of nerve stimulation should also be avoided by people with bleeding disorders or heart disease. Do not use TENS on damaged or infected skin or on sensitive areas of the body. Consult your doctor before using nerve stimulation devices of any kind [\[R\]](#), [\[R\]](#), [\[R\]](#).*

15



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

Drinking **2 cups of tea** per day is linked to a **25% lower risk** of Parkinson’s disease [\[R, R, R\]](#).

Tea is a major source of **caffeine**, which seems to protect against this condition [\[R, R, R\]](#).

A [meta-analysis of 8 studies and 5,669 participants](#) concluded that drinking **tea reduces the risk of Parkinson’s disease by ~15% and there wasn’t a dose-response relationship** [\[R\]](#).

On the other hand, a [meta-analysis of 13 studies and 901,764 participants](#) did find a dose-response relationship and concluded **protection against Parkinson’s disease reaches a maximum at 3 cups/day** [\[R\]](#).

16



Tai Chi

IMPACT

3 / 5

EVIDENCE

3 / 5

How to implement

Practice Tai Chi for 30 to 60 minutes at least twice a week. Choose a quiet, spacious area and follow along with a qualified instructor, either in person at a class or through an online video tutorial, to ensure proper technique and maximum benefit.

TYPICAL STARTING DOSE

1 hour

Description

Tai Chi is a traditional Chinese mind-body practice involving slow, flowing movements and deep breathing. It is known for its potential to reduce stress, improve balance, and enhance overall physical and mental well-being.

Tai chi involves gentle movements and breathing to strengthen and relax the mind and body. Practicing tai chi may help [\[R\]](#), [\[R\]](#), [\[R\]](#):

- Manage pain
- Improve fitness
- Increase well-being
- Improve sleep and mood

How it helps

Regular exercise is linked to a **25%** lower risk of Parkinson’s disease [\[R\]](#).

Tai chi may be a good exercise type for people with Parkinson’s disease. It may help them improve [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#):

- Motor symptoms
- Muscle strength
- Balance and flexibility
- Mood and quality of life

However, tai chi may not improve gait and cognition [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#).

17



Qigong

IMPACT

3 / 5

EVIDENCE

3 / 5

How to implement

Practice Qigong exercises for 30 to 60 minutes daily, ideally in the morning to invigorate your body for the day ahead or in the evening to alleviate stress. Choose a quiet, comfortable space where you can move freely without distractions. Incorporating this routine consistently can lead to better physical and mental well-being over time.

TYPICAL STARTING DOSE

1 hour

Description

Qigong is a mind-body practice originating from traditional Chinese medicine. It involves gentle movements, meditation, and controlled breathing to promote relaxation, reduce stress, and improve physical and mental well-being.

Qigong is a traditional Chinese practice that combines movement, breath control, and meditation. It aims to cultivate and balance the body's vital energy, known as "qi" or "chi."

People often practice qigong for stress reduction, improving posture, increasing flexibility, and promoting overall wellness.

Baduanjin qigong is a type of medical qigong focused on health improvement, unlike religious or martial types.

How it helps

Regular exercise is linked to a **25%** lower risk of Parkinson’s disease [\[R\]](#).

Qigong may be a good exercise type for people with Parkinson’s disease. It may help them improve [\[R, R, R\]](#):

- Motor symptoms
- Muscle strength
- Balance and flexibility
- Mood and quality of life

However, qigong may not improve gait and cognition. The evidence may be stronger for other exercise types like yoga, cardio, and strength training [\[R, R, R, R, R, R\]](#).

18



Limit Dairy Intake

IMPACT3 / 5

EVIDENCE3 / 5

How to implement

Reduce your consumption of dairy products, such as milk, cheese, yogurt, and butter, to no more than one serving per day. A serving is equivalent to 1 cup (240 ml) of milk, 1 cup of yogurt, 1.5 ounces (42 grams) of natural cheese, or 2 ounces (56 grams) of processed cheese.

Description

Limiting dairy intake may benefit individuals who are lactose intolerant or have dairy allergies, as it helps prevent digestive discomfort and symptoms like bloating and diarrhea. Exploring dairy-free alternatives supports overall gastrointestinal comfort.

Dairy products are made from milk. They include [\[R\]](#):

- Cheese
- Yogurt
- Kefir
- Butter
- Cream

Dairy products contain high levels of [calcium](#). Calcium helps build strong bones. However, eating a lot of dairy products is linked to acne and certain health conditions like Parkinson's disease [\[R, R, R, R\]](#).

How it helps

Eating a lot of dairy products may raise the risk of Parkinson’s disease. **The link is stronger in men (65% higher risk)** than in women (15% higher risk) [\[R, R, R, R, R\]](#).

Milk seems to be particularly problematic, especially low-fat (40-45% higher risk), followed by cheese (25% higher risk). Butter and yogurt intake may not be linked to this condition [\[R, R\]](#).

Scientists still don’t know why dairy might contribute to Parkinson’s disease. One theory is that elevated calcium and phosphorus levels from dairy intake hinder the activation of vitamin D [\[R\]](#).

19



Pilates

IMPACT

3 / 5

EVIDENCE

3 / 5

How to implement

Engage in Pilates exercises for at least 20-30 minutes, 3 times a week. Focus on core strength, flexibility, and mindful breathing. It is suitable for both beginners and advanced individuals, adjusting the difficulty of exercises as necessary.

TYPICAL STARTING DOSE

30 minutes

Description

Pilates is a form of exercise that focuses on strengthening the core, improving flexibility, and enhancing overall body awareness through controlled movements and breathing techniques. Its health benefits include increased core strength, improved posture, enhanced flexibility, and better balance, making it a popular choice for those seeking a holistic approach to fitness.

Pilates is a type of exercise that emphasizes proper alignment, breathing techniques, and precise movements.

It involves a series of controlled movements performed on a mat or with specialized equipment, such as a reformer or Cadillac. Pilates helps strengthen the core muscles, improve flexibility, and promote mind-body awareness.

How it helps

Regular exercise is linked to a **25%** lower risk of Parkinson’s disease [\[R\]](#).

In people with Parkinson’s disease, pilates may improve [\[R\]](#), [\[R\]](#):

- Balance and movement
- Leg function
- Fitness

20

Maintain Optimal Vitamin D Levels

IMPACT

3 / 5

EVIDENCE

3 / 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

Genetically lower vitamin D levels may be associated with greater symptom severity and cognitive decline in Parkinson’s disease [\[R\]](#).

Lower vitamin D levels may be linked to **30-75% higher odds** of Parkinson’s disease. For vitamin D deficiency, the risk may be up to **2.5 times higher** [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#).

However, a large study failed to confirm the causal effect of low vitamin D levels on Parkinson’s disease [\[R\]](#).

Vitamin D supplementation is linked to a **60% lower risk** of Parkinson’s disease. However, it **may not improve symptoms** in people who already have the condition [\[R\]](#), [\[R\]](#).

Please note: *There is no evidence from controlled clinical trials to support this recommendation. It is included based on uncontrolled clinical trials, animal or cell studies, or non-scientific criteria. Please take this recommendation with a grain of salt until more research is available.*

PERSONALIZED TO YOUR GENES

Your [CACNA1C](#) gene variant may be linked to Parkinson’s disease in people with low vitamin D levels [\[R\]](#).

YOUR GENETIC VARIANTS			
GENE	SNP	GENOTYPE	EVIDENCE
CACNA1C	rs34621387	GA	

21



Mucuna Pruriens

IMPACT

3 / 5

EVIDENCE

2 / 5

How to implement

Take 300 to 500 mg of standardized Mucuna pruriens extract once daily, preferably with water. For consistent benefits, consider taking it at the same time each day.

TYPICAL STARTING DOSE

300 mg

Description

Mucuna pruriens is a tropical legume known for its seeds, which contain L-dopa, a precursor to dopamine. It is used in traditional medicine for its potential to support mood, cognitive function, and overall well-being.

[Mucuna pruriens](#) is an edible legume native to China and India. It is also known as cowhage or the “velvet bean” [\[R\]](#).

An important compound in *Mucuna pruriens* is *L-DOPA*, which helps make the chemical messenger [dopamine](#). Extracts of *Mucuna pruriens* may support fertility and protect the nerves [\[R\]](#).

How it helps

Supplementing with *Mucuna pruriens* (up to 13 g/day) may improve symptoms of Parkinson’s disease. However, some people may not tolerate it well [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#).

Mucuna pruriens may provide L-DOPA, which is an active substance in some drugs for this condition. **However, this doesn’t mean it can replace medication.**

22



Transcranial Pulsed Electromagnetic Field (PEMF)

IMPACT

3 / 5

EVIDENCE

2 / 5

Description

PEMF therapy is a non-invasive treatment that uses low-level electromagnetic fields to stimulate the brain. It may help to reduce pain, improve cognitive function, and promote wound healing.

How it helps

In a placebo-controlled trial of 97 patients with Parkinson’s disease, receiving transcranial PEMF for 8 weeks improved mobility, activities of daily living, force development, movement speed, inter-hand coherence, and quality of life. PEMF was more effective in those with mild symptoms or unilateral postural tremor [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#).

23



Probiotics

IMPACT

3 / 5

EVIDENCE

2 / 5

How to implement

Take a probiotic supplement containing 10 billion or more live cultures once daily, preferably with a meal or as directed by the packaging or a healthcare provider.

TYPICAL STARTING DOSE

10 billion

Description

Probiotics are live beneficial bacteria and yeasts that can support gut health and digestive function when consumed as supplements or found in fermented foods like yogurt and sauerkraut. They may be beneficial to gut health, immune function, blood sugar, and mood.

Probiotic bacteria are “good” bacteria found mainly in the large intestine. They support your body and mind by [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#):

- Maintaining gut health
- Supporting a healthy immune system
- Improving your mood
- Helping to maintain healthy blood sugar

Prebiotics are certain types of fiber and other complex carbs that serve as food for gut bacteria. **They support gut health by helping boost the activity and growth of “good” bacteria** [\[R\]](#), [\[R\]](#).

Prebiotics are also added to foods and supplements. Common prebiotic ingredients are [\[R\]](#), [\[R\]](#):

- Oligo-fructose
- Oligo-galactose
- [Inulin](#)

Mixtures of probiotics and prebiotics are known as **synbiotics** [\[R\]](#).

How it helps

In people with Parkinson’s disease, probiotics may improve [\[R\]](#), [\[R\]](#), [\[R\]](#):

- Motor symptoms
- Constipation
- Blood sugar control
- Inflammation

The evidence is particularly good for constipation, which is a common issue for people with Parkinson’s disease [\[R\]](#), [\[R\]](#).

24

Avoid Organophosphate Pesticide Exposure

IMPACT

3 / 5

EVIDENCE

2 / 5

How to implement

To reduce organophosphate pesticide exposure, buy organic produce when possible, thoroughly wash and peel fruits and vegetables, avoid using chemical pesticides in your home and garden, and wear protective clothing and a mask if you must handle pesticides for agricultural or landscaping work.

Description

Reducing organophosphate exposure involves minimizing contact with pesticides and insecticides containing these chemicals, which can protect against potential health risks such as neurotoxicity and respiratory issues, particularly for individuals working in agriculture or pest control.

Organophosphates (OP) are the most widely used pesticides worldwide. They include [\[R\]](#):

- Parathion
- Malathion
- Chlorpyrifos
- Diazinon
- Phosmet

Chronic exposure to OPs has been linked to [\[R\]](#), [\[R\]](#):

- Fertility problems
- Cognitive problems
- Nerve damage
- Cancer and gene damage

How it helps

Reducing organophosphate pesticide exposure could lower your risk of developing Parkinson's Disease, as these pesticides are linked to the degeneration of dopaminergic neurons, a crucial factor in the disease. Avoiding them means less potential for this neurotoxic damage and possibly a slower progression of Parkinson's symptoms over time.

A [meta-analysis of 104 studies](#) identified exposure to organophosphates as a **risk factor for Parkinson's disease** [\[R\]](#).

PERSONALIZED TO YOUR GENES

Exposure to organophosphates may increase the risk of Parkinson’s disease more in people with your [NOS1](#) gene variant [\[R\]](#).

Exposure to organophosphates may increase the risk of Parkinson’s disease more in people with your [NOS1](#) gene variant [\[R\]](#).

Exposure to organophosphates may increase the risk of Parkinson’s disease more in people with your [PON1](#) gene variant [\[R\]](#).

YOUR GENETIC VARIANTS			
GENE	SNP	GENOTYPE	EVIDENCE
NOS1	rs816353	TG	
NOS1	rs3741480	CT	
PON1	rs662	TT	

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Speech Therapy

IMPACT2 / 5

EVIDENCE3 / 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

Many people with Parkinson’s disease have **speech and swallowing problems**. Speech therapy may help with these problems [\[R\]](#), [\[R\]](#), [\[R\]](#).

A specific therapy called **Lee Silverman Voice Treatment** aims to reestablish the perception of voice loudness. It may be particularly helpful at improving speech problems [\[R\]](#).

26



Meditation

IMPACT

2 / 5

EVIDENCE

3 / 5

How to implement

Set aside 10-20 minutes each day in a quiet space without distractions to practice meditation. Focus on your breath or perform guided meditation using an app or audio track.

TYPICAL STARTING DOSE

30 minutes

Description

Meditation is a mindfulness practice that can reduce stress, improve mental clarity, and promote relaxation. Regular meditation is associated with numerous mental and emotional health benefits, including reduced anxiety and enhanced emotional well-being.

Meditation is a relaxation technique that trains your mind to focus and redirect your thoughts. Some of the main types of meditation are [\[R\]](#):

- Mindfulness
- Focused
- Transcendental
- Mantra
- Moving

People use meditation to improve [\[R\]](#), [\[R\]](#):

- Stress and anxiety
- Mood
- Sleep disturbances
- Pain

How it helps

In people with Parkinson’s disease, meditation may improve [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#):

- Pain and other symptoms
- Balance and posture
- Stress and anxiety
- Quality of life

Studied meditation types include [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#):

- Walking meditation
- Mindfulness
- Yoga meditation

27



Vitamin B12

IMPACT2 / 5

EVIDENCE3 / 5

How to implement

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

TYPICAL STARTING DOSE

10 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

Vitamin B12 can help slow the progression of Parkinson's disease by protecting neurons against toxins and promoting the health of the nervous system. However, its actual impact can vary significantly from person to person.

Two meta-analyses (the largest one with 27 studies) associated Parkinson’s disease with lower vitamin B12 levels (but not with lower dietary intake) [\[R\]](#), [\[R\]](#).

In patients with Parkinson’s disease, those with cognitive dysfunction are more likely to have low vitamin B12 levels according to a meta-analysis of 15 studies [\[R\]](#).

28



Music Therapy

IMPACT

2 / 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

In people with Parkinson’s disease, music therapy may improve [\[R\]](#):

- Motor symptoms
- Speech and swallowing
- Breathing
- Mood and quality of life

29



Dietary Antioxidants

IMPACT2 / 5

EVIDENCE3 / 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

A meta-analysis of 6 studies associated a higher dietary intake of vitamin E, vitamin C, anthocyanins, beta-carotene, and zinc with a reduced risk of Parkinson's disease. However, 2 meta-analyses found protective effects for vitamin E but not for vitamin C or beta-carotene [\[R\]](#), [\[R\]](#), [\[R\]](#).

Dietary antioxidants may help protect brain cells against oxidative damage.

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Stability Training

IMPACT2 / 5

EVIDENCE3 / 5

How to implement

Integrate stability exercises into your workout routine 2-3 times per week. These exercises include activities such as using a stability ball, performing balance exercises on a balance board, or doing body-weight exercises that focus on balance and core strength, such as planks and single-leg stands. Spend approximately 20-30 minutes per session focusing on these exercises.

TYPICAL STARTING DOSE
30 minutes

Description

Stability training is a form of exercise that focuses on enhancing core strength and balance through targeted movements and exercises, often incorporating equipment like stability balls, balance boards, or resistance bands. It helps improve overall stability and posture while reducing the risk of falls and injury.

How it helps

In a study of 44 participants diagnosed with Parkinson's disease, a core stability-based program improved dynamic balance, confidence, and center of mass excursion [\[R\]](#).

A meta-analysis of 8 studies and 404 participants found that those who underwent perturbation-based balance training were less likely to report falls and experienced fewer falls compared to control groups. This training reduced fall risk in older adults and individuals with Parkinson's disease [\[R\]](#).

Another meta-analysis of 22 studies involving 901 patients found that virtual reality-based balance training was more effective than traditional balance training in improving balance, especially in individuals with greater postural instability. Balance training also showed benefits in mobility but not in walking speed. However, these effects did not persist at follow-up [\[R\]](#).

Stability training may help by improving balance and coordination, reducing the risk of dangerous falls. It can also slow the progression of muscular stiffness and impairment, a significant symptom of the disease.

31



Avoid Air Pollution

IMPACT

2 / 5

EVIDENCE

3 / 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

Long-term exposure to the following air pollutants may raise the risk of Parkinson’s disease [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#):

- Particulate matter (PM2.5)
- Nitrogen dioxide (NO2)
- Ozone (O3)
- Carbon monoxide (CO)
- Hydrocarbons

The risk is **8-21% higher for every 10-unit increase in PM2.5** exposure. Even short-term exposure to PM2.5 may be harmful [\[R\]](#), [\[R\]](#), [\[R\]](#).

There are many strategies that may lower your exposure to air pollution. When air pollution is high, you may want to [\[R\]](#):

- Stay indoors
- Keep windows closed
- Use air purifiers
- Wear a well-fitting mask outdoor

32



Methylfolate

IMPACT

2 / 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

Folate aids in the production of dopamine, a neurotransmitter that's typically low in people with Parkinson's. This might result in some improvement in motor function and emotional well-being.

A [meta-analysis of 26 studies](#) associated Parkinson's disease with **lower folic acid levels**. However, another [meta-analysis \(27 studies\)](#) **failed to find this association** [\[R, R\]](#).

In patients with Parkinson's disease, **those with cognitive dysfunction are more likely to have low folate levels** according to a [meta-analysis of 15 studies](#) [\[R\]](#).

33



Mediterranean Diet

IMPACT

2 / 5

EVIDENCE

2 / 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

A meta-analysis of 8 studies and 514,816 subjects associated greater adherence to a Mediterranean diet with a 13% lower risk of Parkinson's disease [\[R\]](#).

The Mediterranean diet is rich in fruits, vegetables, whole grains, and healthy fats, which could be protective against neurodegeneration.

34



Yerba Mate

IMPACT2 / 5

EVIDENCE2 / 5

How to implement

Take yerba mate as a supplement by consuming 1 to 3 grams of the dried leaves in capsule form daily, or by drinking 1 to 3 cups of yerba mate tea. Do this consistently for at least 4 to 8 weeks to observe potential benefits.

TYPICAL STARTING DOSE

1 g

Description

Yerba mate is a South American herbal tea known for its caffeine content and antioxidant properties. It provides a boost in alertness and mental clarity and is used for its potential to enhance focus and energy.

Yerba mate is a traditional South American beverage made from the dried leaves of the yerba mate plant (*Ilex paraguariensis*). It is commonly consumed in countries like Argentina, Uruguay, Paraguay, and Brazil, and has a long history of cultural significance and social bonding.

Yerba mate is traditionally sipped through a *bombilla*, a special metal straw, from a gourd-shaped container. This results in a flavorful and stimulating drink often shared among friends and family.

How it helps

Drinking yerba mate may be linked to a nearly **2 times lower risk** of Parkinson’s disease. Yerba mate contains **caffeine**, which may help protect against this condition [\[R\]](#), [\[R\]](#).

35



Mindfulness Yoga

IMPACT

2 / 5

EVIDENCE

2 / 5

How to implement

Practice mindfulness yoga for at least 20-30 minutes per day, most days of the week. Choose a quiet, comfortable space where you can focus on your breath and movements without distractions. Consistency is key, so aim to incorporate this practice into your daily routine for ongoing benefits.

Description

Mindfulness yoga combines physical postures with mindfulness techniques, offering benefits such as improved flexibility, relaxation, and stress reduction. It promotes holistic well-being by integrating the mind-body connection.

How it helps

In 2 non-placebo-controlled trials of 325 patients with Parkinson’s disease, participating in 90-minute mindfulness yoga sessions for 8-12 weeks improved motor and non-motor symptoms, anxiety, depression, perceived hardship, perceived equanimity, and disease-specific quality of life. In one of them, mindfulness yoga was more effective than stretching exercises [\[R\]](#), [\[R\]](#).

Mindfulness yoga may help by improving balance, flexibility, and motor coordination, ultimately reducing physical symptoms. It also promotes relaxation and emotional well-being, helping manage stress and anxiety often associated with this disease.

36



Walking

IMPACT

2 / 5

EVIDENCE

2 / 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 regularly stimulates the brain's motor controls, helping to improve gait and physical coordination in Parkinson's patients. It also promotes better balance and strength, reducing the risk of falls and aiding overall mobility.

A systematic review and meta-analysis of 13 randomized controlled trials (750 participants) compared pole walking (PW) to other exercises for Parkinson's disease. It found moderate-quality evidence that PW improves walking speed in Parkinson's patients (SMD = 0.42). However, it didn't significantly improve mobility in these patients or walking speed in older adults [\[R\]](#).

37



Singing

IMPACT

2 / 5

EVIDENCE

2 / 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

In studies involving Parkinson's disease patients, various singing interventions yielded positive results. A 12-month singing-based program improved vocal intensity, expiratory pressure, voice-related quality of life, and well-being in 75 participants. Another trial with 32 patients demonstrated that 3 months of active music therapy enhanced motor, affective, and behavioral functions. Additionally, a music therapy voice protocol improved speech intelligibility in a group of 4 women with Parkinson's and voice problems [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#).

38



Polyunsaturated Fatty Acids (PUFAs)

IMPACT2 / 5

EVIDENCE2 / 5

How to implement

Incorporate foods rich in polyunsaturated fatty acids (PUFAs) into your daily diet. Examples include eating fatty fish like salmon, mackerel, or sardines two to three times a week, using plant-based oils like flaxseed, soybean, and canola oil in cooking and salads, and adding nuts and seeds such as walnuts and flaxseeds to your meals or snacks daily.

Description

Polyunsaturated fatty acids (PUFAs) are fatty acids with at least two double bonds. They are considered "healthy fats" and include **omega-3 and omega-6** fatty acids [R].

[Omega-3 fatty acids](#) help [R, R]:

- Lower inflammation and blood sugar
- Protect the heart, brain, and eyes

Omega-6 fatty acids play important roles in [R]:

- Skin health
- Energy production
- Immunity

Good sources of PUFAs include [R, R, R, R]:

- Fish and seafood
- Plant oils (e.g., flaxseed, corn, sunflower, soybean, and grapeseed oil)
- Seeds (e.g., safflower, sunflower, and pumpkin seeds)
- Walnuts
- Tofu

How it helps

PUFAs may reduce inflammation and protect against Parkinson’s disease. For every **8-g increase** in daily PUFA intake, the risk may drop by **10%** [R, R].

Omega-3s may be particularly helpful [R, R, R].

However, one large study found that genetically higher EPA levels may slightly **increase the risk** of Parkinson’s disease [R].

39



Transcutaneous Electrical Nerve Stimulation (TENS)

IMPACT

2 / 5

EVIDENCE

2 / 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

Electrical stimulation methods (including TENS) may suppress tremors in people with Parkinson’s disease. However, the mechanism underlying this benefit is unknown [\[R\]](#).

40



Citicoline (CDP Choline)

IMPACT

2 / 5

EVIDENCE

2 / 5

How to implement

Take 250 to 1000 mg of citicoline (CDP choline) daily, in the morning with or without food. For best results, continue this supplement regimen daily for at least 6 weeks to 3 months.

TYPICAL STARTING DOSE

250 mg

Description

Citicoline is a compound that may have cognitive-enhancing properties and is sometimes used as a dietary supplement to support brain function and memory. It's believed to promote neural health and cognitive performance.

CDP-choline is a molecule naturally produced by the body. It is important for cell structure and function. It also contributes to the production of the chemical messenger [acetylcholine](#) [R, R].

The supplement form of CDP-choline is called [citicoline](#). It may support brain and eye health. It may also help with drug addictions [R, R].

How it helps

When added to standard treatment for Parkinson’s disease, **citicoline (500-1200 mg/day)** may improve [R]:

- Motor symptoms
- Speech
- Cognition

Citicoline may help by boosting dopamine levels [R].

41



Whole-Body Vibration

IMPACT

2 / 5

EVIDENCE

2 / 5

How to implement

Stand, sit, or lie on a machine with a vibrating platform for about 15 minutes a day, three times a week. Make sure to start with a lower intensity and gradually increase as you get more accustomed to the vibrations.

TYPICAL STARTING DOSE

15 minutes

Description

Whole-body vibration involves standing, sitting, or lying on a vibrating platform to stimulate muscle contractions. It's used in fitness routines and rehabilitation for improving muscle strength, circulation, and balance, and may benefit conditions like osteoporosis. No specific chemical compound or nutrient is associated with whole-body vibration.

Whole-body vibration is a form of exercise and treatment utilizing a vibrating platform upon which a person stands or performs various exercises. It creates vertical, oscillating vibrations with frequencies and amplitudes that can be controlled by the user [\[R\]](#).

Whole-body vibration is used for a variety of purposes, including [\[R\]](#):

- Weight loss
- Boosting strength
- Improving balance/coordination
- Boosting mood

How it helps

A meta-analysis of 9 studies (346 patients) showed that whole-body vibration improved motor function and walking stability in Parkinson's patients but had no significant impact on balance and daily living. Another meta-analysis of 17 studies found varying effects on motor symptoms, balance, gait, and mobility, with no clear evidence of consistent improvement [\[R, R\]](#).

Whole-body vibration stimulates and activates the muscles, helping to improve balance and motor function.

42



Biofeedback

IMPACT

2 / 5

EVIDENCE

2 / 5

How to implement

Attend biofeedback sessions once or twice a week for about 8 to 10 weeks. During these sessions, a therapist will guide you through exercises to control different body functions, such as heart rate or muscle tension, using monitors that provide feedback on your physiological state. Practice the techniques learned during sessions at home daily to improve symptoms and manage your condition.

Description

Biofeedback is a type of therapy that teaches people how to control certain body functions, such as heart rate, blood pressure, and muscle tension. It can be used to treat a variety of conditions, including stress, anxiety, and chronic pain.

Biofeedback is a kind of “**brain training**” in which sensors are attached to your body. They detect information like your heart rate, temperature, and breathing rate. By seeing this information, you may be better able to control these functions [\[R\]](#), [\[R\]](#).

Biofeedback is used to help with [\[R\]](#), [\[R\]](#):

- Gut problems
- Chronic pain
- Migraines
- Insomnia
- Attention

[Neurofeedback](#) is a form of biofeedback that measures brain activity in real time [\[R\]](#).

How it helps

Biofeedback may improve balance and gait in people with Parkinson’s disease. However, the available evidence is of low quality [\[R\]](#), [\[R\]](#).

43



Limit Saturated Fat

IMPACT

1 / 5

EVIDENCE

3 / 5

How to implement

Reduce your intake of saturated fats by choosing lean cuts of meat, opting for low-fat or fat-free dairy products, and using cooking oils high in unsaturated fats (like olive or canola oil) instead of butter or lard. Aim to keep saturated fat to less than 10% of your total daily calories. For someone consuming 2000 calories a day, this means 20 grams or less of saturated fat per day.

Description

Limiting saturated fat intake is crucial for managing cholesterol levels and reducing the risk of heart disease. Choosing lean protein sources and incorporating unsaturated fats into the diet supports cardiovascular health and overall well-being.

How it helps

Although dietary saturated fat hasn't been overall associated with Parkinson's disease, a meta-analysis found that exposure to the pesticide rotenone increased the risk of this condition more in people with a dietary intake of saturated fat above the median [\[R, R\]](#).

44



Coenzyme Q10 (CoQ10)

IMPACT1 / 5

EVIDENCE2 / 5

How to implement

Take a 100 mg Coenzyme Q10 (CoQ10) supplement once daily with a meal that contains fat for better absorption.

TYPICAL STARTING DOSE

100 mg

Description

Coenzyme Q10 (CoQ10) is a naturally occurring antioxidant that plays a crucial role in cellular energy production. It is often taken as a supplement to support heart health, improve energy levels, and provide antioxidant protection, especially for individuals with certain medical conditions or as they age.

[Coenzyme Q10](#) (CoQ10) is a compound that helps enzymes work better. By doing so, CoQ10 helps improve [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#):

- Energy levels
- Antioxidant protection
- Heart health
- Muscle strength
- Blood sugar control

The amount of CoQ10 made by your body decreases as you get older. Luckily, you can also get it from food or supplements. Good sources of CoQ10 include [\[R\]](#), [\[R\]](#):

- Organ meats
- Fatty fish
- Whole grains

How it helps

A Cochrane review of 4 trials and 452 Parkinson's disease patients concluded that supplementation with coenzyme Q10 (1200 mg/day for 16 months) improves activities of daily living. However, 2 meta-analyses (the largest one with 8 studies) found coenzyme Q10 ineffective at improving motor symptoms [\[R\]](#), [\[R\]](#), [\[R\]](#).

Coenzyme Q10 may help by preventing oxidative damage to the neurons that are typically affected in Parkinson's.

45



Mindfulness-Based Stress Reduction (MBSR)

IMPACT

1 / 5

EVIDENCE

2 / 5

How to implement

Enroll in an 8-week MBSR course, which includes a weekly 2.5-hour class, one all-day class after the sixth week, and 45 minutes of daily home practice guided by assignments and instructional recordings.

TYPICAL STARTING DOSE

2 hours

Description

Mindfulness-Based Stress Reduction (MBSR) is a structured program that teaches mindfulness techniques to reduce stress and improve overall mental and emotional health. MBSR has been shown to help individuals cope with chronic pain, anxiety, and other stress-related conditions.

How it helps

A meta-analysis of 4 trials found that mindfulness-based therapies (including mindfulness-based stress reduction) have small to moderate effects on psychological distress in patients with Parkinson's disease [R].

How to implement

TYPICAL STARTING DOSE

1 hour

Description

Acupuncture is a part of traditional Chinese medicine. It involves inserting thin needles at specific points on the body. People use it to relieve pain and allergies, as well as reduce nausea and improve sleep.

- Relieve pain
- Improve sleep quality
- Relieve allergies
- Reduce nausea

How it helps

Interestingly, applying bee venom to acupoints, both alone and in combination with acupuncture, may also help [R, R, R].

However, the available evidence for all of the above benefits is limited and of low quality.

Please note: Acupuncture is safe for most people. However, it may come with extra risks for pregnant women, people with pacemakers, and people with bleeding disorders. Consult your doctor or a licensed acupuncturist for more information [\[R\]](#).

47



Neurofeedback

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Attend neurofeedback sessions with a trained therapist, usually once or twice a week, for a minimum of 20 sessions. Each session typically lasts 30 to 60 minutes where sensors are placed on your scalp to monitor brainwave activity, and feedback is given in real-time to help you learn to control or alter your brain functions.

TYPICAL STARTING DOSE

1 hour

Description

Neurofeedback is a therapeutic technique that helps individuals regulate brain activity, potentially improving focus, reducing anxiety, and enhancing cognitive function by providing real-time feedback on brainwave patterns.

How it helps

Neurofeedback helps Parkinson's disease by training the brain to improve its self-regulation skills. This can help reduce typical Parkinson's symptoms, such as tremors or impaired movement, by improving brain functionalities and neural pathways.

Sixteen patients were selected through purposive sampling and were randomly divided into experimental and control groups in a study. The research procedure included eight sessions. The results suggest that NFT can improve static and dynamic balance in PD patients [\[R\]](#).

Another study with 10 subjects demonstrated that self-modulation of cortico-subcortical motor circuits can be achieved by PD patients through neurofeedback and may result in clinical benefits that are not attainable by motor imagery alone [\[R\]](#).

48



Climbing

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Engage in climbing activities, such as rock climbing, bouldering, or indoor wall climbing, two to three times per week, each session lasting for about an hour. Begin with easier routes and gradually progress to more challenging ones as your strength and skill improve.

TYPICAL STARTING DOSE
1 hour

Description

Climbing is a great way to get a full-body workout, improve your balance and coordination, and reduce stress. It can also help you build strength, endurance, and confidence.

How it helps

A semi-blind trial with 48 Parkinson's patients found that 12 weeks of supervised sport climbing improved axial posture but did not impact quality of life, depression, fatigue, physical activity, or fear of falling. Sport climbers showed a significant reduction in the distance between the seventh cervical vertebra and the wall. Unscheduled training had no such effect [R].

Climbing enhances overall body flexibility and strength, which can help counteract the stiffness and mobility issues related to Parkinson's disease. Additionally, the necessity for focused, intentional movements during climbing can improve the coordination and motor skills often impaired by this condition.

Please note: Climbing injuries are common and can be challenging to diagnose. Climbers typically get injured on their fingers, and if they have been injured before, they are more likely to get hurt again. Seek medical attention if you experience pain after practicing [R].

49



D-Serine

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Take d-serine as a dietary supplement in doses ranging from 30 to 120 milligrams per kilogram of body weight per day. It is typically consumed in capsule or powder form mixed with water or another beverage. Start with the lower end of the dosage range and adjust based on tolerance and effectiveness, not exceeding the recommended maximum unless directed by a healthcare provider.

Description

D-serine is an amino acid that plays a role in brain function and may be used in supplemental form to support cognitive health.

Serine is a non-essential amino acid that we generally get from our diet through protein sources. It is key to the production of proteins, enzymes and muscle tissue. Serine is needed for the proper metabolism of fats and fatty acids. It also helps in the production of antibodies [\[R\]](#).

Serine is used as a natural moisturizing agent in some cosmetics and skin care products, as well as for certain psychiatric and neurological disorders [\[R\]](#), [\[R\]](#).

How it helps

D-Serine is believed to protect neurons from harm and stimulate their regeneration, hence assisting in the mitigation of Parkinson's symptoms such as tremors and stiffness. However, evidence is limited and more research is needed - always consult your doctor.

According to a pilot study in people with Parkinson's disease, D-serine (for 6 weeks) in combination with standard therapy may improve motor symptoms and reduce behavioral issues [\[R\]](#).

Please note: *High doses of D-serine (120 mg/kg/day or about 8 g/day) may damage the kidneys. Make sure to consult your doctor before taking D-serine, especially if you have kidney disease [\[R\]](#).*

50



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 Parkinson's disease, according to a study with over 470,000 people. Those who watched the most TV had a smaller hippocampus, which is linked to this condition [\[R\]](#).

51



Avoid PCBs

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

To avoid PCBs (Polychlorinated Biphenyls), do not use old electrical equipment manufactured before 1977, avoid consuming fish from contaminated waters, especially larger species such as shark and swordfish which are higher in the food chain, and check for and properly dispose of any old fluorescent lighting fixtures that may contain PCBs. Pay attention to local advisories regarding the safety of locally caught fish and wildlife.

Description

PCBs are toxic chemicals that can cause cancer, reproductive problems, and developmental problems. Avoiding exposure to PCBs is important for protecting your health.

Polychlorinated biphenyls (PCBs) are man-made chemicals. They were used in the industry until their **ban in 1979**. PCBs are considered **persistent organic pollutants** (POPS) due to their slow degradation in the environment. They may also **accumulate** in the food chain and the human body [\[R, R\]](#).

We may be exposed to PCBs through contaminated [\[R, R\]](#):

- **Food** (e.g., fish, meat, rice)
- Soil
- Air

PCBs may have toxic effects on [\[R, R\]](#):

- Immunity
- Nervous system
- Reproductive system
- Hormone levels

They may also increase the risk of cancer and reduce lifespan [\[R, R\]](#).

How it helps

Avoiding PCBs can reduce the risk of Parkinson's Disease because these chemicals have been linked to causing damage to the neurons that produce dopamine, the deficit of which leads to Parkinson's symptoms. In essence, by avoiding exposure to such harmful compounds, you help protect your nervous system.

A [postmortem study of 72 brains](#) associated **elevated concentrations of total PCBs and specifically congeners 138, 153, and 180 with Parkinson’s disease, but only in women** [\[R\]](#).

52



Ubiquinol

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Take 100 to 200 mg of ubiquinol daily, preferably with a fatty meal to enhance absorption. This dosage can be adjusted based on individual health needs and under the guidance of a healthcare professional. Continue this supplementation daily for ongoing support of heart health and energy levels.

TYPICAL STARTING DOSE

100 mg

Description

Ubiquinol is the reduced form of coenzyme Q10 (CoQ10), a compound that plays a crucial role in energy production within cells. It is used as a supplement to support heart health, improve energy levels, and combat oxidative stress.

How it helps

Ubiquinol, an active form of CoQ10, offers antioxidant benefits and supports mitochondrial function which could help protect brain cells from further damage in Parkinson's disease. However, more rigorous scientific studies are needed to definitively prove its efficacy in treating Parkinson's disease.

In a double-blind, placebo-controlled pilot trial with Japanese PD patients, Group A (experiencing wearing off) taking ubiquinol-10 for 48 weeks showed symptom improvement (UPDRS scores decreased), while Group B (early PD) did not exhibit significant changes in UPDRS scores [\[R\]](#).

53



Pyridoxine (Vitamin B6)

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Take a pyridoxine (vitamin B6) supplement daily. Requirements range from 1.3 to 1.7 milligrams per day for adults, but supplement doses usually start from 50 mg. Consult with a healthcare provider for higher doses or specific medical conditions that might benefit from increased supplementation.

TYPICAL STARTING DOSE
50 mg

Description

A **vitamin B6 supplement** of up to 1.3-1.7 mg per day can be taken to meet needs not achieved through diet. Long term supplementation of vitamin B6 can be problematic, so talk to your doctor before using.

How it helps

People with certain gene variants may respond better to therapy with high-dose vitamin B6 for Parkinson’s disease [R].

A study of 5,289 participants associated a high dietary vitamin B6 intake with a reduced risk of Parkinson’s disease [R].

Although most patients didn’t have Parkinson’s disease but schizophrenia, vitamin B6 supplementation improved parkinsonism and tardive dyskinesia (movement disorders) in 3 trials of 55 patients [R, R, R].

 PERSONALIZED TO YOUR GENES

People with your **COMT** gene variant may respond better to therapy with high-dose vitamin B6 for Parkinson’s disease [R].

YOUR GENETIC VARIANTS			
GENE	SNP	GENOTYPE	EVIDENCE
COMT	rs4680	AG	

54



Fenugreek

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Take a 500 mg fenugreek supplement daily, preferably with a meal to aid in digestion and absorption.

TYPICAL STARTING DOSE

500 mg

Description

Fenugreek is an herb and spice commonly used in traditional medicine for its potential to support digestive health, regulate blood sugar levels, and promote lactation in nursing mothers. Its compounds, such as soluble fiber and fenugreek seeds, contribute to its various health benefits.

[Fenugreek](#) is a leafy green legume originating from central Asia. Its leaves and seeds are both used in cooking. Some people also use the seeds to make tea [[R](#), [R](#)].

People use fenugreek tea or supplements for [[R](#), [R](#), [R](#), [R](#)]:

- Reproductive health
- Blood sugar control
- Decreasing cholesterol

How it helps

In a placebo-controlled trial of 50 patients with Parkinson's disease, supplementation with fenugreek (300 mg, 2x/day) as an add-on to L-DOPA for 6 months further improved the symptoms [[R](#)].

Fenugreek has antioxidant and anti-inflammatory properties that may protect nerve cells and improve their function.

55



N-acetylcysteine (NAC)

IMPACT1 / 5

EVIDENCE1 / 5

How to implement

Take 600 mg of N-Acetylcysteine (NAC) supplement daily with water. It can be taken at any time of the day, but try to take it at the same time each day for best results.

TYPICAL STARTING DOSE
1200 mg

Description

NAC is a supplement that contains a form of the amino acid cysteine, a protein building block that your body uses to make the antioxidant glutathione. It is used for its potential antioxidant properties and its ability to support lung, gut, and mental health.

[N-acetylcysteine](#) (NAC) is converted to cysteine in the body. Cysteine is a protein building block (amino acid) that helps make the antioxidant glutathione [\[R\]](#).

People take NAC to potentially support [\[R\]](#), [\[R\]](#):

- Mental health
- Ovarian health and pregnancy outcomes
- Lung health
- Gut health

How it helps

Preliminary studies show that supplementation with NAC may support dopamine neurotransmission and replenish blood antioxidants such as glutathione in patients with Parkinson's disease [\[R\]](#), [\[R\]](#), [\[R\]](#).

NAC can influence glutathione levels and oxidative stress, potentially providing neuroprotective benefits.

56



Hydrogen Water

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Drink 1.5 to 2 liters of hydrogen-rich water daily, spread out over the course of the day. It is best to start with a lower volume and gradually increase it to allow your body to adjust. This practice should be continued daily as a part of your lifestyle to maintain its potential benefits.

Description

Drinking hydrogen-rich water is believed to have antioxidant properties and may help combat oxidative stress in the body. Some studies suggest it could potentially support overall health and well-being.

How it helps

In a 48-week study, Japanese Parkinson's patients drinking 1,000 mL/day of H₂-water showed significant improvement in UPDRS scores compared to a placebo group [\[R\]](#).

In a study with 18 Parkinson's patients, PBM+H₂ therapy for 2 weeks significantly reduced UPDRS scores without adverse events, suggesting it's safe and effective; further large-scale trials are needed [\[R\]](#).

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Pycnogenol

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Take 100 mg of pycnogenol supplement daily. This can be taken in a single dose or divided into two doses of 50 mg each, one in the morning and one in the evening.

TYPICAL STARTING DOSE
100 mg

Description

Pycnogenol (pine bark extract) is derived from the bark of the maritime pine (Pinus pinaster). It has been used in traditional n European folk medicine for centuries, and more recently as a supplement. The extract contains a group of bioactive compounds known as proanthocyanidins, which may be beneficial in supporting cardiovascular health, promoting skin health, and aiding in the management of various conditions related to inflammation and oxidative stress.

Pycnogenol comes from the bark of pine trees that grow in the Mediterranean [\[R, R\]](#).

It may improve [\[R, R, R, R, R, R\]](#):

- Athletic performance
- Seasonal allergies
- Cognitive function
- Joint health
- Varicose veins

How it helps

In people with Parkinson’s disease, pycnogenol supplementation (150 mg/day for 4-8 weeks) may **reduce cognitive and motor symptoms** [\[R, R\]](#).

58



Binaural Beats

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Listen to binaural beats through headphones for 30 minutes to 2 hours daily. Choose frequencies that match your goal, such as relaxation or focus, and ensure a quiet, comfortable environment for the best experience.

TYPICAL STARTING DOSE

30 minutes

Description

Binaural beats are audio recordings that use specific sound frequencies to create a perception of a beating or pulsing sound in the brain. Some people use binaural beats for relaxation, meditation, and potential cognitive benefits.

[Binaural beats](#) are an **auditory illusion** perceived by the brain when two slightly different frequencies of sound are played into each ear (*bi* – two, *aural*- ear). When wearing earphones that are playing slightly different notes in each ear, our brain perceives the volume to pulse (oscillate) at a fixed rate. This is called a ‘beat.’

People use binaural beats to improve cognition, mood, and anxiety [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#).

How it helps

In a non-placebo-controlled trial of 14 patients with Parkinson’s disease, listening to binaural beats improved working memory performance and modulated brain activity [\[R\]](#).

Binaural beats, a form of sound wave therapy, stimulates brains affected by Parkinson's to enhance motor control and reduce tremors. Listening to this can also help to promote relaxation and reduce anxiety, a common condition in Parkinson's patients.

59



Emoxypine

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Emoxypine is typically available in oral capsules, tablets, or injectable forms, with the dosage depending on the condition being treated. For general antioxidant or neuroprotective purposes, the oral dose ranges from 125–250 mg taken 2–3 times daily, while more intensive treatments may require higher doses or injectable administration under medical supervision. It is usually recommended to take Emoxypine with meals to minimize gastrointestinal discomfort. Treatment duration can vary from a few weeks to several months, depending on the therapeutic goal.

Description

Emoxypine (2-ethyl-6-methyl-3-hydroxypyridine succinate) is a synthetic antioxidant and nootropic compound primarily used in Russia and some Eastern European countries. It is derived from pyridoxine (vitamin B6) and known for its neuroprotective, anti-stress, and anti-inflammatory properties.

Emoxypine can reduce anxiety, stress, and symptoms of depression by normalizing neurotransmitter levels and protecting brain cells from oxidative stress. Additionally, it has applications in managing cognitive impairment, improving memory, and protecting against age-related neurodegeneration. Emoxypine is also used for cardiovascular health, as it can improve blood flow and protect tissues from ischemia-reperfusion injuries.

Emoxypine works by scavenging free radicals, enhancing membrane fluidity, and improving the body's antioxidant defenses.

How it helps

In a trial of 65 patients with Parkinson's disease, Emoxypine infusion (4 mL of a 5% solution per 200-250 mL of physiological solution) for 10 days decreased postural and static tremor, decreased muscle tone, and increased mobility and locomotor activity [\[R\]](#).

60



Avoid Organochlorine Pesticide Exposure

IMPACT

1 / 5

EVIDENCE

1 / 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

Reducing Organochlorine Pesticide Exposure can help manage Parkinson's Disease as these chemicals can harm the nerve cells in the brain, speeding up the development of this disease. By avoiding these pesticides, you might lessen exposure to potential triggers, hence slowing the disease progression.

A [study of 6333 participants](#) associated **higher concentrations of urinary 2,4,6-TCP with a 53 times higher risk of death in patients with Parkinson's disease** [\[R\]](#).

61



Palmitoylethanolamide (PEA)

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

For managing pain and inflammation, take 300mg to 1,200mg of palmitoylethanolamide (PEA) in divided doses throughout the day, preferably with meals to enhance absorption. This regimen should be followed for at least 6 weeks to evaluate its effectiveness.

Description

Palmitoylethanolamide (PEA) is a naturally occurring fatty acid amide. It is a compound found in various tissues of animals, including humans. PEA has been a supplement for the past couple of decades, and is utilized for its potential anti-inflammatory and pain-relieving properties.

[Palmitoylethanolamide](#) (**PEA**) is a compound naturally made by the body to help combat inflammation [\[R\]](#).

It’s also made by plants and other animals. Good sources of PEA include [\[R\]](#):

- Soy lecithin
- Soybeans
- Egg yolk
- Peanuts

How it helps

According to a single study, adding **PEA (600 mg/day)** to standard treatment may slow down progression of Parkinson’s disease and reduce disability [\[R\]](#).

62



Walking Meditation

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Dedicate 10-20 minutes daily to practice walking meditation, ideally in a quiet space where you can walk back and forth. Focus on the sensation of each step, maintaining a slow pace that allows you to be fully aware of the movement and feeling in your feet and body. It can be done indoors or outdoors.

TYPICAL STARTING DOSE

30 minutes

Description

Walking meditation is a mindfulness practice that combines the physical activity of walking with focused awareness and deep breathing. It is used to reduce stress, enhance mental clarity, and cultivate mindfulness.

How it helps

In a non-placebo-controlled trial of 33 patients with Parkinson’s disease, practicing walking meditation 3x/week for 12 weeks reduced disease severity, decreased the number of participants with anxiety, and encouraged higher rates of exercise adherence [\[R\]](#).

Walking meditation can improve motor function and reduce rigidity by enhancing the coordination and balance of the body. Furthermore, the focus on breathing and mindfulness can help manage emotional challenges such as anxiety or depression.

63



PEMF

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Use a PEMF (Pulsed Electromagnetic Field) device for 30 minutes to 2 hours daily. Position the device as directed by the manufacturer, typically over the area of concern or discomfort. It can be part of your daily routine, such as during rest or activity, without a specific end date unless advised by a healthcare professional.

TYPICAL STARTING DOSE

30 minutes

Description

PEMF, or Pulsed Electromagnetic Field therapy, involves the use of electromagnetic fields to stimulate cellular activity within the body. This therapy is believed to help improve circulation, reduce pain and inflammation, and enhance cellular function.

How it helps

PEMF (Pulsed Electromagnetic Field) therapy can help alleviate Parkinson's Disease symptoms by promoting better cell function and health. It does this by increasing cellular energy production, reducing inflammation, improving circulation and sleep, and reducing stress and anxiety.

In a placebo-controlled trial of 97 patients with Parkinson’s disease, applying PEMF (30 min/day for 8 weeks) improved the rate of force development during chair rise, mobility, and activities of daily living scores [\[R\]](#), [\[R\]](#).

64



Sarcosine

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Take sarcosine as an oral supplement, typically in powder form. The common dosage ranges from 2 grams to 3 grams per day, usually divided into two equal doses taken in the morning and evening. It is recommended to continue this regimen for at least 4 to 6 weeks to observe effects.

TYPICAL STARTING DOSE

2 g

Description

Sarcosine is a naturally occurring amino acid derivative that has been studied for its potential role in cognitive function and mental health.

How it helps

In a placebo-controlled trial of 30 patients with Parkinson’s disease, supplementation with sarcosine for 8 weeks temporally improved depression and neuropsychiatric symptoms, especially in those with mild-moderate symptom severity, without exacerbating the motor or cognitive features [R].

65



Laughter Yoga

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Attend a laughter yoga session for at least 30 minutes, three times a week. These sessions can be found in local community centers or online classes tailored for various ages and physical abilities.

TYPICAL STARTING DOSE

30 minutes

Description

Laughter yoga combines laughter exercises and deep breathing to promote mental and emotional well-being. It is believed to reduce stress, improve mood, and boost overall mental health.

How it helps

In a non-placebo-controlled trial of 85 patients with Parkinson’s disease, participating in a 45-minute laughter yoga session improved well-being for both them and their caregivers [R].

Laughter yoga may help by stimulating physical coordination and balance. Moreover, it can boost mood and reduce stress. This may help manage non-motor symptoms like depression or anxiety.

66



Inosine

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Inosine is typically available in capsule or tablet form, with doses often ranging between 500 mg and 2,000 mg per day, split into two doses. Since inosine can affect uric acid levels, regular monitoring of uric acid is advisable for long-term use. Taking inosine with food and a full glass of water may help improve absorption and reduce any gastrointestinal discomfort. For those using it to support athletic performance or neurological health, timing the doses consistently each day can help maintain stable levels in the body.

Description

Inosine is a naturally occurring nucleoside composed of hypoxanthine attached to a ribose sugar. By regulating the essential nucleotide adenosine, it plays an important role in various biological processes, including energy metabolism and RNA formation.

Inosine is found in certain foods and can also be synthesized in the body from purines. As a supplement, it may be used to improve:

- Gout
- Energy and recovery
- Neurological health
- Immune system regulation

How it helps

Uric acid may help slow the progression of degenerative diseases. Raising its levels with inosine has been successfully tested in people with:

- Multiple sclerosis [\[R\]](#)
- Parkinson's disease [\[R\]](#), [\[R\]](#), [\[R\]](#)
- Multiple system atrophy [\[R\]](#)

Please note: Inosine should be used to raise uric acid levels only under the supervision of a qualified healthcare provider since elevated uric acid levels can lead to serious health issues such as gout and kidney stones.

67



Autogenic Training

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Practice autogenic training for 10-15 minutes daily, ideally in a quiet, comfortable space where you won't be disturbed. Sit or lie down in a comfortable position, close your eyes, and focus on calming your mind and body through self-suggested affirmations. Repeat this routine daily for at least 2-3 months to observe beneficial effects on stress reduction and relaxation.

TYPICAL STARTING DOSE

10 minutes

Description

Autogenic training is a relaxation technique that involves self-suggestion and progressive muscle relaxation to promote relaxation, reduce stress, and alleviate symptoms of anxiety and tension.

Autogenic training is a relaxation technique that a person may carry out on their own [\[R\]](#), [\[R\]](#).

Autogenic training uses 6 exercises that take the mind’s attention to bodily sensations such as warmth and heaviness. The exercises involve guided imagery and verbal cues (e.g. "My arm is very heavy") to [\[R\]](#), [\[R\]](#):

- Relax the body
- Quiet and calm the mind
- Increase energy

How it helps

According to a single study, autogenic training may **improve motor performance** in people with Parkinson’s disease [\[R\]](#).

68



Moderate Computer Use

IMPACT

1 / 5

EVIDENCE

1 / 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

A study with over 470,000 participants found that moderate computer use may lower the risk of Parkinson's disease alone or along with depression. Using the computer moderately was linked to better brain health, including a larger hippocampus [[R](#)].

However, replacing some computer time with physical activities, especially vigorous sports, may offer a greater benefit [[R](#)].

69



Nicotinamide Riboside (NR)

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Take 250-300 mg of Nicotinamide Riboside (NR) supplement daily, with or without food. It can be taken any time of the day, but maintaining a consistent routine, such as taking it every morning, is advised for best results. Continue this regimen daily for an ongoing basis to support cellular health and energy levels.

TYPICAL STARTING DOSE

250 mg

Description

Nicotinamide riboside is a form of vitamin B3 that is used in dietary supplements. It is believed to support cellular energy metabolism and may have potential benefits for overall health, including cognitive function and mitochondrial function.

How it helps

In a placebo-controlled trial of 30 newly diagnosed Parkinson’s disease patients, supplementation with NR (1000 mg/day) for 30 days increased brain NAD levels and decreased the levels of inflammatory cytokines in the blood and cerebrospinal fluid, potentially exerting neuroprotective effects [R].

NR may enhance brain function by boosting the production of new brain cells and protecting existing ones.

70



5-HTP

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Take 100 mg of 5-HTP as a supplement daily, ideally with a glass of water. It can be taken at any time of the day but taking it at the same time each day may help establish a routine.

TYPICAL STARTING DOSE

100 mg

Description

5-HTP is a building block for serotonin. 5-HTP and serotonin help make melatonin, a hormone that promotes sleep. People mainly use 5-HTP as a mood-boosting supplement. It may also help reduce appetite, help with chronic pain and fatigue, and improve sleep quality.

[5-HTP](#) is a building block for the “happiness hormone” [serotonin](#). 5-HTP and serotonin help make [melatonin](#), a hormone that promotes sleep [\[R\]](#).

People mainly use 5-HTP as a mood-boosting supplement [\[R, R\]](#). According to early research, it may also:

- Reduce appetite [\[R, R, R\]](#)
- Help with chronic pain and fatigue [\[R, R, R\]](#)
- Improve sleep quality [\[R, R\]](#)

Please note: 5-HTP can interact with SAM-e, St. John’s wort, and different medications. Combining it with antidepressants can be dangerous and even life-threatening. Never take 5-HTP without consulting your doctor [\[R, R, R\]](#).

How it helps

In people with Parkinson’s disease, 5-HTP (50 mg/day for 4 weeks) may improve [\[R, R, R\]](#):

- Involuntary movements (dyskinesia)
- Mood
- Sleep quality

However, the available evidence is scarce.

Please note: 5-HTP can interact with St. John’s wort, and different medications. Combining it with antidepressants can be dangerous and even life-threatening. Never take 5-HTP without consulting your doctor [\[R, R, R\]](#).

71



Plasmalogens

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Follow the dosage instructions provided on the product label or as directed by your healthcare provider. Typically, these supplements come in capsule form and are taken once daily with water, ideally with a meal to enhance absorption. Consistency is key, so taking them at the same time each day is recommended. Always consult a healthcare professional before starting plasmalogen supplements, especially if you are pregnant, nursing, or have any medical conditions.

Description

Plasmalogens are a special kind of phospholipids found in cell membranes, particularly in the brain (comprising 20% of its content), heart, lungs, eyes, and kidneys. Plasmalogens help the nervous system work and prevent brain cell death by reducing inflammation and oxidative stress. Their levels decrease with age [\[R\]](#).

Plasmalogen supplements are being researched to improve cognitive function in both healthy subjects and those with mild cognitive impairment or Alzheimer’s disease [\[R, R\]](#).

How it helps

Research suggests that patients with Parkinson’s disease have lower levels of ethanolamine plasmalogen in their red blood cells and phosphatidylethanolamine plasmalogen in their serum [\[R, R\]](#).

In a placebo-controlled trial of 10 patients with Parkinson’s disease, supplementation with purified ether phospholipids derived from scallops (1 mg/day, containing plasmalogens) for 24 days improved ether phospholipid levels and some clinical parameters (such as daily activity, bodily discomfort, cognition, stigma, and social support) [\[R\]](#).

72



Avoid Betaine (TMG) Supplements

IMPACT

0 / 5

EVIDENCE

0 / 5

How to implement

Do not purchase or consume any dietary supplements that list betaine (also known as trimethylglycine or TMG) among their ingredients. Check the labels of supplements you currently use or plan to buy to ensure they are free of betaine.

Description

Avoiding excessive betaine supplements is recommended, as very high intake may have potential side effects. Betaine can be obtained naturally from foods like beets and spinach without the risk of overconsumption.

How it helps

Genetically higher levels of betaine may be associated with worse Parkinson’s disease symptoms [\[R\]](#).

73



Guided Imagery

IMPACT

0 / 5

EVIDENCE

0 / 5

How to implement

Find a quiet, comfortable place to sit or lie down where you can spend 20 to 30 minutes without interruptions. Close your eyes and take deep breaths to relax. Then, listen to a guided imagery audio recording or follow a script where you imagine a peaceful scene or scenario in detail. Do this practice daily, ideally at the same time each day, to reduce stress and improve well-being.

TYPICAL STARTING DOSE

30 minutes

Description

Guided imagery is a relaxation technique that involves using mental images to promote relaxation, reduce stress, and manage pain. It can have a positive impact on mental well-being and overall stress management.

Guided imagery is a relaxation technique that involves visualizing positive, peaceful settings. Guided imagery aims to [\[R\]](#), [\[R\]](#):

- Improve mind-body connection
- Enhance well-being
- Reduce stress and anxiety
- Improve immunity

How it helps

In a study of 21 Parkinson's disease patients, listening to relaxation-guided imagery significantly increased "on" time from 47.7% to 62.8%. Relaxing music had no significant effect. Both sessions reduced UPDRS motor scores, with relaxation-guided imagery showing a larger reduction. After 3 months, guided imagery non-significantly increased "on" time [\[R\]](#).

Guided imagery may help by aiding relaxation and stress reduction. Imagery techniques may also help improve mood, sleep, and overall mental well-being, consequently enhancing quality of life.

74



Ginkgo

IMPACT

0 / 5

EVIDENCE

0 / 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

Ginkgo may reduce the risk of tardive dyskinesia more in people with certain gene variants [\[R\]](#).

75



Choline Supplements

IMPACT

0 / 5

EVIDENCE

0 / 5

How to implement

Take choline supplements at a dosage of 425 mg to 550 mg daily, depending on age and gender, with a glass of water. It is best to consume choline supplements with a meal for optimal absorption. Continue this regimen daily as part of your dietary supplement routine.

TYPICAL STARTING DOSE

425 mg

Description

Choline is an essential nutrient that plays a crucial role in various bodily functions, including brain health, liver function, and metabolism. Incorporating choline-rich foods into your diet supports cognitive function and overall nutritional well-being.

[Choline](#) is a nutrient required for optimal health. Although the body makes some, we need to get choline from our diets to avoid deficiency [\[R\]](#).

It plays key roles in supporting [\[R\]](#), [\[R\]](#):

- DNA production
- Cell structure and function
- Brain, nerve, and heart health

Eggs and beef liver are the best sources of choline. If you can’t meet your daily requirements with food, consider taking a choline supplement such as [\[R\]](#):

- [Phosphatidylcholine](#) (PC)
- [Citicoline](#) (CDP-choline)
- [Alpha-GPC](#)
- [Lecithin](#)

They all supply choline, but each one has unique health perks you may prefer. Check out our posts on different choline-containing supplements to find out which one suits you best.

How it helps

Genetically higher choline levels may be causally associated with lower severity of Parkinson's symptoms [\[R\]](#).

76



Glutamine

IMPACT

0 / 5

EVIDENCE

0 / 5

How to implement

Take 5 to 10 grams of glutamine powder, mixed with water or another beverage, daily. It can be divided into two servings, one in the morning and the other in the evening. This supplementation is generally considered safe for long-term use, but it's best to consult with a healthcare provider for personalized advice.

TYPICAL STARTING DOSE

5 g

Description

Glutamine is an amino acid that plays a role in various bodily functions, including immune support and gut health. It may help with muscle recovery and overall well-being, particularly for individuals engaging in strenuous exercise.

L-glutamine is an amino acid produced by the body. Its levels may decrease during periods of stress or illness. It is important for protein and energy production, and helps control kidney pH balance [\[R\]](#).

Some people take L-glutamine as a supplement to help with [\[R\]](#):

- Gut health
- Immunity
- Exercise recovery and muscle performance
- Brain health

How it helps

Genetically predicted higher levels of glutamine may be associated with a decreased risk of Parkinson’s disease [\[R\]](#).

77



L-Carnitine

IMPACT

0 / 5

EVIDENCE

0 / 5

How to implement

Take 500 mg of L-carnitine supplement daily with a glass of water, preferably with a meal to enhance absorption.

TYPICAL STARTING DOSE

1 g

Description

L-carnitine is an amino acid-like compound that plays a role in energy metabolism and helps prevent toxic substances from building up in cells. It is often used in dietary supplements for its potential to support muscle recovery, reduce fatigue, and enhance athletic performance.

[L-carnitine](#) is a compound that helps you burn fat. It also prevents toxic substances from building up in cells [\[R\]](#).

Your body can usually make enough carnitine to meet its needs. You can also get it from **meat and dairy products** [\[R\]](#).

People use L-carnitine for [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#):

- Heart problems
- Overactive thyroid
- Fertility problems
- Blood sugar control
- Weight control

How it helps

Genetically higher L-carnitine levels may be causally associated with lower rates of insomnia in Parkinson's disease [\[R\]](#).

Please note: *There is no evidence from controlled clinical trials to support this recommendation. It is included based on uncontrolled clinical trials, animal or cell studies, or non-scientific criteria. Please take this recommendation with a grain of salt until more research is available.*

78



Isoleucine

IMPACT

0 / 5

EVIDENCE

0 / 5

How to implement

Take isoleucine as part of a branched-chain amino acid (BCAA) supplement, typically available in powder or capsule form. The general dosage recommended is 20-35 grams of BCAAs, which includes isoleucine, per day, divided into two or three doses. This supplementation should be coupled with meals or pre- and post-workout for optimal absorption and effectiveness.

TYPICAL STARTING DOSE

20 g

Description

Isoleucine is an essential amino acid, a building block that helps our body to create proteins. Our body needs it, but can't produce it on its own, so it must be obtained from the food we consume such as meat, fish, and dairy. Regular intake of Isoleucine from our diet is important for healing wounds, promoting muscle recovery, and controlling our blood sugar levels.

How it helps

Genetically predicted higher levels of isoleucine may be associated with a decreased risk of Parkinson’s disease [\[R\]](#).

79



Avoid Leucine Supplements

IMPACT

0 / 5

EVIDENCE

0 / 5

How to implement

Do not purchase or consume any supplements that list leucine as an ingredient. Check the labels of your dietary supplements to ensure they do not contain leucine.

Description

Avoiding excessive leucine supplements is recommended, as very high intake may have potential side effects. Leucine can be obtained naturally from protein-rich foods without the risk of overconsumption.

How it helps

Genetically predicted higher levels of leucine may be associated with a higher risk for Parkinson’s disease [\[R\]](#).

80



Dietary Iron

IMPACT

0 / 5

EVIDENCE

0 / 5

How to implement

Incorporate iron-rich foods into your daily meals, such as red meat, chicken, turkey, fish, beans, lentils, tofu, cooked spinach, and fortified cereals. Aim for at least 18 mg of iron per day for adult women and 8 mg per day for adult men. It's also beneficial to pair these foods with vitamin C-rich foods like oranges, strawberries, or bell peppers to enhance iron absorption.

Description

Iron (Fe) is an essential mineral. It helps make [hemoglobin](#), a protein that carries oxygen to cells. In this way, iron **increases energy** and supports **brain and immune system function** [\[R\]](#), [\[R\]](#), [\[R\]](#).

Foods rich in iron include [\[R\]](#):

- Oysters
- White beans
- Beef
- Chocolate
- Spinach
- Fortified cereals

Women should be getting **8-18 mg** of iron per day, while **men** should be getting **8 mg** [\[R\]](#).

Groups at risk of iron deficiency include [\[R\]](#):

- Menstruating women
- Children
- Vegetarians
- Routine blood donors

How it helps

Genetically higher levels of iron may be associated with a reduced risk of Parkinson’s disease (3% per 10 µg/dL increase in serum iron) [\[R\]](#).

Please note: *Increased iron intake from meat is linked to higher odds of diabetes and heart disease. Try to find a balance between plant and animal iron sources* [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#).

81



L-Phenylalanine

IMPACT

0 / 5

EVIDENCE

0 / 5

How to implement

Incorporate foods high in l-phenylalanine into your diet daily. This includes lean meats, fish, eggs, dairy products, soy products, and certain nuts and seeds like almonds and pumpkin seeds.

Description

L-phenylalanine is an amino acid used by the body to produce important neurotransmitters and proteins. It plays a role in mood regulation, cognitive function, and overall neurological health.

L-phenylalanine is a building block for proteins, hormones, and chemical messengers. It plays an important role in brain function, thyroid function, and skin health.

L-phenylalanine is found in foods like [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#):

- Meat
- Nuts
- Wheat
- Soy

It can also be taken as a supplement.

How it helps

Genetically predicted higher levels of phenylalanine may be associated with a decreased risk of Parkinson’s disease [\[R\]](#).

Next Steps

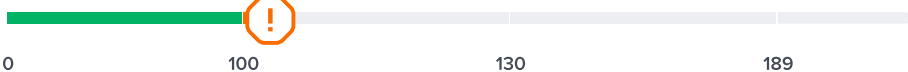
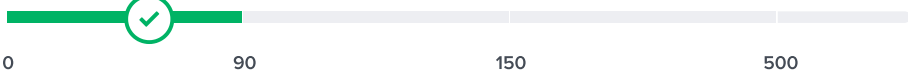
Remember, your genes only tell one important part of your health story!

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.

	LDL Cholesterol	103 mg/dL		9 Nov 2025
	Vitamin B12	687 pg/mL		9 Nov 2025
	Triglycerides	54 mg/dL		9 Nov 2025
	Homocysteine	12.84 umol/L		9 Nov 2025
	Iron	228 mcg/dL		9 Nov 2025