

Lung Health

DNA Health Report

REPORT CATEGORY —



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

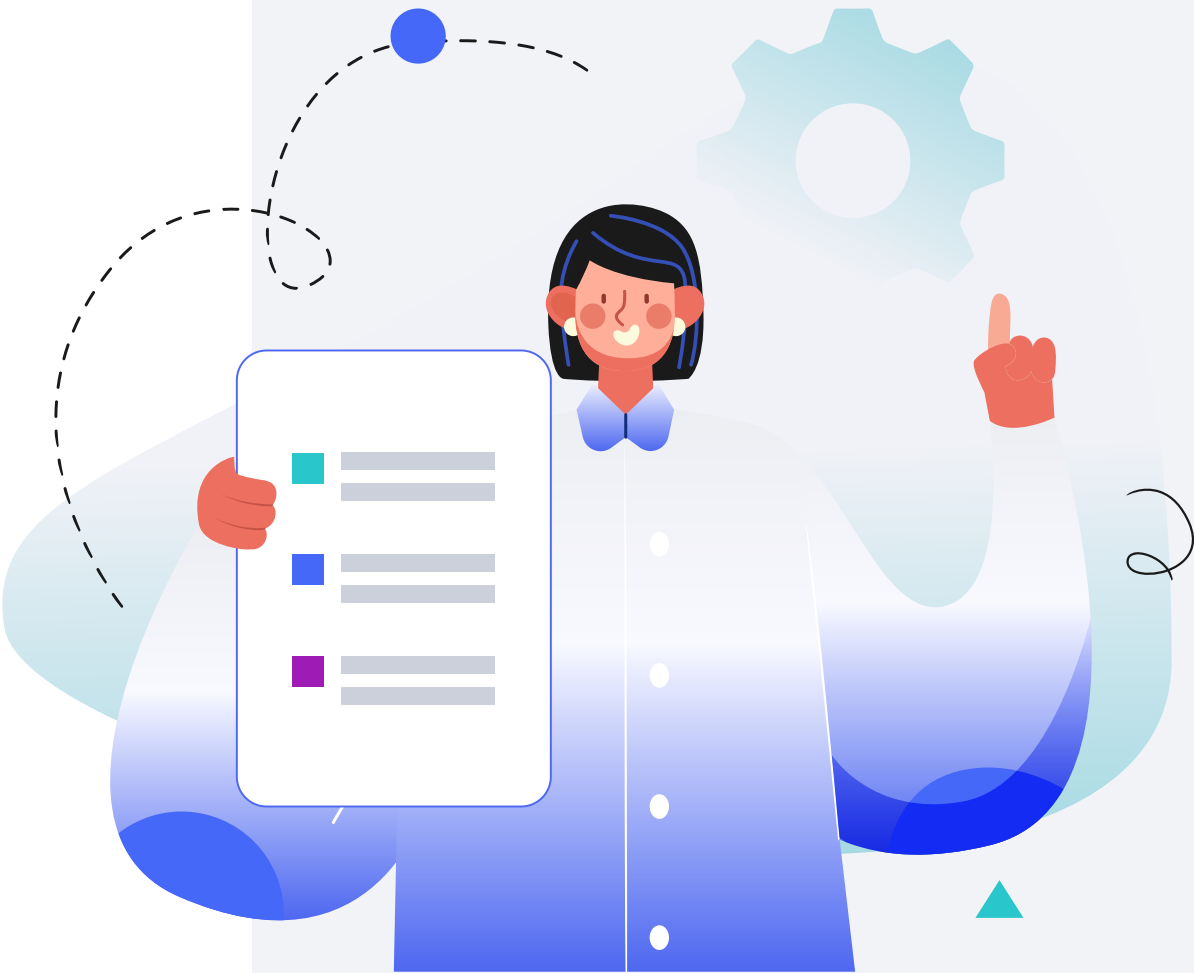
Male

HEIGHT

5ft 5" 165cm

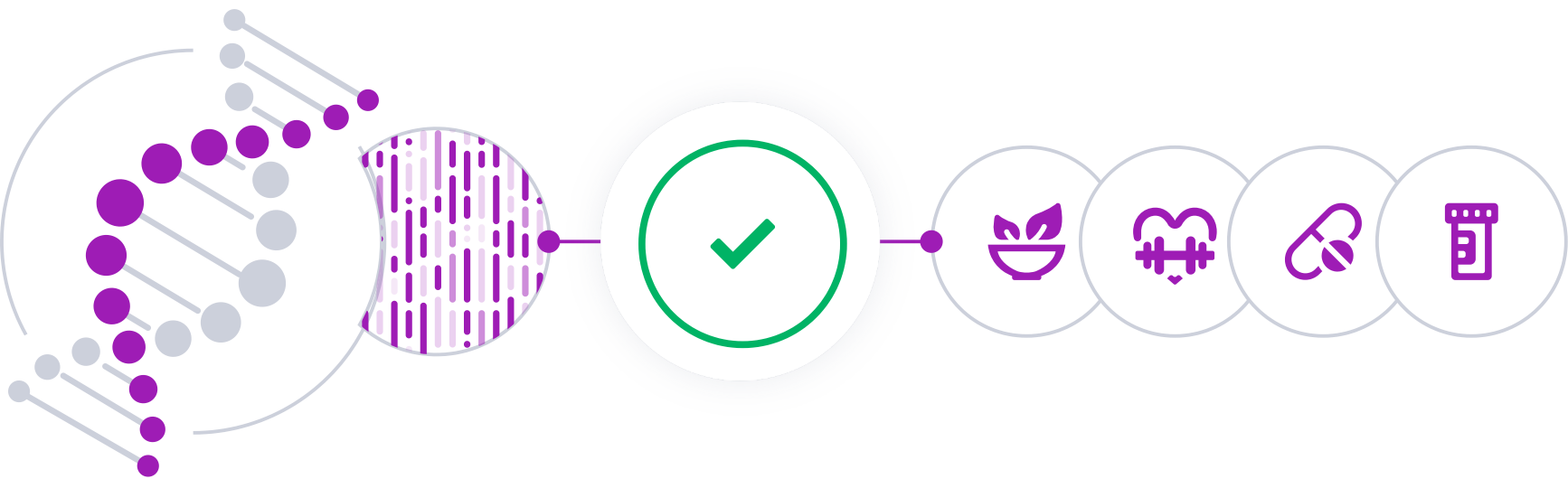
WEIGHT

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.

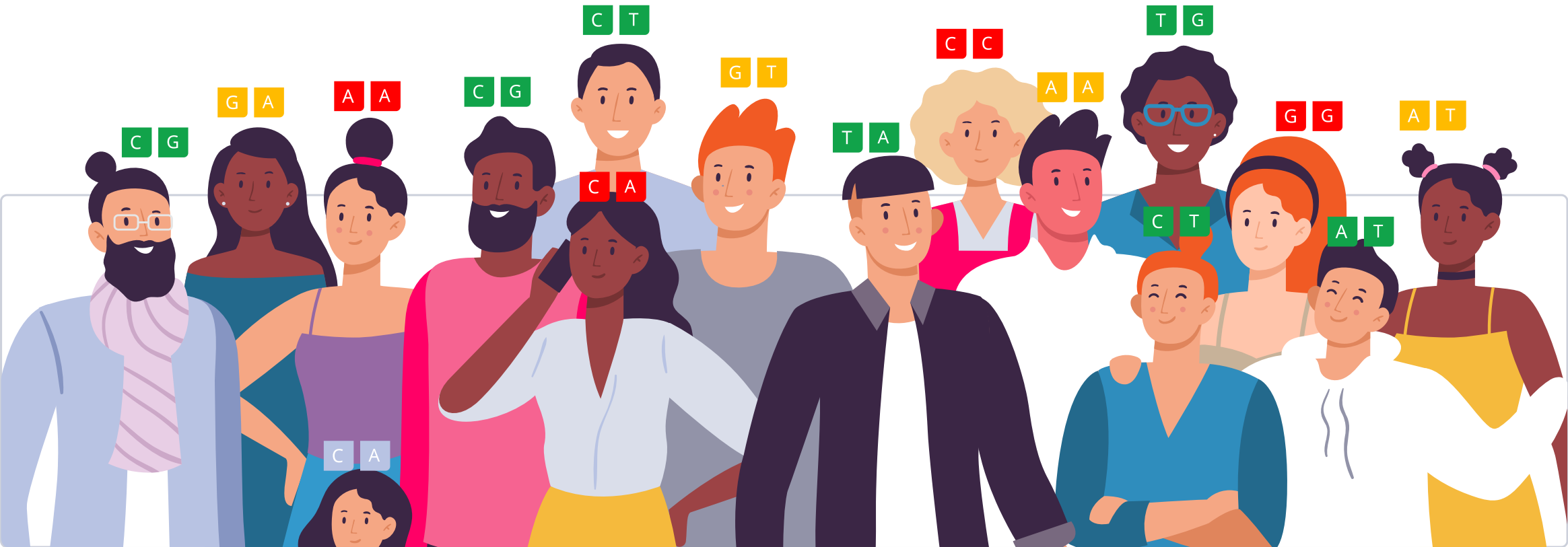


Similarly, our Trait Reports look at how your DNA influences your traits.



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

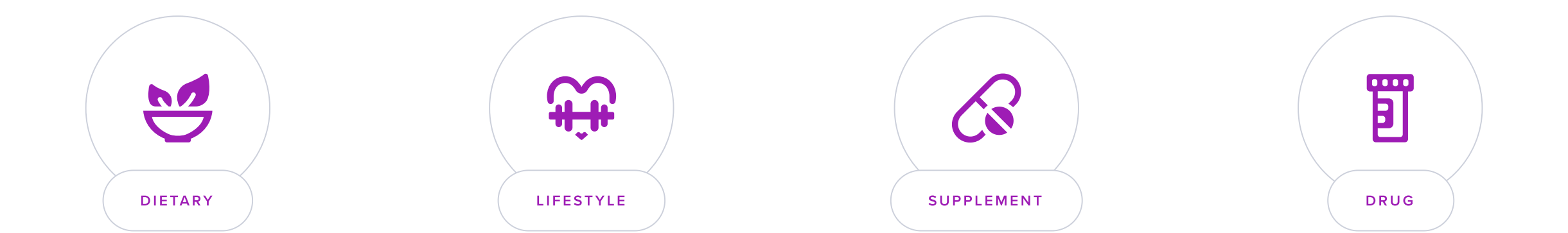
You have 2 risk alleles

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

A few moments in our lives may be so amazing they take our breath away, from meeting the love of our life to seeing a wonder of the world.

Dean Martin once sang, “you take my breath away, yes it looks like love is here to stay.”

Unfortunately, when it comes to breathing difficulties, the causes aren’t always so nice. One of the major causes of poor lung health is chronic obstructive pulmonary disease (COPD).

Incidentally, Dean Martin was one of many famous faces who had COPD, along with others like Leonard Nimoy and Amy Winehouse [\[R\]](#).

One of the most common causes of COPD is smoking. As our understanding of the link between smoking and lung health has improved, so has the COPD death rate. It dropped from 57 deaths per 100,000 people in the US in 1999 to 41 in 2019 [\[R\]](#).

While smoking is the major cause of COPD, other factors that may influence the risk include asthma, being underweight, and differences in DNA [\[R\]](#), [\[R\]](#)

For example, specific variants of the [HSP90B1](#), [SERPINA1](#), and [XPC](#) genes have all been linked to reduced lung function, particularly in the presence of air pollution. People with these variants may want to consider avoiding areas with high air pollution [\[R\]](#), [\[R\]](#), [\[R\]](#).

Read on to find out more about:

- **How your genetics play a role in lung health**
- **Your genetic risk score based on over 930,000 genetic variants**
- **Personalized recommendations based on your genetics**

Risk Factors And Genetics

Key Takeaways:

- Up to **40%** of differences in people's chances of developing COPD may be attributed to genetics.
- Other risk factors include smoking, exposure to dust or chemical fumes, asthma, being underweight, and infections.
- Up to **1 in 10 people** worldwide may have COPD.
- If your genetic risk is high, you may lower your overall risk by taking action on those factors that you can change.
- Click the **next steps** tab for relevant labs and lifestyle factors.

When we breathe in, the lungs pull oxygen from the air to deliver it throughout the body. When we breathe out, they release carbon dioxide back into the air. This process is called gas exchange [\[R\]](#), [\[R\]](#).

If the lungs become damaged, they may not be able to perform gas exchange properly [\[R\]](#), [\[R\]](#).

One condition that causes loss of lung function is **chronic obstructive pulmonary disease (COPD)** [\[R\]](#), [\[R\]](#), [\[R\]](#).

COPD is long-term inflammation that makes it harder to exhale. The two conditions that contribute to COPD are [\[R\]](#):

- **Emphysema:** The air sacs (*alveoli*) of the lungs are damaged.
- **Chronic bronchitis:** The tubes (*bronchi*) of the lungs are blocked.

In most cases, people have both of these conditions at the same time [\[R\]](#).

Up to 1 in 10 people worldwide may have COPD [\[R\]](#).

The most common cause of COPD is smoking. Other risk factors include [\[R\]](#), [\[R\]](#):

- Exposure to dust or chemical fumes
- Asthma
- Being underweight
- Infections
- **Genetics**

Symptoms of COPD tend to appear when the lungs become significantly damaged. They also tend to worsen over time. Symptoms include [\[R\]](#):



TYPICAL

Typical likelihood of COPD based on 892,416 genetic variants we looked at

53rd

PERCENTILE



Your risk is greater than 53% of the population and lower than 47% of the population.

Your top variants that most likely impact your genetic predisposition:

GENE	SNP	GENOTYPE
ADGRG6	rs9403391	CC
AGER	rs2070600	CC
/	rs16825267	CC
HHIP	rs13140176	AA
RUVBL1	rs2955083	AA
ID4	rs9350191	TT
DTWD1	rs72731149	GG
ADAMTSL3	rs4523894	CC
MMP15	rs8044657	GG
MFHAS1	rs9329170	CC
ADAM19	rs72811310	TT
FGD6	rs4762172	TT
TET2	rs2047409	AA
ASB1	rs72983853	CC
TWIST2	rs62191105	CC
TOP2B	rs1529672	CC
INTS12	rs72673891	GA
ADGRG6	rs9399401	CT
SERPINA1	rs17580	TT
ADAM19	rs11465228	TC
GYPA	rs6537279	AG
SPINK7	rs10037493	TC
CHRNA5	rs55676755	CG
CAMK1D	rs7068966	TC

- Shortness of breath
- Wheezing
- A wet (mucus-producing) cough
- Frequent respiratory infections
- Fatigue
- Weight loss

Untreated COPD can lead to complications like [\[R\]](#):

- Respiratory infections
- Heart problems
- High blood pressure in the lungs
- Lung cancer
- Depression

If you smoke, quitting is always the first step to treating COPD. A doctor may also recommend [\[R\]](#):

- Lung therapy (e.g., oxygen therapy)
- Medication

Up to 40% of differences in people's chances of developing COPD may be attributed to genetics. Genes involved in COPD may influence [\[R\]](#), [\[R\]](#), [\[R\]](#):

- Smoking behavior
- Lung inflammation
- Lung function

Genetically high white blood cell and neutrophil count may be causally associated with a higher risk of lung function worsening [\[R\]](#), [\[R\]](#).
In contrast, genetically high levels of omega-3 fatty acids, especially DHA, may be causally associated with a slower decline in lung function [\[R\]](#).

GENE	SNP	GENOTYPE
CHRNA5	rs28534575	GT
FAM13A	rs7671261	GA
NPNT	rs34712979	GG
MICB	rs4143333	AA
C1ORF87	rs72673419	CC
THSD4	rs2119568	TT
THSD4	rs1441358	TT
SERPINA1	rs28929474	CC
IER3	rs2284174	TT
THSD4	rs12102112	CC
FCHO2	rs34651	TT
BCAR1	rs4888379	AA
ARMC2	rs2806356	TT
/	rs9904181	GG
LYPLAL1	rs79274749	CC
GPD2	rs72902175	CC
PCGF2	rs34727469	CC
VGLL4	rs2442776	AA

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

Your Recommendations

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

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

DOSAGE		DOSAGE			
1	Hyperbaric Oxygen Therapy	90 minutes	2	Avoid Air Pollution	
3	Airway Muscle Training	30 minutes	4	Aerobic Exercise (Cardio)	1 hour
5	Breathing Techniques	10 minutes	6	Exercise At Least One Hour a Day	1 hour
7	Tai Chi	1 hour	8	Strength Training	1 hour
9	Avoid Secondhand Smoke		10	Aquatic Exercise	1 hour
11	Yoga	30 minutes	12	Avoid Asbestos	
13	Avoid PAHs Exposure		14	Relaxation Techniques	30 minutes
15	Music Therapy	30 minutes	16	N-acetylcysteine (NAC)	600 mg
17	Diaphragmatic Breathing	10 minutes	18	Walking	30 minutes
19	Maintain Optimal Vitamin D Levels	1000 iu	20	Sleep for 7+ Hours	
21	Singing	20 minutes	22	Anti-Inflammatory Diet	
23	Nerve Stimulation	30 minutes	24	Transcutaneous Electrical Nerve Stimulation (TENS)	30 minutes
25	Acupuncture	1 hour	26	Vitamin C	500 mg
27	Avoid Lead Exposure		28	Avoid Exposure to Heavy Metals	
29	Air Purifier		30	Progressive Muscle Relaxation	10 minutes

31	Dance	30 minutes	32	South African Geranium Root	60 mg
33	Deep Breathing	5 minutes	34	Avoid Cadmium Exposure	
35	Pranayama (Yoga Breathing)	15 minutes	36	Alternate Nostril Breathing	10 minutes
37	Zinc	10 mg	38	Cineole	600 mg
39	Beetroot Juice		40	Whole-Body Vibration	15 minutes
41	Beetroot		42	Avoid Pesticide Exposure	
43	Avoid Arsenic Exposure		44	Pilates	30 minutes
45	Fruits And Vegetables		46	Vitamin A	700 mcg
47	Laughter Therapy	30 minutes	48	Omega-3 (Fish Oil)	500 mg
49	Buteyko Technique	20 minutes	50	Avoid Phthalate Exposure	
51	Essential Amino Acids (EAA)	10 g	52	L-Carnitine	500 mg
53	Dong Quai	500 mg	54	Rosemary	400 mg
55	Horny Goat Weed And Chinese Yam		56	Green Tea	400 mg
57	Melatonin	500 mcg	58	Titanium Oxide	
59	Hydroxymethylbutyrate (HMB)	3 g	60	Stability Training	30 minutes
61	Rhodiola	500 mg	62	Halotherapy	30 minutes
63	Sensory Deprivation	40 minutes	64	Apples	
65	Mindful Walking	30 minutes	66	Activated Charcoal	500 mg
67	Black Seed (Black Cumin)	1000 mg	68	Black Seed Oil	1000 mg
69	Legumes		70	Whole Grains	

71	Hatha Yoga	1 hour	72	Magnesium	350 mg
73	Magnesium Sulfate	200 mg	74	Chinese Yam	
75	Dietary Iron				

Hyperbaric Oxygen Therapy

IMPACT

5 / 5

EVIDENCE

5 / 5

How to implement

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

TYPICAL STARTING DOSE

90 minutes

Description

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

How it helps

A meta-analysis of 7 studies found that long-term noninvasive positive pressure ventilation reduces PaCO₂ levels and mortality in stable hypercapnic COPD patients with respiratory failure. Additionally, two separate meta-analyses found that continuous or exercise-based oxygen therapy alleviates dyspnea and enhances the quality of life in mildly or non-hypoxemic COPD patients. A comparison of continuous-flow and demand oxygen delivery methods revealed similar effectiveness in a meta-analysis of 10 trials. Furthermore, 3 meta-analyses showed that high-flow nasal cannula therapy decreases transcutaneous PaCO₂, reduces skin breakdown incidence, and improves walking distance, and quality of life without increasing intubation and mortality risks. High-flow nasal cannula was comparable to conventional oxygen therapy. In acute hypercapnic COPD, short-term high-flow nasal cannula usage reduced PaCO₂ and the need for escalating respiratory support, whereas long-term use reduced exacerbation rates in chronic hypercapnia [R, R, R, R, R, R, R, R, R, R].

Hyperbaric oxygen therapy may help by supplying pure, high-pressure oxygen to the body.

Please note: Hyperbaric oxygen therapy is a potentially dangerous procedure that should only be performed under medical supervision. People with pneumothorax or congestive heart failure are at especially high risk of adverse effects. Because highly concentrated oxygen can easily catch on fire, avoid potential fire sources around hyperbaric oxygen chambers, oxygen gas cylinders, tanks, and concentrators [R, R].

Avoid Air Pollution

IMPACT

EVIDENCE

5 / 5

5 / 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

Exposure to air pollutants may increase the risk of COPD and worsen the condition [R, R, R, R, R, R, R, R, R, R, R].

Harmful pollutants include:

- Car emissions, such as nitrogen dioxide and ozone [[R](#), [R](#), [R](#), [R](#), [R](#), [R](#), [R](#), [R](#), [R](#)]
- Occupational dusts, vapors, gasses, or fumes [[R](#), [R](#), [R](#), [R](#), [R](#), [R](#), [R](#), [R](#)]
- Smoke from burning fuel or wood [[R](#), [R](#), [R](#), [R](#), [R](#), [R](#), [R](#)]

Air pollutants may contribute to COPD by irritating the lungs and causing inflammation [R, R].

Tips for lowering exposure to air pollution include [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#):

- Monitoring air pollution levels regularly
- Using an appropriate face mask when pollution levels are high
- Avoiding outdoor exercise when pollution levels are high
- Cleaning and maintaining air filtration systems
- Not burning wood or trash
- Using protective respiratory equipment at work, if needed

Multiple studies suggest that air pollution has detrimental health effects. In East Asia and the Pacific, short-term exposure to pollutants like NOx and sulfur dioxide is linked to increased cardiovascular and respiratory mortality and morbidity. Europe shows potential harm from low-level air pollution, especially for lung function, particularly in obese individuals. Chronic exposure is associated with a modest decrease in adult lung function, more pronounced in certain groups. Studies in China and across 28 countries found links between air pollution and cardiorespiratory diseases. Higher temperatures can amplify air pollution's impact, potentially increasing respiratory mortality. However, not all studies find significant associations with nonmalignant respiratory mortality in Europe [R, R, R, R, R, R, R, R].



PERSONALIZED TO YOUR GENES

Your [HSP90B1](#) gene variant is linked to reduced lung function. Air pollution may have a stronger impact on COPD development in people with this variant [\[R, R\]](#).
Exposure to air pollution may worsen lung function more in people with your [CDH13](#) gene variant [\[R\]](#).

YOUR GENETIC VARIANTS

GENE	SNP	GENOTYPE	EVIDENCE
HSP90B1	rs2070908	GG	
GENE	SNP	GENOTYPE	EVIDENCE
CDH13	rs1862830	AA	

3



Airway Muscle Training

IMPACT

4 / 5

EVIDENCE

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How to implement

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

TYPICAL STARTING DOSE

30 minutes

Description

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

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

- Sleep apnea
- Respiratory conditions like COPD
- Exercise performance

How it helps

A meta-analysis of 64 studies concluded that respiratory muscle training improves FVC, FEV1, MIP, and diaphragm mobility. In soccer players, respiratory muscle training improves maximal inspiratory buccal pressure and maximum consumption of oxygen according to a meta-analysis of 9 studies [\[R\]](#), [\[R\]](#).

Four meta-analyses (the largest one with 25 studies) concluded that inspiratory muscle training, both alone and as an add-on to general exercise reconditioning, improves inspiratory muscle strength and endurance, dyspnea, functional capacity, exercise tolerance, and quality of life (measured with the Chronic Respiratory Disease Questionnaire) in people with COPD. Patients with inspiratory muscle weakness improved more [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#).

Respiratory muscle training also improves respiratory function in people with the following conditions:

- Stroke [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#)
- Heart failure [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#)
- Asthma [\[R\]](#), [\[R\]](#), [\[R\]](#)
- Pulmonary dysfunction [\[R\]](#), [\[R\]](#)
- Neuromuscular diseases [\[R\]](#)
- Tetraplegia [\[R\]](#)
- CKD [\[R\]](#)
- Spinal cord injury [\[R\]](#)

A meta-analysis of 9 studies concluded that expiratory muscle strength training improves maximum expiratory pressure (by 15.95 cmH2O) but not cough flow, forced vital capacity, or forced expiratory volume in people with different health conditions [\[R\]](#).

Airway muscle training can strengthen the muscles involved in breathing, enabling better oxygen. A stronger respiratory system means fewer health issues associated with breathing and improved lung capacity.

4



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 aerobic exercise improves your lung capacity by strengthening the muscles that help your lungs open up to take in air. This also increased lung efficiency, allowing your lungs to remove carbon dioxide and send oxygen to your muscles more efficiently, improving your overall lung health.

Eight meta-analyses (the largest one with 112 studies and 3,484 participants) concluded that aerobic exercise **improves 6-min walking performance, peak VO2, dyspnea, maximal inspiratory muscle strength, aerobic exercise performance, and health-related quality of life in COPD patients, especially in interventions longer than 12 weeks, and decreases mortality** [\[R, R, R, R, R, R, R, R\]](#).

Its **combination with resistance training increases leg muscle strength and further improves 6-min walking performance** according to 2 meta-analyses (the largest one with 13 trials and 756 COPD patients) [\[R, R\]](#).

5



Breathing Techniques

IMPACT

4 / 5

EVIDENCE

4 / 5

How to implement

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

TYPICAL STARTING DOSE

10 minutes

Description

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

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

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

- Stress
- Anxiety
- Sleep problems
- Asthma

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

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

How it helps

For people with COPD, breathing techniques may [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#):

- Improve lung function
- Decrease fatigue
- Improve the quality of life

Helpful techniques include

- **Yogic breathing**: Combines breathing techniques with exercise and meditation [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#)
- **Inspiratory muscle training**: Uses a pressured device to provide resistance when inhaling [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#)
- **Pursed lip breathing**: Involves inhaling through the nose and exhaling slowly through pursed lips [\[R\]](#), [\[R\]](#)
- **Diaphragmatic breathing** (“belly breathing”): Deep breathing that contracts the diaphragm (a muscle that helps you breathe) [\[R\]](#), [\[R\]](#)

Breathing techniques may help by training and strengthening the breathing muscles [\[R\]](#), [\[R\]](#).

A study involving 81 elderly residents unable to walk independently showed that yoga respiratory training (YRT) significantly improved respiratory muscle strength and endurance compared to control and inspiratory muscle training (ITT) groups. YRT is a promising option for frail older adults when walking-based exercise is not feasible [\[R\]](#).

In a randomized trial of 71 frail older adults, yoga respiratory training (YRT) performed five times a week for six weeks enhanced respiratory muscle strength and endurance [\[R\]](#).

A study with 30 elderly individuals who had a history of COVID-19 divided into two groups (experimental and control) found that a combination of corrective and breathing exercises significantly improved respiratory capacity, craniovertebral angle, and thoracic kyphosis. These exercises may be useful in reducing post-COVID-19 pulmonary complications [\[R\]](#).

In a trial with 40 male participants, dynamic upper extremity exercises with breathing (3x/week for 4 weeks) increased forced vital capacity but didn't significantly differ from the control group. Forced expiratory volume at one second showed significant between-group differences, while peak expiratory flow remained unchanged [R].

Among second-degree inhalation burn patients in a randomized controlled trial, deep breathing exercises (2x/day for 14 days) alongside standard care improved pulmonary function and altered arterial blood pH, pO2, and pCO2 compared to the control group [R].

An online study with 15 participants found that breathing exercises and pranayamas, like Anulom vilom pranayama (AVP) and diaphragmatic breathing exercises (DBE), reduced perceived exertion during breath-holding [R].

6



Exercise At Least One Hour a Day

IMPACT

4 / 5

EVIDENCE

4 / 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

For people with COPD, exercise may [R, R, R, R, R, R, R]:

- Reduce fatigue
- Boost lung function
- Improve the quality of life

Helpful types of exercise include:

- Strength training [R, R, R, R, R, R]
- Cardio [R, R, R, R, R]
- Tai chi [R, R, R, R, R, R, R]
- Aquatic exercise [R]

Exercise may help by training and strengthening the breathing muscles [R, R].

Please note: *If you have COPD, consult your doctor before taking part in intense exercise* [R].

7



Tai Chi

IMPACT

4 / 5

EVIDENCE

4 / 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

Practicing Tai Chi promotes deep breathing and relaxation, which can strengthen the muscles that help in breathing, improving overall lung health. Moreover, it enhances aerobic capacity and stamina, reducing shortness of breath and cough in lung disease patients.

For people with COPD, exercise may [\[R, R, R, R, R, R, R\]](#):

- Reduce fatigue
- Boost lung function
- Improve the quality of life

[Eight meta-analyses \(the most recent one with 23 studies and 1,663 patients\)](#) concluded that **tai chi improves 6-meter walking distance (by 16.02-40.83 m) dyspnea (by 0.86 units), FEV1 (by 70-110 mL), FVC (by 120 mL), anxiety, and depression** in COPD patients. Tai chi may be **as effective as physical exercise interventions and more effective than breathing and walking exercises** [\[R, R, R, R, R, R, R, R\]](#).

8



Strength Training

IMPACT

4 / 5

EVIDENCE

4 / 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

Strength training can benefit lung health by building the strength and endurance of the muscles used in breathing, thus reducing breathlessness. It also enhances overall fitness and immune function, which potentially decreases the risk of respiratory infections.

For people with COPD, exercise may [R, R, R, R, R, R, R]:

- Reduce fatigue
- Boost lung function
- Improve the quality of life

Two meta-analyses (the most recent one with 17 studies) comparing different exercise modalities concluded that **strength exercise is more effective than endurance exercise at improving health-related quality of life, but all types of exercise are similarly effective at reducing fatigue** [R, R, R, R, R, R].

Strength training improves respiratory function, dyspnea, and muscle strength according to 5 meta-analyses (the largest one with 13 trials and 1,286 patients) [R, R, R, R, R].

A combination of resistance and endurance training improves leg strength in COPD patients according to a meta-analysis of 11 trials and 331 participants [R].

Please note: *If you have COPD, consult your doctor before taking part in intense exercise* [R].

9



Avoid Secondhand Smoke

IMPACT

4 / 5

EVIDENCE

4 / 5

How to implement

Implementing a smoke-free lifestyle involves communicating your needs to family, friends, and coworkers, requesting they respect your choice by smoking away from you. At home, establish strict no-smoking policies indoors. When out, choose smoke-free venues and accommodations. Advocate for smoke-free environments in your community and support legislation that promotes public health by reducing exposure to secondhand smoke. Utilize air purifiers at home to reduce any residual particles.

Description

Avoiding secondhand smoke is crucial for maintaining good health. Exposure to secondhand smoke can lead to respiratory problems, cardiovascular disease, and an increased risk of lung cancer, even in non-smokers. Protecting oneself from secondhand smoke involves staying away from smoking areas, ensuring smoke-free environments at home and work, and advocating for smoke-free policies in public spaces.

How it helps

Smoking greatly increases the risk of COPD and worsens the condition. The more you smoke, the higher the risk [\[R, R, R, R, R, R, R, R, R\]](#).

Secondhand smoke exposure may also increase the risk of COPD [\[R, R, R\]](#).

Compounds in cigarettes may contribute to COPD by [\[R, R\]](#):

- Increasing inflammation in the lungs
- Thickening the walls of the airways
- Restricting air flow

Experts strongly recommend avoiding cigarette smoke to prevent and manage COPD [\[R, R, R, R, R\]](#).

10



Aquatic Exercise

IMPACT

4 / 5

EVIDENCE

3 / 5

How to implement

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

TYPICAL STARTING DOSE

1 hour

Description

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

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

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

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

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

How it helps

Aquatic exercise has been studied as a potential therapeutic modality for individuals with Chronic Obstructive Pulmonary Disease (COPD), exploring its effectiveness in improving physical ability and quality of life.

- Aquatic exercise improved the 6-Minute Walk Test (6MWT) results, indicating enhanced physical ability in COPD patients, and was well accepted by participants, with many expressing a willingness to continue with water-based exercise [\[R\]](#), [\[R\]](#).
- Both aquatic and land-based exercises showed benefits in increasing exercise capacity and quality of life for COPD patients, with no significant difference in the magnitude of improvement between the two types of training [\[R\]](#), [\[R\]](#).
- High-intensity aquatic exercise was found to be more effective in some areas, such as increasing endurance shuttle walk distance and improving perceived physical health, compared to the same kind of training on land [\[R\]](#).
- Water-based exercise training was significantly more effective than land-based exercise training and control in increasing peak and endurance exercise capacity and improving aspects of quality of life in people with COPD and physical comorbidities [\[R\]](#).
- Aquatic exercise was feasible and safe for COPD patients, with no clinically relevant desaturation, arrhythmia, or discomfort reported during sessions [\[R\]](#).

In conclusion, aquatic exercise appears to be a beneficial and well-accepted form of physical activity for individuals with COPD, offering improvements in physical capacity and quality of life. It is comparable to land-based exercise in its effectiveness and may even surpass it in certain aspects, particularly for those with physical comorbidities.

11



Yoga

IMPACT

3 / 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

Yoga has shown beneficial effects for individuals with COPD. It may improve lung function, quality of life, and reduce symptoms such as dyspnea. Studies reveal that yoga enhances vital capacity, maximal inspiratory pressure, and overall respiratory endurance. Participants in yoga programs also report decreased dyspnea-related distress and improved functional performance [\[R\]](#), [\[R\]](#).

12



Avoid Asbestos

IMPACT

3 / 5

EVIDENCE

3 / 5

How to implement

Check for the presence of asbestos in materials in old buildings, especially those built before the 1980s, before doing any renovations or demolitions. Avoid disturbing materials that might contain asbestos, such as insulation, tiles, and roofing. If asbestos needs to be removed, hire professionals who specialize in asbestos abatement.

Description

Avoiding asbestos exposure is critical to prevent the development of asbestos-related diseases such as mesothelioma and lung cancer. Asbestos is a known carcinogen found in some construction materials and should be handled with extreme care or avoided altogether.

How it helps

Avoiding asbestos can significantly improve lung health as asbestos fibers, when inhaled, can lead to lung diseases such as asbestosis, lung cancer, and mesothelioma. It also reduces your risk of developing chronic respiratory complications.

Two systematic reviews (the largest one with 15 studies and 9,921 exposed workers) concluded that exposure to asbestos **worsens lung function (reduces VC, FEV1, and FEV1/VC)** [\[R, R\]](#).

A systematic review of 20 studies associated asbestos-related pleural **plaques** with **small decreases in FVC and FEV1**. However, another systematic review (16 studies) found **no effects of pleural plaques on lung function** [\[R, R\]](#).

13



Avoid PAHs Exposure

IMPACT3 / 5

EVIDENCE3 / 5

How to implement

Minimize your exposure to Polycyclic Aromatic Hydrocarbons (PAHs) by avoiding or reducing consumption of charred, grilled, or smoked foods, not smoking or avoiding secondhand smoke, and limiting time spent in areas with heavy traffic or industrial fumes. Use exhaust fans in kitchens and ensure proper ventilation when cooking at high temperatures to reduce indoor levels of PAHs.

Description

PAHs or Polycyclic Aromatic Hydrocarbons are harmful substances found in smoke and grilled foods. Try to limit exposure to them for better health. For example, avoid inhaling smoke from cigarettes or barbeques and choose alternative cooking techniques over grilling. Minimizing PAHs can reduce the risk of several health issues, particularly lung and skin diseases.

How it helps

A systematic review of 30 studies associated PAHs and reduced lung function (FEV1, FVC, and FEF25-75%) [\[R\]](#).

A study of 1836 participants aged 40 and older associated exposure to PAHs such as 2-FLU, 1-PHE, 1-PYR, and 2&3-PHE with a 44% higher risk of COPD [\[R\]](#).

Similarly, a study of 2885 participants associated urinary 1-hydroxynaphthalene, 2-hydroxynaphthalene, 3-hydroxyfluorene, 2-hydroxyfluorene, 1-hydroxyphenanthrene, 1-hydroxypyrene, and 2 & 3-hydroxyphenanthrene with respectively 83.2%, 3.361, 2.641-, 3.628-, 2.864-, 4.949-, and 3.487-fold higher risk of COPD [\[R\]](#).

Another study associated urinary PAHs with increased odds of emphysema in smokers [\[R\]](#).

PAHs can cause harmful changes in lung cells.

14



Relaxation Techniques

IMPACT

3 / 5

EVIDENCE

3 / 5

How to implement

Incorporate relaxation techniques such as deep breathing exercises, meditation, or yoga into your daily routine. Spend at least 15-30 minutes each day practicing one of these techniques, preferably in a quiet, comfortable space without interruptions.

TYPICAL STARTING DOSE

30 minutes

Description

Relaxation techniques encompass various methods like deep breathing, yoga, meditation, and progressive muscle relaxation, aimed at reducing stress and promoting mental and physical relaxation. Practicing these techniques regularly can help manage stress, improve mental clarity, and enhance overall emotional well-being.

We all get stressed from time to time.

[Stress](#) can help you deal with a challenge or avoid danger. However, **it’s not healthy to be stressed for a long time** [\[R, R\]](#).

Relaxation techniques such as [yoga](#) and [meditation](#) can relieve stress in different ways. Most of them focus on breathing and help you get rid of negative thoughts and emotions [\[R\]](#).

People use relaxation techniques to improve conditions like [\[R, R, R\]](#):

- Anxiety
- Depression
- Chronic pain

Progressive muscle relaxation is another relaxation technique. In this technique, you focus on tensing and relaxing different parts of your body. It is common to start with the toes and slowly work your way up to the neck and head [\[R, R\]](#).

Autogenic training is a relaxation technique that a person may carry out on their own. It uses exercises that take the mind’s attention to bodily sensations such as warmth and heaviness [\[R, R\]](#).

How it helps

Experts say that relaxation techniques may help with COPD. They may help [\[R, R, R, R, R, R, R\]](#):

- Reduce the need for emergency care
- Reduce shortness of breath
- Improve sleep quality and mood

Helpful techniques include:

- Progressive muscle relaxation [\[R, R, R\]](#)
- Meditative movement, such as yoga or tai chi [\[R, R, R, R\]](#)

Relaxation techniques may help by reducing stress and sensitivity to pain. They may also help improve breathing [\[R, R\]](#).

15



Music Therapy

IMPACT

3 / 5

EVIDENCE

3 / 5

How to implement

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

TYPICAL STARTING DOSE
30 minutes

Description

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

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

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

How it helps

A meta-analysis of 12 studies and 812 patients with COPD found that music therapy improves breathing difficulties, anxiety, and sleep quality, but not depression [\[R\]](#).

Music therapy may help by strengthening and regulating breathing patterns. It also aids in stress relief, which can reduce inflammation and promote overall lung health.

16



N-acetylcysteine (NAC)

IMPACT3 / 5

EVIDENCE3 / 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
600 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

For those with COPD, N-acetylcysteine may help [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#):

- Reduce flare-ups
- Reduce symptoms
- Improve lung function

It may help by reducing oxidative stress and inflammation. It may also help break mucus down [\[R\]](#).

17



Diaphragmatic Breathing

IMPACT

3 / 5

EVIDENCE

3 / 5

How to implement

Practice diaphragmatic breathing for 10-15 minutes per day. Sit or lie down in a comfortable position, place one hand on your chest and the other on your belly. Breathe in slowly through your nose, ensuring your belly moves out more than your chest. Exhale slowly through your mouth or nose, consciously relaxing the belly. Repeat this process, focusing on the movement of your belly rather than your chest.

TYPICAL STARTING DOSE

10 minutes

Description

Diaphragmatic breathing, also known as deep breathing, can help reduce stress and anxiety by activating the body's relaxation response. It promotes better oxygen exchange, reduces muscle tension, and supports overall mental and physical well-being.

How it helps

Diaphragmatic breathing aids in better lung health by maximizing the amount of oxygen entering the body, helping to use the lower part of the lungs more efficiently. This technique, typically used in pulmonary rehabilitation, can lessen symptoms of shortness of breath, promote relaxation, and improve overall resilience to physical activity.

A meta-analysis of 13 studies and 998 participants concluded that breathing techniques (including diaphragmatic breathing) improve pulmonary function, respiratory muscle strength, exercise capacity, dyspnea, and health-related quality of life in patients with COPD. Another meta-analysis (6 trials and 280 patients) found that diaphragmatic breathing and yoga are the best breathing exercise choices (compared to singing and no intervention) in patients with COPD [\[R\]](#), [\[R\]](#).

The combination of diaphragmatic breathing and pursed lip breathing improves FEV1, FVC, FEV1/FVC, and 6-min walk distance in patients with COPD according to a meta-analysis of 15 studies and 1098 patients [\[R\]](#).

18



Walking

IMPACT

3 / 5

EVIDENCE

3 / 5

How to implement

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

TYPICAL STARTING DOSE

30 minutes

Description

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

How it helps

Regular walking can increase lung capacity and promote stronger respiratory muscles, aiding with better pulmonary function.

Research has shown that exercise training, including walking, can significantly improve exercise capacity in patients with severe COPD after an acute exacerbation [\[R\]](#).

Ground-based walking training has also been found to improve health-related quality of life and exercise capacity in people with COPD [\[2\]](#).

A simple, low-resource home walking program has been shown to result in a small improvement in the activity level of COPD patients. Additionally, a two-month breathing-based walking intervention has been reported to improve anxiety, depression, dyspnea, and quality of life in COPD patients [\[R\]](#), [\[R\]](#).

Home-based walking exercises have been capable of preserving hospital-based improvements in severe COPD. Nordic Walking, a specific type of walking exercise, has been shown to improve daily physical activities and exercise capacity in COPD patients [\[R\]](#), [\[R\]](#).

19

Maintain Optimal Vitamin D Levels

IMPACT3 / 5

EVIDENCE3 / 5

How to implement

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

TYPICAL STARTING DOSE
1000 iu

Description

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

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

- Mood
- Immunity
- Heart health
- Blood sugar control

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

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

How it helps

Low levels of vitamin D may be linked to COPD. They have also been associated with more severe symptoms [\[R\]](#), [\[R\]](#), [\[R\]](#).

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

For those with COPD, getting more vitamin D may help [\[R\]](#), [\[R\]](#), [\[R\]](#):

- Improve lung function
- Reduce flare-ups
- Reduce mucus in the respiratory tract

However, benefits may be limited to those with low vitamin D levels. Additionally, increased vitamin D didn’t improve lung function in one review [\[R\]](#), [\[R\]](#).

Vitamin D may help by supporting a healthy immune system and reducing inflammation [\[R\]](#).

PERSONALIZED TO YOUR GENES

Your [FAM13A](#) gene variant is linked to COPD, especially in people with low vitamin D levels [\[R\]](#).

YOUR GENETIC VARIANTS			
GENE	SNP	GENOTYPE	EVIDENCE
FAM13A	rs6837671	AG	

20



Sleep for 7+ Hours

IMPACT

2 / 5

EVIDENCE

4 / 5

How to implement

Ensure you allocate enough time in your schedule to achieve a minimum of 7 hours of sleep each night. This might involve going to bed earlier or adjusting your evening routine to promote relaxation and make it easier to fall asleep.

Description

Optimizing sleep involves adopting healthy sleep habits and creating a sleep-conducive environment to ensure restorative and sufficient sleep duration. It supports cognitive function, mood stability, and overall physical health. Most experts recommend getting **at least 7 hours of good-quality sleep each night**.

[Sleep](#) supports your body and mind [\[R, R\]](#). More precisely, sleep helps:

- Support brain health [\[R, R\]](#)
- Maintain a healthy weight and appetite [\[R, R, R\]](#)
- Regulate blood pressure [\[R, R\]](#)
- Balance blood sugar [\[R, R\]](#)

Ways to sleep better include [\[R\]](#):

- Reducing your bright light exposure (screen time) in the evenings
- Sticking to a regular sleep schedule
- Avoiding hunger or large meals before bed
- Avoiding nicotine, caffeine, and alcohol before bed
- Maintaining a sleep area that’s cool, dark, and quiet

How it helps

Adequate sleep is essential for the immune system's function, which can help prevent respiratory infections, supporting lung health.

Optimal sleep is crucial for both the prevention and treatment of Chronic Obstructive Pulmonary Disease (COPD). People with COPD often experience sleep disorders like insomnia and sleep-disordered breathing, which can worsen their symptoms and quality of life [\[R, R\]](#).

Good sleep helps maintain respiratory function and can reduce the severity of nighttime hypoxemia—low oxygen levels in the blood [\[R, R\]](#).

For those with COPD, managing sleep issues is a key part of their overall treatment plan [\[R, R\]](#).

21



Singing

IMPACT

2 / 5

EVIDENCE

3 / 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

Multiple studies highlight the positive impact of singing in COPD patients. A meta-analysis of 5 trials involving 333 patients with stable COPD showed that singing enhances quality of life and respiratory muscle strength, specifically maximal expiratory pressure. Additionally, a Cochrane review including 3 studies with 112 participants found low- to very-low-quality evidence that singing can improve physical health in people with COPD. In a non-placebo-controlled trial of 120 COPD patients, an online group singing intervention improved depression and enhanced balance confidence [\[R, R, R\]](#).

22



Anti-Inflammatory Diet

IMPACT

2 / 5

EVIDENCE

3 / 5

How to implement

Incorporate foods rich in omega-3 fatty acids, such as salmon and flaxseeds, fruits, vegetables, nuts, and whole grains into your daily meals. Avoid processed foods, red meats, and refined sugars. Aim for a balanced diet consisting mostly of plant-based foods and lean protein sources, adjusting portions sizes to meet your individual nutritional needs and health goals.

Description

An anti-inflammatory diet focuses on reducing inflammation in the body by emphasizing foods rich in anti-inflammatory compounds, such as fruits, vegetables, fatty fish, nuts, and seeds, while minimizing processed foods and those high in added sugars and trans fats.

Anti-inflammatory diets use healthy foods to reduce inflammation. These diets are generally high in [\[R\]](#), [\[R\]](#), [\[R\]](#):

- Colorful fruits and vegetables
- Nuts and seeds
- Fish
- Olive oil
- Tea

They also tend to restrict [\[R\]](#), [\[R\]](#):

- Processed food
- Sugar and refined carbs
- Red meat

The [Mediterranean diet](#) and the DASH diet are good examples of anti-inflammatory diets [\[R\]](#), [\[R\]](#).

How it helps

A Western diet is linked to COPD. This may be due to an increased intake of unhealthy foods such as processed meat. Ingredients in these foods may increase inflammation and damage the lungs [\[R\]](#), [\[R\]](#).

On the other hand, a healthy diet full of fruits and vegetables is linked to a reduced risk of COPD. It may also help manage the condition [\[R\]](#), [\[R\]](#), [\[R\]](#).

Antioxidants and fiber in fruits and vegetables may help by reducing oxidative stress and inflammation [\[R\]](#).

23

Nerve Stimulation

IMPACT

2 / 5

EVIDENCE

3 / 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

Neuromuscular electrical stimulation (NMES) may help with COPD. It may improve [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#):

- Muscle strength
- Shortness of breath

It may help by training and strengthening breathing muscles [\[R\]](#).

Please note: *Nerve stimulation may not be safe for everyone. Consult your doctor* [\[R\]](#), [\[R\]](#).

24

Transcutaneous Electrical Nerve Stimulation (TENS)

IMPACT

2 / 5

EVIDENCE

3 / 5

How to implement

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

TYPICAL STARTING DOSE

30 minutes

Description

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

How it helps

In patients with COPD, acupoint TENS may improve pulmonary function and health status. However, it may have little effect on exercise capacity and dyspnea [\[R\]](#).

25



Acupuncture

IMPACT

2 / 5

EVIDENCE

3 / 5

How to implement

Visit a licensed acupuncturist for a session, typically lasting between 30 to 60 minutes, once or twice a week. Depending on your specific condition, a course of treatment might range from a few weeks to several months.

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.

[Acupuncture](#) is a part of traditional Chinese medicine. It involves **inserting thin needles at specific points on the body**. People use it to [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#):

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

How it helps

For people with COPD, acupuncture and acupressure may help improve [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#):

- Shortness of breath
- Lung function
- Quality of life

A combination of acupuncture and acupressure (acupoint stimulation) may also help. These techniques may work as part of an overall treatment plan to reduce inflammation and flare-ups [\[R\]](#).

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* [\[R\]](#).

26



Vitamin C

IMPACT

2 / 5

EVIDENCE

2 / 5

How to implement

Take 500-2000 mg of vitamin C supplement daily. It can be taken at any time of the day, with or without food, according to personal preference or tolerance.

TYPICAL STARTING DOSE

500 mg

Description

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

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

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

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

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

How it helps

Lower dietary intake of vitamin C is linked to COPD. This may be especially true for heavy smokers [\[R\]](#), [\[R\]](#).

In line with this, high vitamin C intake may be linked to decreased COPD severity in men [\[R\]](#).

Vitamin C may help by reducing oxidative stress [\[R\]](#), [\[R\]](#).

Please note: *Supplementing with vitamin C is linked to a slightly higher risk of kidney stones in men. Talk to your doctor before taking vitamin C* [\[R\]](#), [\[R\]](#).

27



Avoid Lead Exposure

IMPACT2 / 5

EVIDENCE2 / 5

How to implement

Prevent lead exposure by using cold water for drinking and cooking, regularly cleaning dust from windowsills and floors, and ensuring that your home's paint is not chipping if it was built before 1978. For occupations involving potential lead exposure, use protective gear and follow safety protocols. Test your home for lead if it's old or you're concerned about contamination.

Description

Lead is a heavy metal. It is naturally found in the environment in small amounts [\[R\]](#), [\[R\]](#).

Exposure to lead can cause it to build up in the body. A buildup of lead can contribute to oxidative stress and cell damage. This is called **lead poisoning** [\[R\]](#), [\[R\]](#).

Lead is no longer used in the manufacturing of some products like gasoline and paint. However, it can still be found in some pipes, batteries, and the wall paint of older homes [\[R\]](#), [\[R\]](#), [\[R\]](#).

How it helps

A study of 5736 adults associated high blood lead levels with an increased risk of COPD, heart attack, and stroke [\[R\]](#).

A meta-analysis found that exposure to heavy metal mixes reduced lung function in kids. Lead showed the strongest negative impact on lung function, especially in combined exposure with cadmium [\[R\]](#).

28



Avoid Exposure to Heavy Metals

IMPACT

2 / 5

EVIDENCE

2 / 5

How to implement

To avoid exposure to heavy metals, ensure you're not using cosmetic products with heavy metals, opt for organic foods to minimize pesticide exposure, and use filters for drinking water to remove possible contaminants. Check for lead-based paints in older homes and avoid cooking or storing food in uncoated metal containers. When possible, choose glass or BPA-free plastics instead.

Description

Heavy metals are elements naturally found in the environment. They are also used for agricultural, industrial, and medicinal purposes. Some can even be found in small amounts in your body [\[R, R\]](#).

Long-term exposure to high amounts of heavy metals can be harmful to your health [\[R, R\]](#).

Heavy metals that are most often linked to health problems include [\[R, R\]](#):

- Lead
- Cadmium
- Arsenic
- Chromium
- Mercury

How it helps

A meta-analysis found that exposure to heavy metal mixes reduced lung function in kids. Lead showed the strongest negative impact on lung function, especially in combined exposure with cadmium [\[R\]](#).

29



Air Purifier

IMPACT

2 / 5

EVIDENCE

2 / 5

How to implement

Install an air purifier in your home, ideally in the rooms you spend the most time in, such as your bedroom and living room. Keep the air purifier on for at least 12 hours each day, or continuously if possible, to effectively reduce airborne contaminants. Regularly clean or replace the filters according to the manufacturer's instructions to maintain its efficiency.

Description

Air purification is the process of cleaning the air around us. Using a high-quality air purifier with a HEPA filter helps remove harmful particles like dust, smoke, and bacteria. Having clean air to breathe can help boost your health by reducing allergies, asthma problems, and even certain infections.

How it helps

Breathing clean air through air purification can help maintain lung health by reducing exposure to harmful particles and pollutants. This reduction in pollutants can lower the risk of lung issues, such as chronic obstructive pulmonary disease (COPD) and asthma, enhancing overall well-being and breathing comfort.

A meta-analysis of 90 studies and 39,760 participants concluded that using air purifiers lowers lung inflammation (decrease in IL-6 by 0.247 µg/mL) and fractional exhaled nitric oxide (by 0.208 ppb). In a placebo-controlled trial of 54 healthy volunteers, air purification with HEPA filters lowered fractional exhaled nitric oxide, and 8-isoprostane levels while improving lung function parameters such as FEV1, PEF, and FEF25%-75%. However, using air purifiers for 4 weeks failed to improve lung function parameters in a placebo-controlled trial of 32 healthy volunteers [\[R, R, R\]](#).

30



Progressive Muscle Relaxation

IMPACT

2 / 5

EVIDENCE

2 / 5

How to implement

Set aside at least 10-15 minutes daily in a quiet, comfortable spot where you won't be disturbed. Start by tensing the muscles in your feet for 5 seconds, then relax for 30 seconds, and progressively work your way up through the major muscle groups of your body, tensing then relaxing each for 5 and 30 seconds respectively.

TYPICAL STARTING DOSE

10 minutes

Description

Progressive Muscle Relaxation is a relaxation technique involving the systematic tensing and releasing of muscle groups to reduce muscle tension, stress, and anxiety. Regular practice can lead to improved physical and mental relaxation.

Progressive muscle relaxation is a relaxation technique focused on releasing muscle tension. In this technique, you focus on tensing and relaxing different parts of your body, one after the other, to relieve stress [R](#), [R](#)].

It is common to start with the toes and slowly work your way up to the neck and head. Try to focus on a single muscle group at a time (for example, the calf muscles). Tense these muscles for 5-10 seconds, then relax for 20-30 seconds before moving on to the next muscle group [R](#), [R](#)].

How it helps

In 3 non-placebo-controlled trials of 290 patients with COPD and other breathing disorders, practicing progressive muscle relaxation for 8 weeks reduced fatigue, breathing difficulties, anxiety, and depression, while improving sleep [R](#), [R](#), [R](#)].

Receiving two sessions of progressive muscle relaxation improved anxiety, breathing difficulties, blood pressure, respiratory rate, and pulse rate in a non-placebo-controlled trial of 72 COPD patients [R](#)].

Progressive muscle relaxation may help by reducing stress, which can negatively affect lung function.

31



Dance

IMPACT

2 / 5

EVIDENCE

2 / 5

How to implement

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

TYPICAL STARTING DOSE

30 minutes

Description

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

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

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

How it helps

Dancing increases your breathing rate, helping your lungs work more efficiently to take in more oxygen, thereby improving lung health. It also strengthens your respiratory muscles which can help prevent or manage conditions like COPD and asthma.

A [meta-analysis of 7 studies](#) concluded that dance interventions **improve quality of life, social cohesion, dyspnea, balance, exercise tolerance, general well-being, and adherence to nutrition regimens in people with non-infectious lung diseases such as COPD, asthma, and cystic fibrosis** [\[R\]](#).

In a [non-placebo-controlled trial of 24 patients with COPD](#), receiving creative dance training (2 days/week for 8 weeks) as an add-on to a chest physiotherapy and home-based walking program **further improved 6MWT distance, MIP, MEP, MoCA score, CAT, and BODE index** [\[R\]](#).

32



South African Geranium Root

IMPACT2 / 5

EVIDENCE2 / 5

How to implement

Take a supplement containing South African Geranium root extract, commonly found in 20-30 mg doses, three times a day with meals. Continue this regimen especially during the cold season or at the first signs of respiratory discomfort for up to 10 days.

TYPICAL STARTING DOSE

60 mg

Description

South African geranium root (*Pelargonium sidoides*) is a plant extract native to South Africa. It has a long history of traditional use by indigenous peoples to treat various ailments such as respiratory health and alleviate symptoms of respiratory infections like the common cold. The main compounds in South African geranium root extract include polyphenols and various phytochemicals.

South African geranium (*Pelargonium sidoides*) is part of the geranium family. It is also known as umckaloabo [\[R\]](#).

Traditionally, people have used the root to support the immune system. It may also help with sinus congestion, bronchitis, and other respiratory problems [\[R, R, R\]](#).

How it helps

South African geranium root extract (EPs 7630) may help with COPD when combined with standard treatment. It may reduce symptoms and improve the quality of life [\[R, R\]](#).

It may help by supporting a healthy immune response and airway function [\[R\]](#).

33



Deep Breathing

IMPACT2 / 5

EVIDENCE2 / 5

How to implement

Practice deep breathing exercises for 5-10 minutes at least twice a day, ideally in the morning and before bed. Sit or lie down in a comfortable position, slowly inhale through your nose, allowing your chest and lower belly to rise, hold the breath for a moment, and then exhale slowly through your mouth or nose.

TYPICAL STARTING DOSE

5 minutes

Description

Deep breathing techniques, such as diaphragmatic or abdominal breathing, can promote relaxation, reduce stress, and improve lung capacity. Regular deep breathing exercises can contribute to overall mental and physical well-being by reducing tension and increasing oxygen supply to the body.

How it helps

In a study of 116 COPD patients, progressive muscle relaxation and deep breathing exercises significantly reduced dyspnea and fatigue symptoms. Another trial with 30 COPD patients found that slow deep breathing improved respiratory muscle strength, quality of life, and reduced inflammatory markers, while fast deep breathing was more effective for some measures. A double-blind study with 150 COPD patients showed that guided deep breathing improved breathlessness and respiratory patterns compared to music listening or sitting still. Lastly, a clinical trial with 12 volunteers revealed that short-duration deep breathing exercises had positive effects on lung function, particularly forced vital capacity [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#).

Deep breathing exercises may help fully expand your lungs and improve the circulation of oxygen, which can strengthen lung tissue. They may also help remove any trapped air in the lungs, reducing shortness of breath and promoting relaxation.

34



Avoid Cadmium Exposure

IMPACT2 / 5

EVIDENCE2 / 5

How to implement

To avoid cadmium exposure, refrain from smoking or exposure to secondhand smoke, reduce consumption of foods high in cadmium like shellfish, liver, kidney meats, and certain leafy vegetables, and use ceramic or glass containers instead of plastic when microwaving food. Limit intake of cadmium-contaminated workplace air by using protective gear if you work in battery manufacturing, welding, or metal refining industries.

Description

Avoiding cadmium exposure is essential to prevent potential health risks associated with this heavy metal, such as kidney damage and increased cancer risk. Reducing exposure to cadmium-containing products and contaminated foods is crucial.

Heavy metals are elements naturally found in the environment. They are also used for agricultural, industrial, and medicinal purposes. Some can even be found in small amounts in your body [\[R\]](#), [\[R\]](#).

Long-term exposure to high amounts of heavy metals can be harmful to your health [\[R\]](#), [\[R\]](#).

Heavy metals that are most often linked to health problems include [\[R\]](#), [\[R\]](#):

- Lead
- Cadmium
- Arsenic
- Chromium
- Mercury

How it helps

In a study of 16,024 adults, smokers had higher urinary cadmium levels. Increased cadmium was linked to reduced lung function in current and former smokers, potentially contributing to tobacco-related lung disease [\[R\]](#).

A meta-analysis found that exposure to heavy metal mixes reduced lung function in kids. Lead showed the strongest negative impact on lung function, especially in combined exposure with cadmium [\[R\]](#).

35



Pranayama (Yoga Breathing)

IMPACT

2 / 5

EVIDENCE

2 / 5

How to implement

Practice pranayama for 10 to 15 minutes daily. Choose a quiet, comfortable spot where you won't be disturbed. Begin with simple techniques like Ujjayi (Ocean Breath) or Anulom Vilom (Alternate Nostril Breathing), gradually working your way up to more advanced techniques. Consistency is key for observing benefits.

TYPICAL STARTING DOSE

15 minutes

Description

Pranayama is a yogic practice involving controlled and mindful breathing techniques. It is believed to enhance mental clarity, reduce stress, and improve respiratory health by optimizing the flow of life force energy (prana) in the body.

How it helps

A Cochrane review of 16 studies and 1233 participants found that practicing pranayama yoga improves 6-minute walk distance after 3 months. Pranayama yoga slightly improved inspiratory capacity and air trapping, and had nearly significant effects on 6-minute walk distance, in a non-placebo-controlled trial of 43 patients with symptomatic COPD. Another study also found beneficial effects of pranayama yoga on peak expiratory flow rate and forced expiratory volume [\[R, R, R\]](#).

Pranayama exercises help to increase lung capacity and improve lung efficiency by training your respiratory muscles, while also enhancing oxygen intake.

36



Alternate Nostril Breathing

IMPACT2 / 5

EVIDENCE2 / 5

How to implement

Sit comfortably with your back straight. Close your right nostril with your right thumb and inhale slowly through the left nostril. Close the left nostril with your fingers, then exhale slowly through the right nostril. Keeping the left nostril closed, inhale through the right nostril. Then, close the right nostril and exhale through the left. This completes one cycle. Repeat the cycle for 5 to 10 minutes, once or twice daily.

TYPICAL STARTING DOSE

10 minutes

Description

Alternate nostril breathing is a yoga breathing technique that involves inhaling and exhaling through one nostril at a time while blocking the other. It is believed to promote relaxation, balance energy, and improve focus and mental clarity.

How it helps

This breathing technique can increase lung capacity, improve respiratory stamina, and reduce stress, which indirectly supports lung function.

Key insights from the research papers include:

- ANB has been shown to improve respiratory endurance and function, with a significant increase in heart rate variability (HRV) indicating a parasympathetic effect, which may reduce complications of pulmonary problems such as COPD [\[R\]](#).
- Studies have reported a reduction in pulse rate and respiratory rate, and an increase in Peak Expiratory Flow Rate (PEFR) following ANB practice, suggesting enhanced cardiorespiratory efficiency that could benefit early bronchitis and potentially prevent COPD [\[R\]](#), [\[R\]](#).

In conclusion, the research suggests that alternate nostril breathing may have beneficial effects on cardiorespiratory functions and autonomic balance, which could potentially aid in the management of COPD. Regular practice of ANB might improve respiratory efficiency and reduce stress, which are important factors in the context of COPD management.

37



Zinc

IMPACT

2 / 5

EVIDENCE

2 / 5

How to implement

Take a 15 mg zinc supplement daily, ideally with a meal to enhance absorption.

TYPICAL STARTING DOSE

10 mg

Description

Zinc is an essential mineral found in various foods, including meat, dairy, and nuts. It is crucial for immune function, wound healing, DNA synthesis, and maintaining healthy skin and nails. Zinc supplements are sometimes used to support immune health and manage zinc deficiencies.

[Zinc](#) is an essential mineral. Your body needs it to [\[R\]](#), [\[R\]](#):

- Defend against disease
- Protect DNA from damage
- Heal wounds
- Control blood sugar

Some of the best sources of zinc include **shellfish, pork, beef, and beans**. It is also available as a supplement [\[R\]](#).

Adults should get **8-11 mg of zinc** per day [\[R\]](#).

How it helps

Zinc boosts your immune system which can help protect your lungs from infections and diseases. It's involved in maintaining the health of the cells in your lungs, helping to keep them strong against potential threats.

In [2 placebo-controlled trials of 165 participants](#), those with COPD had **lower blood zinc levels and worse antioxidant status**. Supplementation (22 mg/day zinc picolinate or 2 mg/day from 1 mg/mL zinc chloride injection) **restored normal zinc levels and reduced the time spent on mechanical ventilation** [\[R\]](#), [\[R\]](#).

The combination of zinc (10 mg), echinacea (500 mg), selenium (15 µg), and vitamin C (50 mg ascorbic acid) **reduced COPD exacerbations** in a [placebo-controlled trial of 108 mostly male patients](#) [\[R\]](#).

An antioxidant supplement with zinc gluconate (15 mg/day), vitamin E (30 mg/day alpha-tocopherol), vitamin C (180 mg/day ascorbate), and selenomethionine (50 µg/day) taken for 28 days **improved muscle strength but not endurance** in a [placebo-controlled trial of 64 COPD patients](#) [\[R\]](#).

38



Cineole

IMPACT

2 / 5

EVIDENCE

1 / 5

How to implement

Take a supplement containing 200 mg of cineole, three times a day with meals for a duration of at least 10 days to help relieve symptoms of acute bronchitis and sinusitis.

TYPICAL STARTING DOSE

600 mg

Description

Cineole is a natural compound found in certain essential oils, like eucalyptus and rosemary. It's often used in aromatherapy and may have respiratory benefits, helping to ease congestion and promote clearer breathing.

Cineole, also known as eucalyptol, is an extract from the eucalyptus plant. The eucalyptus tree is native to Australia [\[R\]](#), [\[R\]](#), [\[R\]](#).

Cineole can be found in [\[R\]](#), [\[R\]](#):

- Cough and cold products, to help with congestion
- Creams and ointments, to help with pain
- Mouthwashes, to support mouth health

How it helps

In combination with standard treatment, **capsules containing cineole (600 mg/day for 6 months)** may improve COPD. They may help [\[R\]](#):

- Boost lung function
- Reduce shortness of breath
- Reduce flare-ups

Cineole may help by reducing oxidative stress and inflammation [\[R\]](#), [\[R\]](#).

Please note: *Cineole is not the same as eucalyptus oil. Eucalyptus oil can be toxic if ingested and should only be consumed under a doctor’s supervision. Cineole may not be safe for pregnant or breastfeeding women. It may also interact with some medications* [\[R\]](#).

39



Beetroot Juice

IMPACT1 / 5

EVIDENCE3 / 5

How to implement

Consume 200-250ml of beetroot juice daily, at least 1-2 hours before engaging in physical activity or as part of your breakfast routine. This regimen should be maintained consistently for at least 2 weeks to start noticing benefits in terms of increased stamina and blood pressure regulation.

Description

Beetroot juice is a concentrated source of dietary nitrates, known for their potential to enhance athletic performance and improve blood pressure regulation. It is often consumed by athletes to enhance stamina and aid in recovery.

Beetroot (*Beta vulgaris*) contains iron, nitrates, sodium, potassium, and betalaine [\[R\]](#).

Beets are an inexpensive and mineral-rich vegetable that are widely used in Western cooking. Compared to other vegetables with high iron content, beets have a low price and are easy to store [\[R\]](#).

How it helps

Studies suggest that beetroot juice may improve exercise performance, reduce blood pressure, and enhance sleep quality in COPD patients [\[R, R, R, R, R, R\]](#).

However, it may not significantly affect cardiovascular events, increase functional walking capacity, or reduce the oxygen cost of certain exercises [\[R, R, R\]](#).

Beetroot and its juice contain nitrates that help improve oxygen uptake and can aid in maintaining lung function.

How to implement

TYPICAL STARTING DOSE
15 minutes

Description

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].

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

How it helps

Whole body vibration may help by increasing oxygen circulation in the body.

41



Beetroot

IMPACT

1 / 5

EVIDENCE

3 / 5

How to implement

Incorporate beetroot into your diet by eating it raw in salads or drinking beetroot juice. Aim for a serving of about one small beetroot or 200-250 ml of beetroot juice daily. You can maintain this dietary practice consistently as part of your regular diet.

Description

Beetroot is a vegetable rich in dietary nitrates, which may help improve cardiovascular health and exercise performance.

How it helps

Studies suggest that beetroot juice may improve exercise performance, reduce blood pressure, and enhance sleep quality in COPD patients [\[R, R, R, R, R\]](#).

However, it may not significantly affect cardiovascular events, increase functional walking capacity, or reduce the oxygen cost of certain exercises [\[R, R\]](#).

Beetroot and its juice contain nitrates that help improve oxygen uptake and can aid in maintaining lung function.

42



Avoid Pesticide Exposure

IMPACT1 / 5

EVIDENCE2 / 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

Reducing pesticide exposure is beneficial for lung health as these chemicals can irritate or damage the lungs when inhaled. Over time, this might lead to chronic lung conditions, such as asthma, bronchitis, or even lung cancer.

A meta-analysis of eight cohort studies and one case-control study involving 101,353 participants found a significant association between pesticide exposure and increased risk of chronic bronchitis (OR = 1.27, 95% CI: 1.23-1.31) and COPD (OR = 1.44, 95% CI: 1.14-1.81) [\[R\]](#).

In a systematic review of 2356 articles, 56 were included for meta-analysis on lung function in farmers exposed to pesticides. ChE-inhibiting pesticides may reduce FEV1/FVC, while paraquat showed no effect. Enhanced respiratory surveillance is recommended, but study limitations include exposure assessment variations [\[R\]](#).

How to implement

Description

How it helps

Arsenic detox improves lung health [R].

How to implement

TYPICAL STARTING DOSE

30 minutes

Description

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

In a non-placebo-controlled trial of 31 elderly women, the combination of Pilates and inspiratory muscle training improved lung function and physical conditioning. In a non-placebo-controlled trial of 40 patients undergoing coronary artery bypass grafting, practicing Pilates decreased the loss of ROM and maximum inspiratory pressure. In a non-placebo-controlled trial of 19 patients with cystic fibrosis, practicing Pilates mat exercises improved respiratory muscle strength. Both Pilates and conventional physical therapy were similarly effective at improving lung function in a non-placebo-controlled trial of 56 hospitalized patients with CKD [R, R, R, R].

Pilates may help by improving respiratory function and strengthening the muscles that control breathing. Regular practice may also improve oxygen exchange, leading to enhanced endurance and easier breathing.

45



Fruits And Vegetables

IMPACT

1 / 5

EVIDENCE

2 / 5

How to implement

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

Description

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

How it helps

High consumption of fruits and vegetables is associated with reduced COPD incidence in both current and ex-smokers but not in never-smokers [\[R\]](#).

A dietary shift to higher-antioxidant food intake, including increased consumption of fresh fruits and vegetables, may be associated with improvement in lung function in COPD patients [\[R\]](#).

However, in another study, increased fruit and vegetable intake did not significantly affect airway or systemic oxidative stress and inflammation in patients with moderate-to-severe COPD [\[R\]](#).

46



Vitamin A

IMPACT1 / 5

EVIDENCE2 / 5

How to implement

Take a vitamin A supplement daily with a fat-containing meal to enhance absorption. The recommended daily allowance (RDA) for most adults is 700-900 micrograms (mcg) for men and women, respectively. Ensure not to exceed the upper intake level (UL) of 3000 mcg per day to avoid toxicity.

TYPICAL STARTING DOSE

700 mcg

Description

Vitamin A is a fat-soluble vitamin essential for various bodily functions, including vision, immune system support, and skin health. It is found in foods like carrots, sweet potatoes, and spinach and is important for maintaining overall health.

Vitamin A is a nutrient important for [\[R\]](#), [\[R\]](#):

- Vision
- Immunity
- Gut health
- Skin health

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

- Beef liver
- Sweet potato
- Spinach
- Carrots
- Cheese

Vitamin A is also available in supplement form.

Women should be getting 700 micrograms of vitamin A per day, while men should be getting 900 micrograms [\[R\]](#).

How it helps

Vitamin A is key for maintaining healthy mucus membranes, including those in your lungs. This helps your body effectively trap and expel harmful particles, reducing your risk of lung infections.

Two studies of over 18k participants associated high dietary vitamin A intake with **33-52% reduced risk of COPD** [\[R\]](#), [\[R\]](#).

In a study of 702 COPD patients, high vitamin A intake was associated with **increased FEV1% in men** [\[R\]](#).

Similarly, 2 studies of 136 people found lower blood vitamin A levels among COPD patients [\[R\]](#), [\[R\]](#).

Please note: *A high dose of vitamin A or taking high amounts of vitamin A long-term can be harmful, especially in women planning pregnancy or already pregnant. Vitamin A may cause harm to the fetus Vitamin A may also interact with some medications. Talk to your doctor before supplementing with vitamin A* [\[R\]](#), [\[R\]](#), [\[R\]](#).

47



Laughter Therapy

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Dedicate at least 15-30 minutes a day to watch, listen to, or participate in activities that make you laugh, such as watching a comedy show, attending a stand-up comedy event, or engaging in laughter yoga sessions. Consistently incorporate these laughter-inducing activities into your daily routine for an ongoing period to harness the health benefits of laughter.

TYPICAL STARTING DOSE

30 minutes

Description

Laughter therapy has been shown to improve cardiovascular health, reduce stress, and boost the immune system. It can also help to improve mood, relieve pain, and increase social bonding.

How it helps

In a non-placebo-controlled trial of 19 COPD patients and 10 healthy controls, a humor intervention reduced hyperinflation. However, laughter induction caused hyperinflation in a non-placebo-controlled trial of 46 patients with COPD. Nevertheless, clown therapy improved spirometry performance in a non-placebo-controlled trial of 140 children [\[R\]](#), [\[R\]](#), [\[R\]](#).

Laughing engages multiple muscles and improves lung capacity because it requires deep breathing and variations in air flow.

48



Omega-3 (Fish Oil)

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Take 1-2 g of omega-3 (fish oil) supplement daily, preferably with a meal to enhance absorption.

TYPICAL STARTING DOSE

500 mg

Description

Omega-3 fatty acids are essential fats found in fatty fish like salmon, flaxseeds, and walnuts. They are known for their potential cardiovascular and brain health benefits, including reducing the risk of heart disease and supporting cognitive function.

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

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

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

- Salmon
- Tuna
- Herring
- Sardines

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

How it helps

According to a single study, omega-3s may improve exercise capacity in people with COPD. However, one review did not find this benefit. Omega-3s may help by reducing inflammation [\[R\]](#), [\[R\]](#).

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

49



Buteyko Technique

IMPACT1 / 5

EVIDENCE1 / 5

How to implement

Practice the Buteyko breathing exercises for 15-20 minutes daily, ideally in a quiet, comfortable place without distractions. The method emphasizes nasal breathing, reduced breathing rate, and breath-holding to increase carbon dioxide levels in the blood, thereby promoting better oxygenation. Consistency is key, and it is recommended to continue practicing daily for several months to notice significant improvements in breathing-related conditions.

TYPICAL STARTING DOSE

20 minutes

Description

The Buteyko Technique is a breathing method that aims to improve respiratory health and reduce symptoms of conditions like asthma and anxiety. It involves exercises to control and optimize breathing patterns, potentially enhancing lung function and overall well-being.

How it helps

This method focuses on breathing control to improve ventilation efficiency and reduce the work of breathing, potentially benefiting those with respiratory conditions.

According to limited evidence, the Buteyko Technique may help improve breathing control and reduce symptoms in individuals with respiratory conditions such as asthma and COPD [\[R\]](#).

However, it’s primarily used to help control asthma.

50



Avoid Phthalate Exposure

IMPACT1 / 5

EVIDENCE1 / 5

How to implement

To avoid phthalate exposure, check product labels and choose phthalate-free options for personal care items, plastics (look for recycling codes 3 and 7 or the letters 'V' or 'PVC'), and household products. Additionally, reduce the use of plastic containers for food storage, especially those not marked as 'phthalate-free', and avoid microwaving food in plastic containers. Aim to make these changes consistently in your daily life for long-term health benefits.

Description

Avoiding phthalate exposure involves choosing phthalate-free products, such as personal care items and plastics, to minimize potential endocrine-disrupting effects and protect reproductive and hormonal health.

How it helps

3788 adults , NHANES: Our findings reveal that urinary phthalate metabolites are significantly associated with adult respiratory decrements [ppFVC and ppFEV1], with diethyl and di-(2-ethylhexyl) phthalate contributing the most to the impaired lung function [\[R\]](#).

51



Essential Amino Acids (EAA)

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Take a supplement containing all nine essential amino acids, aiming for a total of 10-20 grams per day. This can be divided into 2-3 doses throughout the day, ideally around exercise sessions or with meals. Continue as long as you are seeking to enhance muscle recovery, growth, or overall protein intake.

TYPICAL STARTING DOSE

10 g

Description

Essential amino acids are crucial for building and repairing tissues, supporting immune function, and maintaining overall health. Obtaining these amino acids through a balanced diet or supplementation can promote muscle growth, better immune response, and overall well-being.

How it helps

In a study involving severe COPD and sarcopenia patients, those supplemented with essential amino acids showed significant improvements in body weight, fat-free mass, plasma lactate levels, oxygenation, physical activity, and cognitive function compared to the placebo group [\[R\]](#).

Essential amino acids may help by promoting tissue repair and reducing inflammation in the lungs. They also help in the production of glutathione, a powerful antioxidant that protects the lungs from damage and disease.

52



L-Carnitine

IMPACT

1 / 5

EVIDENCE

1 / 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

500 mg

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

L-carnitine helps to transport fatty acids into cells for energy production, and this can help nourish and support lung function. This supplement may also reduce inflammation and improve exercise ability in people with chronic lung diseases.

16 COPD patients were randomly assigned to L-carnitine (CG) or placebo group (PG) that received either L-carnitine or saline solution (2 g/day, orally) for 6 weeks. The present data suggest that carnitine can improve exercise tolerance and inspiratory muscle strength in COPD patients, as well as reduce lactate production [\[R\]](#).

53



Dong Quai

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Take a 500-600 mg capsule of Dong Quai supplement once daily with food. It is generally recommended to cycle Dong Quai use, taking it for three weeks followed by a one week break. Consult a healthcare provider before starting to ensure it's appropriate for your health condition.

TYPICAL STARTING DOSE

500 mg

Description

Dong quai is an herb commonly used in traditional Chinese medicine to support women's health, particularly during menstruation and menopause. It is believed to have hormonal-regulating properties.

How it helps

In a non-placebo-controlled trial of 60 patients with COPD, receiving 25% Angelica root injection for 10 days decreased mean pulmonary arterial pressure (by 18%), pulmonary vascular resistance (by 27%), and blood ET-1 (by 20%), AT-II (by 36%), and EDF (by 38%), while increasing PaO2 [R].

Dong quai acts as an anti-inflammatory and antioxidant, thus supporting overall lung health. It also helps in stimulating the immune system, which can help fight against lung infections.

54



Rosemary

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Take rosemary in supplement form, such as capsules, with a typical dose ranging from 400 to 600 milligrams once daily. It is best taken with food to improve absorption and reduce the risk of stomach irritation. Consult with a healthcare professional before starting, especially if pregnant, nursing, or on medication.

TYPICAL STARTING DOSE

400 mg

Description

Rosemary is a fragrant herb native to the Mediterranean region. It's a source of nutrients such as vitamin C, vitamin A, and dietary fiber. It contains antioxidants and compounds that may support digestion, improve memory, and have anti-inflammatory properties.

How it helps

Rosemary is rich in antioxidants and anti-inflammatory compounds that can help boost the immune system and improve blood circulation, potentially contributing to better lung health. It's also believed to help combat harmful agents that can damage the lungs, although more research is needed for definitive conclusions.

In a [randomized trial with 106 healthy participants](#), nebulized peppermint, eucalyptus, **nor rosemary essential oil (for 15 min) had an impact on the measured spirometric variables** (forced vital capacity, peak expiratory flow, the ratio of the volume of air forcibly blown out in the first second to forced vital capacity) [R].

55



Horny Goat Weed And Chinese Yam

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Take a supplement that contains both horny goat weed and Chinese yam, following the manufacturer's dosage recommendations on the packaging. Typically, this might be taken once or twice daily, with or without food. Continue as long as desired or recommended by a healthcare provider.

Description

Horny goat weed is an herb used in traditional Chinese medicine as a natural remedy for erectile dysfunction. It contains compounds believed to enhance blood flow and sexual function. Chinese yam, also known as *Dioscorea opposita*, is a root vegetable used in traditional medicine to support digestion and boost energy levels.

How it helps

In a placebo-controlled trial of 49 patients with COPD, supplementation with a mixture of Chinese yam and horny goat weed improved breathing difficulties, exercise capacity, and quality of life [\[R\]](#).

Horny goat weed contains icariin which may boost immune response and reduce airway inflammation. Chinese yam, rich in allantoin, may help by supporting tissue repair and anti-inflammatory responses.

56



Green Tea

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Consume 400 mg of green tea extract daily. This can be taken in the form of capsules or tablets available that specify the amount of green tea extract. Ensure the supplement is taken according to the product's specific instructions, usually once a day with water.

TYPICAL STARTING DOSE

400 mg

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 antioxidants 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 antioxidants called **flavonoids**, which may help prevent [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#):

- Heart disease
- Cancer
- Diabetes

How it helps

Increasing green tea intake from never to 2 cups/day reduced COPD incidence from 14.1% to 5.9% in an observational study of 13,570 participants [\[R\]](#).

Please note: polyphenols from green tea may bind to iron and form insoluble complexes, which reduces iron absorption in the gut. If you have anemia, consult your healthcare provider before using green tea [\[R\]](#).

57



Melatonin

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

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

TYPICAL STARTING DOSE

500 mcg

Description

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

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

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

How it helps

Based on one small study in people with COPD, **melatonin (3 mg before bedtime)** may help with breathing. It may also improve sleep quality in people with the condition [\[R\]](#), [\[R\]](#), [\[R\]](#).

Melatonin may help by reducing inflammation in the lungs [\[R\]](#).

Please note: *Melatonin may interact with some medications. Consult your doctor before taking melatonin* [\[R\]](#).

58



Titanium Oxide

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Titanium oxide is not recommended as a dietary supplement for general consumption due to safety concerns. Always consult with a healthcare provider before considering its use.

Description

Titanium oxide is a naturally occurring mineral often used as a white pigment in various products, including sunscreens. It provides broad-spectrum UV protection by reflecting and scattering harmful ultraviolet rays, helping prevent skin damage and sunburn.

How it helps

A study of 168 participants associated occupational exposure to titanium dioxide with increased levels of a lung damage marker (SP-D) [\[R\]](#).

59



Hydroxymethylbutyrate (HMB)

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Take hydroxymethylbutyrate (HMB) as a supplement in a dose of 3 grams per day. This can be split into three 1-gram servings taken with meals throughout the day to help with muscle strength and body composition. Continuation typically ranges from weeks to months, depending on fitness goals and personal response.

TYPICAL STARTING DOSE

3 g

Description

HMB is a metabolite of the amino acid leucine. It is often used as a dietary supplement to support muscle recovery and reduce muscle breakdown during intense physical training.

HMB, or beta-hydroxy-beta-methylbutyrate, is a compound naturally produced in the body and available as a supplement. It helps build muscle tissue.

Athletes use HMB to support muscle growth, reduce muscle damage, and enhance recovery.

How it helps

HMB does not have a direct impact on lung health. Its primary use is for muscle recovery and strength, therefore, its use does not treat lung conditions.

In a study of 34 COPD patients on mechanical ventilators, those who received HMB supplementation (3 g/day for 7 days) showed lower white blood cell count and C-reactive protein, higher cholesterol and total protein levels, and improved pulmonary function in comparison to the control group. Body weight remained unchanged. HMB supplementation may have anti-inflammatory and anticatabolic effects in COPD patients in intensive care. [\[R\]](#)

60

Stability Training

IMPACT1 / 5

EVIDENCE1 / 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 non-placebo-controlled trial of patients with COPD receiving balance training for 6 months, improved quality of life, fatigue, and mental health better than a traditional pulmonary rehabilitation program [R].

Stability training may help by promoting deeper breaths and better oxygen exchange, which reduces shortness of breath. Additionally, these exercises can also help improve posture and strengthen the muscles that support the lungs.

61



Rhodiola

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Take 500 mg of rhodiola supplement daily, preferably in the morning to avoid potential interference with sleep.

TYPICAL STARTING DOSE

500 mg

Description

Rhodiola is a plant native to the arctic regions of Europe and Asia, where it's traditionally used to enhance stamina, combat stress and fatigue, and improve mental performance and resilience in harsh environments. Its main compounds include rosavins and salidroside.

[Rhodiola](#) (*Rhodiola rosea*) is a plant that grows in the mountains of eastern Europe and Asia [\[R\]](#).

Rhodiola is an *adaptogen*, meaning that it may help you adapt to stress. According to early research, this herb may help with [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#):

- Fatigue
- Burnout
- Low mood

How it helps

In a placebo-controlled trial of 57 patients with COPD, supplementation with *Rhodiola crenulata* (500 mg/day) for 12 weeks improved tidal volume and ventilation-CO2-output ratio at peak exercise, prevented COPD exacerbations, and decreased the COPD assessment score, inflammation, IFN-gamma levels, and CD8(+) count [\[R\]](#), [\[R\]](#).

62



Halotherapy

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

To participate in halotherapy, also known as salt therapy, visit a salt room or halotherapy center 2-3 times per week for sessions lasting between 30 to 45 minutes. It is a lifestyle practice that can be continued for several weeks to potentially see benefits in respiratory health, skin health, and overall wellness.

TYPICAL STARTING DOSE

30 minutes

Description

Halotherapy, or salt therapy, involves breathing in salt-infused air in a controlled environment. It is believed to have potential respiratory benefits and is used as a complementary therapy for respiratory conditions such as asthma and allergies.

How it helps

In a non-placebo-controlled trial of 36 patients with COPD and hypertension, adding decimeter wave therapy and halotherapy to basic drug treatment improved clinical manifestations of COPD, blood pressure, and quality of life. In a non-placebo-controlled trial of 73 patients with occupational COPD, adding halotherapy to conventional therapy improved the condition in 40% of cases with mild COPD and in 30% of cases with moderate COPD [\[R, R\]](#).

Halotherapy may help by clearing mucus from the airways, reducing inflammation, and improving respiratory conditions.

63



Sensory Deprivation

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Engage in sensory deprivation by spending 20 to 40 minutes in a quiet, dark room, free from distractions such as your phone or background noise, at least once a week. Alternatively, for a more immersive experience, consider using a sensory deprivation tank once a month, where you float in saltwater in a dark, soundproof tank.

TYPICAL STARTING DOSE

40 minutes

Description

Sensory deprivation involves isolating an individual from sensory input to induce deep relaxation and altered states of consciousness. It is used for relaxation, meditation, and potential mental health benefits.

How it helps

In a non-placebo-controlled trial of 36 patients with moderate COPD, partial visual isolation while listening to music increased total exercise time (by 22%) and external work (by 44-53%) while decreasing perceived exertion and symptoms of respiratory discomfort [\[R\]](#).

Sensory deprivation may promote relaxation and stress relief, potentially lessening lung inflammation.

64



Apples

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Incorporate at least one whole apple into your daily diet, either as a snack or part of your meals, ensuring to eat them consistently every day for an ongoing period to derive potential health benefits.

Description

Apples are a nutritious fruit known for their fiber content and antioxidant-rich skin. They support overall health by aiding digestion, reducing the risk of chronic diseases, and promoting heart health.

Apples (*Malus domestica Borkh.*) are one of the most widely consumed fruits in the world. They have a high nutritional value and content of antioxidants [\[R\]](#), [\[R\]](#).

Eating apples is associated with a lower risk of [\[R\]](#), [\[R\]](#):

- Heart disease
- Asthma
- Diabetes

How it helps

Apples can support lung health due to their high concentration of antioxidants, including flavonoids and vitamin C, which help to protect the lungs from oxidative damage.

High intake of catechins and solid fruits, including apples, is beneficially associated with COPD [\[R\]](#).

High consumption of apples may protect against asthma and chronic obstructive pulmonary disease due to their high flavonoid content [\[R\]](#).

65



Mindful Walking

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Choose a quiet, natural environment for your walk, ideally for 20-30 minutes, 3-4 times a week. Focus on the sensations in your body as you move, the feel of your feet touching the ground, and the rhythm of your breathing. Avoid distractions like using your phone or listening to music during the walk.

TYPICAL STARTING DOSE

30 minutes

Description

Mindful walking involves walking with deliberate awareness of each step and the surrounding environment. It can promote relaxation, reduce stress, and improve mental clarity by grounding individuals in the present moment.

How it helps

Mindful walking promotes deep, rhythmic breathing which aids the lungs in maximizing oxygen intake and cleansing out toxins, supporting lung health. It also reduces stress and inflammation, which can lessen the risk of lung diseases.

Compared with the control group (n = 40), the mindful walking group (n = 38) achieved a significantly longer six-minute walk distance (longer by 45.57 m; P = 0.04). The interaction effect of the six-minute walk distance significantly increased on Week 4 (P = 0.01), Week 8 (P = 0.002) and Week 12 (P = 0.02) [\[R\]](#).

In a randomized controlled trial investigating an 8-week mindfulness meditation program for COPD patients, 19 participants in the intervention group showed significant increases in respiratory rate compared to 22 in the wait-list group. Those completing six or more classes (N=12) had improved emotional function, although their mindfulness level did not increase [\[R\]](#).

66



Activated Charcoal

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Take 500-1000 mg of activated charcoal with a full glass of water at least 1 hour before a meal or 2 hours after a meal. Do not consume it daily for long periods; use it for short-term detoxification or occasional upset stomach only.

TYPICAL STARTING DOSE

500 mg

Description

Activated charcoal is a porous substance that is highly effective at absorbing and trapping toxins and chemicals in the digestive tract. It is sometimes used in emergency medical settings for poisoning treatment and in certain beauty and wellness products.

How it helps

In a [placebo-controlled trial of 40 patients with COPD](#), treatment with iodinated activated charcoal for 8 weeks **increased FEV1 by 8.2%** [\[R\]](#).

67



Black Seed (Black Cumin)

IMPACT1 / 5

EVIDENCE1 / 5

How to implement

Take 1000 mg of black seed (black cumin) supplement daily, preferably split into two doses of 500 mg each, one in the morning and one in the evening.

TYPICAL STARTING DOSE

1000 mg

Description

Black seed, also known as black cumin or *Nigella sativa*, has been used for its potential health benefits in traditional medicine. It is believed to have anti-inflammatory, antioxidant, and immune-boosting properties.

[Black seed](#) (black cumin) and its oil are used in cooking and traditional medicine [\[R\]](#).

People use black seed for [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#):

- Asthma
- Allergies
- High blood sugar
- High blood pressure
- Joint pain

How it helps

Black seed may help by reducing inflammation and mucus in the lungs. It may also enhance the body's overall immune response, potentially offering a protective effect against numerous respiratory ailments.

In a non-placebo-controlled trial of 91 mild-to-moderate COPD patients, taking pure cold-pressed black seed oil (1 g, 2x/day) as an add-on to standard medication for 3 months reduced oxidant and inflammatory markers (TBARS, protein carbonyl content, IL-6, and TNF-alpha) while increasing antioxidants (SOD, CAT, GSH, GPx, vitamin C, and vitamin E), and improving lung function [\[R\]](#).

In a 2-month study with 40 chemical war victims, half received boiled *Nigella sativa* extract and the other a placebo. The extract group showed significant respiratory and chest wheezing improvement, better pulmonary function, and reduced medication usage compared to controls [\[R\]](#).

68



Black Seed Oil

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Take one to two teaspoons (5-10ml) of black seed oil twice daily, preferably before meals. For capsule forms, follow the manufacturer's instructions, commonly 500mg capsules twice daily. Continue this regimen for up to 8 weeks to evaluate its effects.

TYPICAL STARTING DOSE

1000 mg

Description

Both black seed extract and black seed oil have been traditionally used for their potential health benefits, including anti-inflammatory and antioxidant properties. They may support overall wellness and immune function when incorporated into a balanced diet.

[Black seed](#) (black cumin) and its oil are used in cooking and traditional medicine [\[R\]](#).

People mainly use black seed for [\[R\]](#), [\[R\]](#), [\[R\]](#):

- Allergies
- Joint pain

How it helps

Black seed may help by reducing inflammation and mucus in the lungs. It may also enhance the body's overall immune response, potentially offering a protective effect against numerous respiratory ailments.

In a non-placebo-controlled trial of 91 mild-to-moderate COPD patients, taking pure cold-pressed black seed oil (1 g, 2x/day) as an add-on to standard medication for 3 months reduced oxidant and inflammatory markers (TBARS, protein carbonyl content, IL-6, and TNF-alpha) while increasing antioxidants (SOD, CAT, GSH, GPx, vitamin C, and vitamin E), and improving lung function [\[R\]](#).

In a 2-month study with 40 chemical war victims, half received boiled Nigella sativa extract and the other a placebo. The extract group showed significant respiratory and chest wheezing improvement, better pulmonary function, and reduced medication usage compared to controls [\[R\]](#).

69



Legumes

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Incorporate a serving of legumes, such as beans, lentils, chickpeas, or peas, into your diet at least four times a week. A serving size is approximately half a cup cooked. Ensure to prepare them properly by soaking and rinsing beans, if applicable, to reduce anti-nutrients and improve digestibility.

Description

Legumes, such as beans, lentils, and chickpeas, are excellent sources of plant-based protein, fiber, and various vitamins and minerals. Including legumes in your diet can promote satiety and support digestive health.

Legumes are plants from the *Fabaceae* family. Their edible seeds are called **pulses**. Legumes are important food staples and sources of carbohydrates, fiber, protein, iron, and other key nutrients.

Common legumes include:

- Peanuts
- Beans
- Chickpeas
- Peas
- Lentils

How it helps

A diet rich in legumes, which are low-glycemic and high in fiber, vitamins, minerals, and other phytochemicals, may help reduce periodontal inflammation [R].

The antioxidant properties of legumes, as part of a diet rich in fruits, vegetables, whole grains, and nuts, may reduce oxidative stress and inflammation, which are linked to periodontitis and other systemic inflammatory diseases [R].

70



Whole Grains

IMPACT

1 / 5

EVIDENCE

0 / 5

How to implement

Incorporate at least three servings of whole grains into your daily diet. This can include consuming foods such as whole grain bread, brown rice, whole grain pasta, and oats. Aim to replace refined grains with whole grains at each meal for optimal benefits.

Description

Whole grains encompass a variety of grains like wheat, oats, and quinoa, where the entire grain kernel is intact. They are rich in fiber, vitamins, minerals, and antioxidants, supporting heart health and reducing the risk of chronic diseases.

Unlike refined grains, whole grains contain nutritious parts of the grain like bran and germ.

Whole grains provide many crucial nutrients, including:

- Fiber
- B-vitamins
- Iron
- Magnesium
- Phosphorus

Due to their high fiber content, whole grains don't tend to spike blood sugar like refined grains do.

How it helps

Whole grains contain fiber, vitamins, and minerals essential for maintaining good lung health and preventing chronic diseases.

According to an observational study, whole grain intake has an indication for a protective effect against COPD [R].

How to implement

TYPICAL STARTING DOSE

1 hour

Description

Hatha yoga is a gentle and accessible form of yoga that combines physical postures, breathing exercises, and meditation. Practicing hatha yoga regularly can promote flexibility, stress reduction, and overall physical and mental well-being.

How it helps

Hatha Yoga involves deep breathing exercises, which can help strengthen your lungs and improve their function. Regularly practicing this type of yoga can reduce the risk of respiratory issues by encouraging healthier lung tissues and increasing your lung capacity.

In a 12-week hatha yoga intervention study with 15 patients (10 women, 5 men, median age 61), participants reported improved physical symptoms, enhanced breathing techniques, increased energy, and body awareness, and regained control over their breathing in various situations, benefiting those with obstructive pulmonary diseases (asthma and chronic obstructive pulmonary disease) [R].

72



Magnesium

IMPACT

0 / 5

EVIDENCE

1 / 5

How to implement

Take up to 350 mg of magnesium daily as a supplement, preferably with a meal to enhance absorption.

TYPICAL STARTING DOSE

350 mg

Description

Magnesium is an essential mineral involved in various bodily functions, including muscle contractions, nerve signaling, and bone health. Maintaining adequate magnesium levels through diet or supplements can support overall well-being and reduce the risk of magnesium deficiency-related health issues.

[Magnesium](#) is an essential mineral. Your body needs it for [\[R\]](#), [\[R\]](#), [\[R\]](#):

- Muscle, nerve, and bone function
- Blood sugar and blood pressure control
- DNA and protein production
- Strong immunity

Women need **310-320 mg** of magnesium per day, while men need **400-420 mg** [\[R\]](#).

Foods rich in magnesium include **nuts, seeds, and leafy greens**. Magnesium is also available as a supplement [\[R\]](#).

How it helps

In an emergency department study with COPD exacerbation patients, they were randomized into two groups: nebulized ipratropium bromide (IB) or combined nebulized and intravenous magnesium sulfate (MgSO4). Primary outcomes (admission, intubation, death) didn't significantly differ between groups. IB showed greater peak expiratory flow improvement and reduced PaCO2 compared to MgSO4. Dyspnea scores trended lower in both groups, with similar adverse events. In summary, IB offered better peak expiratory flow and arterial blood gas changes, but primary outcomes showed no significant difference [\[R\]](#).

73



Magnesium Sulfate

IMPACT

0 / 5

EVIDENCE

1 / 5

How to implement

Take 200-400 mg of magnesium sulfate orally with water once daily, ideally in the evening or as directed by your healthcare provider. Continue this supplementation as recommended by your healthcare provider, often for several weeks to months for optimal benefits.

TYPICAL STARTING DOSE
200 mg

Description

Magnesium sulfate, also known as Epsom salt, is used in baths and topical applications to soothe sore muscles, alleviate stress, and promote relaxation. It is believed to be absorbed through the skin, providing a calming effect on muscles and the nervous system.

How it helps

In an emergency department study with COPD exacerbation patients, they were randomized into two groups: nebulized ipratropium bromide (IB) or combined nebulized and intravenous magnesium sulfate (MgSO4). Primary outcomes (admission, intubation, death) didn't significantly differ between groups. IB showed greater peak expiratory flow improvement and reduced PaCO2 compared to MgSO4. Dyspnea scores trended lower in both groups, with similar adverse events. In summary, IB offered better peak expiratory flow and arterial blood gas changes, but primary outcomes showed no significant difference [R].

74



Chinese Yam

IMPACT

0 / 5

EVIDENCE

0 / 5

How to implement

Incorporate Chinese yam into your diet by adding it to soups, stews, or congee. Aim for consuming it 2-3 times a week. It can also be eaten raw, sliced, or made into a smoothie for a daily intake to see potential health benefits.

Description

Chinese yam is a nutritious tuber often used in traditional Chinese cuisine and herbal medicine. It is a source of essential vitamins and minerals, potentially supporting digestive health and overall nutritional well-being.

How it helps

Chinese yam has beneficial antioxidants and anti-inflammatory properties that can help improve lung health by reducing inflammation and damage. It can also help nourish and cleanse the lungs, hence enhancing their function.

A Chinese yam and horny goat weed mixture significantly improved dyspnea, exercise capacity, and quality of life in patients with stable moderate or severe COPD [R].

75



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 iron levels may be linked to improved lung function [\[R\]](#).

Adequate iron intake can enhance lung health by improving oxygen transport.

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* [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#).

Next Steps

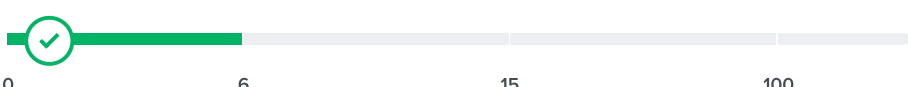
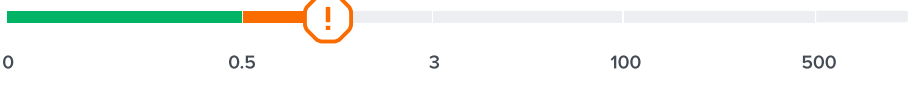
Remember, your genes only tell one important part of your health story!

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.

	ESR	1 mm/hr		9 Nov 2025
	WBC	6.92 x10^3/mm3		9 Nov 2025
	Neutrophils (Absolute)	4.8 x10^9/L		9 Nov 2025
	Vitamin D, 25-Hydroxy, Total	58.59 ng/mL		9 Nov 2025
	RBC	6.05 x10^6/mm3		9 Nov 2025
	Carbon Dioxide	30 mmol/L		29 Aug 2025
	hs-CRP	1.6 mg/L		9 Nov 2025
	Iron	228 mcg/dL		9 Nov 2025

Your Lifestyle Assessments

Ever heard of the term Nature vs. Nurture?

The thing is, both DNA and environment play a role in determining your health risks. The following assessments shows how much of an impact your lifestyle, environment and medical history are having on your health risks.

✓

LIFESTYLE

You have a **reduced risk** of COPD based on the answers you provided.

Your Lifestyle Risk

Low

Decreased

Average

Increased

High

Factors impacting your risk:

Have you ever been diagnosed with asthma?	Decreasing Risk	✓
No		
Do you smoke tobacco?	Decreasing Risk	✓
No, never		
Do you regularly eat 5 or more servings of fruit or vegetables a day?	Decreasing Risk	✓
Yes		
Have you ever been diagnosed with alpha-1 antitrypsin deficiency?	Decreasing Risk	✓
No		
Have you lived in or near a large city for more than 10 years?	Decreasing Risk	✓
No		
Your BMI:	Decreasing Risk	✓
22.77		
What is your height?	No impact	−
165 cm		
What is your current weight?	No impact	−
62.0 kg		