

Rheumatoid Arthritis

Disease Report

REPORT CATEGORIES —



INFLAMMATION &
AUTOIMMUNITY



JOINT & TENDON
HEALTH

Sample Client

Report date: 15 January 2026

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Personal information

NAME

Sample Client

SEX AT BIRTH

Male

HEIGHT

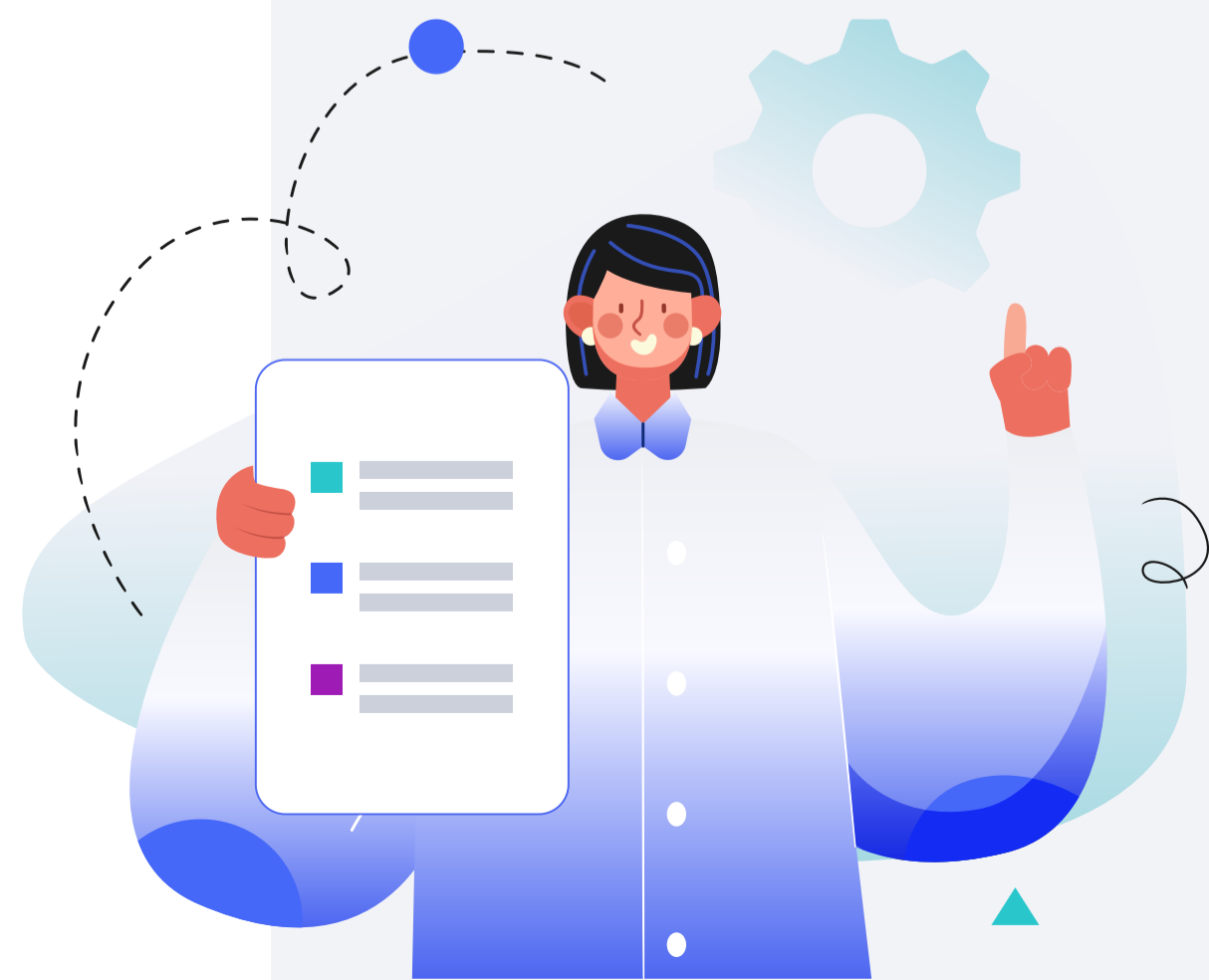
5ft 5" 165cm

WEIGHT

137lb 62kg

DISCLAIMER

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



How this works

Our Wellness Reports analyze how your DNA influences your health.

We then use this analysis to give you personalized risk estimates and recommendations.



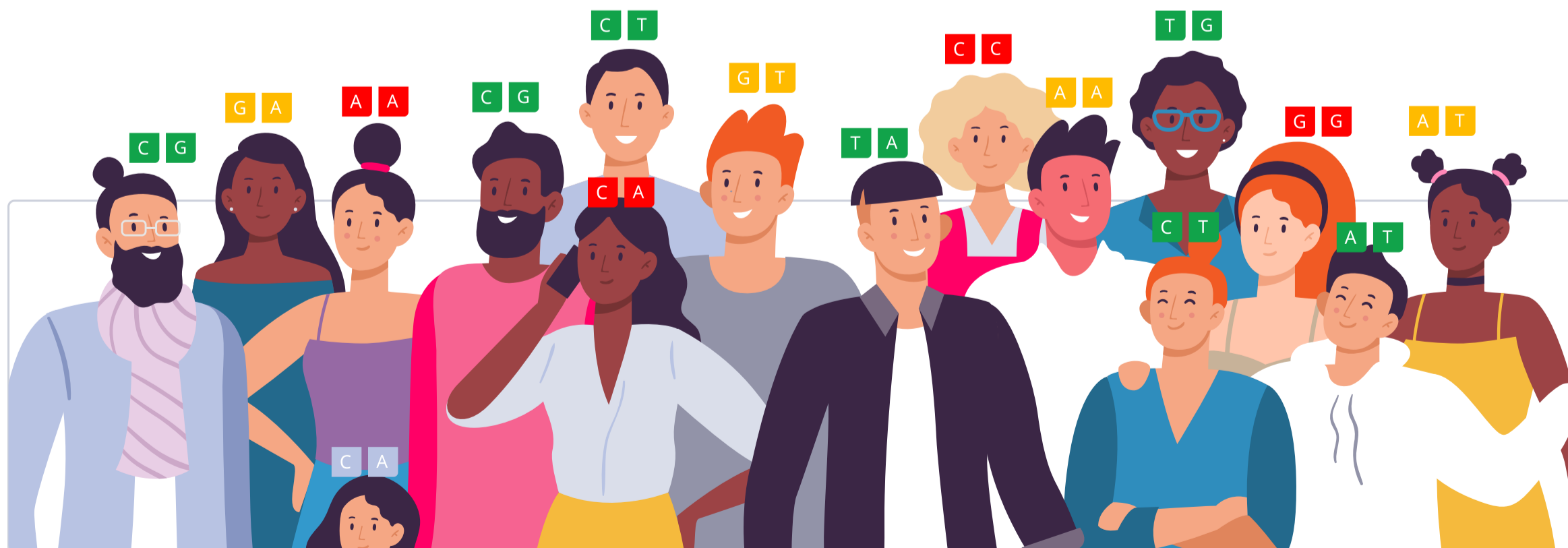
Similarly, our Trait Reports look at how your DNA influences your traits.



Your DNA is like an instruction manual — it contains a lot of information.

You can think of it as a blueprint for your body.

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



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

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

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



Genotype color info:

- AA** You don't have any risk alleles
- AA** You have 1 risk allele
- AA** You have 2 risk alleles

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

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

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

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



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

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



Impact

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

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

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

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

Recommendation Evidence

●●●●● 5 / 5

Recommendations that are considered effective and generally recommended by experts and medical bodies.

●●●●○ 4 / 5

Recommendations that are considered likely effective and that have multiple independent meta-analyses and a great many studies supporting them.

●●●○○ 3 / 5

Recommendations that are considered possibly effective and have many studies supporting them

●●○○○ 2 / 5

Recommendations that have insufficient evidence, with two or several clinical trials supporting them, or many studies but with ambiguous results.

●○○○○ 1 / 5

Recommendations that have insufficient evidence, with a single clinical trial, or with many studies most of which didn't find support for the recommendation.

○○○○○ 0 / 5

No evidence in humans.

Genotype-specific Evidence

●●●●● High-quality

Direct evidence that a recommendation helps more in people with your gene variant (many clinical trials, a few large clinical trials, or a meta-analysis).

●●●●○ Medium-quality

Direct evidence that a recommendation helps more in people with your gene variant (a few clinical trials or one large clinical trial).

●●●○○ Low-quality

Direct evidence that a recommendation helps more in people with your gene variant (a single clinical trial or more trials with inconsistent results).

●●○○○ Indirect

A recommendation may help more in people with your gene variant because it targets a specific gene or protein affected by your variant (e.g., MTHFR, dopamine).

●○○○○ In theory

A recommendation may help more in people with your gene variant because it targets a specific mechanism affected by your variant (e.g., inflammation, oxidative stress).

Some things to keep in mind:

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

Introduction

For the most part, your immune system is a well-oiled machine. It can spot harmful invaders and mount an impressive attack to keep you from getting sick.

However, sometimes the immune system can't tell friend from foe, leading white blood cells to attack healthy tissues [\[R\]](#).

This reaction is called *autoimmunity*, and it is at the root of many painful, debilitating conditions, including rheumatoid arthritis [\[R\]](#).

We don't fully understand the causes of autoimmune joint inflammation. Environmental factors such as nutrition and exposure to infections early in life may impact your risk [\[R, R\]](#).

However, one of the strongest contributing factors might be coded into our DNA: many gene variants have been associated with joint inflammation.

You may be able to target inflammation by identifying whether you carry risk variants of genes such as [TNF](#) or [CRP](#). People with these variants may benefit from getting more omega-3 fatty acids or maintaining a health weight, respectively [\[R, R, R, R\]](#).

In this report, you will learn about the genetics of rheumatoid arthritis, and what you can do to target your genes in order to potentially soothe your pain.

Read on to find out more about:

- **How your genetics play a role in joint inflammation**
- **Your genetic risk score based on 296 genetic variants**
- **Personalized recommendations based on your genetics**

Longevity Screener

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

✓ Your lifetime risk is **Normal**

✓ Your 10-year risk is **Normal**

Summary or results

Your results are indicating a Normal risk of developing Rheumatoid Arthritis in your lifetime and within the next decade.

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

The risk of developing Rheumatoid arthritis can be influenced by non-genetic factors such as elevated BMI.

What to do if you get a High risk

Analyze your labs

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

Find out your out-of-optimal labs

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

Optimize labs

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

Disclaimer

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

About Rheumatoid Arthritis

Key Takeaways:

- Up to 65% of differences in people's chances of developing rheumatoid arthritis may be due to genetics.
- Other risk factors include obesity and smoking.
- Rheumatoid arthritis affects about **1%** of people around the world. This means even a high genetic risk is still a low overall risk.
- Click the **Recommendations** tab for potential dietary and lifestyle changes and **next steps** for relevant labs.

Rheumatoid arthritis is an autoimmune condition in which the body attacks its own joints. This causes [inflammation](#), tissue damage, and pain [\[R\]](#).

Rheumatoid arthritis affects about 1% of people around the world. Researchers have found big differences between populations. North America has the highest rate, with the lowest rates in South America and Asia [\[R\]](#).

According to one estimate, about **1.3 million Americans** have this condition [\[R\]](#).

Rheumatoid arthritis usually affects small joints in the hands and feet. Its signs and symptoms include [\[R\]](#), [\[R\]](#):

- Joint pain and tenderness
- Heat and swelling in the affected joints
- Joint stiffness

Many people have periods of worsening symptoms called "flares." These flares may be triggered by [\[R\]](#):

- Stress
- Too much movement
- A change in medication



TYPICAL LIKELIHOOD

Typical likelihood of rheumatoid arthritis based on 1,049,410 genetic variants we looked at



Your top variants that most likely impact your genetic predisposition:

GENE	SNP	GENOTYPE
HLA-DQA2	rs6457617	TC
CTLA4	rs3087243	GG
ANKRD55	rs7731626	GG
UBASH3A	rs1893592	AA
ETS1	rs73013527	CC
WDFY4	rs2671692	AA
RASGRP1	rs8032939	CC
RUNX1	rs8133843	AA
COG6	rs9603618	CC
ZFP36L1	rs1950897	TT
/	rs6651252	TT
LBH	rs7579944	CC
PODXL	rs11761231	CC
HLA-DQA2	rs660895	GA
TLR3	rs3775291	CC
HLA-DQA2	rs9268839	GA
CXCL13	rs117605225	TT
TNFAIP3	rs17264332	AG
IL2RA	rs706778	TC
ARID5B	rs71508903	CT
TCTE1	rs2233424	TC
IKZF3	rs2872507	AG
PADI4	rs2240335	AC
POU3F1	rs883220	AC

Rheumatoid arthritis may lead to complications outside the joints. They can include heart disease, nerve problems, and infections [R].

There is no cure for rheumatoid arthritis. Instead, patients and doctors work to control symptoms. Some ways to manage the condition include [R, R]:

- Medications
- Surgery (e.g., joint replacement surgery)
- Exercise
- Supplements to reduce inflammation and support bone health

The exact cause of rheumatoid arthritis is unknown. Risk factors include [R, R, R]:

- Cigarette smoking
- Obesity
- **Genetics**

In fact, up to 65% of differences in people's chances of developing rheumatoid arthritis may be attributed to genetics. Genes involved in this condition may influence [R, R]:

- Immune function ([HLA-DRB1](#), [PSORS1C1](#))
- Inflammation ([STAT4](#), [IL10](#), [PTPN2](#))

Genetically high testosterone and omega-3s levels may be causally associated with a high risk of rheumatoid arthritis [R, R].

GENE	SNP	GENOTYPE
STAT4	rs11889341	CT
IRF5	rs4728142	GA
YDJC	rs2298428	TC
CD28	rs1980422	CT
REL	rs34695944	CT
CD40	rs4239702	TC
CD101	rs624988	CT
EOMES	rs3806624	GA
TNFAIP3	rs6920220	GA
ANAPC4	rs3816587	CT
REL	rs13031237	TG
STAT4	rs7574865	GT
RNASET2	rs3093024	GA
NCF4	rs729749	TC
HLA-DQA2	rs6910071	GA
CD40	rs4810485	TG
GTF2I	rs113066392	DEL(C)A
TREH	rs10892279	GA
NOS3	rs2070744	TC
PTPN22	rs6679677	CC
DCTN3	rs11574914	GG
TRAF1	rs10985070	AA
TLE3	rs8026898	GG
AFF3	rs9653442	TT
IRF8	rs13330176	TT
FCRL3	rs3761959	CC

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

Your Recommendations

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

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

	DOSAGE		DOSAGE		
1	Exercise At Least One Hour a Day	1 hour	2	Aerobic Exercise (Cardio)	1 hour
3	Omega-3 (Fish Oil)	500 mg	4	Dietary Omega-3 Fatty Acids	
5	Probiotics	10 billion	6	Transcutaneous Electrical Nerve Stimulation (TENS)	30 minutes
7	Vitamin K2	100 mcg	8	Anti-Inflammatory Diet	
9	Gamma-Linolenic Acid (GLA)	200 mg	10	Curcumin	500 mg
11	Massage	30 minutes	12	Quercetin	200 mg
13	Borage Oil	2 g	14	Avoid Strenuous Activity	
15	Pomegranate		16	Tai Chi	1 hour
17	Avoid PAHs Exposure		18	Yoga	30 minutes
19	Cold Applications	15 minutes	20	Ashwagandha	120 mg
21	CLA (Conjugated Linoleic Acid)	3 g	22	Folic Acid	
23	Avoid Air Pollution		24	Evening Primrose Oil	
25	Strength Training	1 hour	26	Extra Virgin Olive Oil (EVOO)	
27	Aquatic Therapy	30 minutes	28	Backward Walking	10 minutes
29	Berries		30	Vitamin E	200 iu

31	Cod Liver Oil		32	Electroacupuncture	
33	Aquatic Exercise	1 hour	34	Zinc	10 mg
35	Avoid Cadmium Exposure		36	Acupuncture	1 hour
37	Limit Coffee Intake		38	Cupping Therapy	15 minutes
39	Avoid Exposure to Heavy Metals		40	Avoid Phthalate Exposure	
41	Emoxypine		42	Garlic Supplement	200 mg
43	Bromelain		44	Sesamin	200 mg
45	Saffron	20 mg	46	Artemisia Extract	200 mg
47	Milk Thistle (Silymarin)	300 mg	48	Mango Extract	
49	Sweet Wormwood	100 mg	50	Aromatherapy	30 minutes
51	Manual Therapy		52	Black Seed (Black Cumin)	1000 mg
53	N-acetylcysteine (NAC)	600 mg	54	Glucosamine	1500 mg
55	Avoid Lead Exposure		56	Andrographis	300 mg
57	Autogenic Training	10 minutes	58	Barberry	500 mg
59	Physical Therapy	30 minutes	60	Green Tea	400 mg
61	Infrared Light Therapy		62	Bacillus Coagulans	
63	Moxibustion	10 minutes	64	Cold Showers	30 seconds
65	Dietary Vitamin A		66	Resveratrol	150 mg
67	Ginger	500 mg	68	Apply Heat	15 minutes
69	Horsetail	300 mg	70	Cat's Claw	250 mg

71 Shock Wave Therapy		72 Cold Exposure	1 minutesute
73 Lactobacillus Casei	10 billion CFU	74 CBD	10 mg
75 Coenzyme Q10 (CoQ10)	100 mg	76 Whole-Body Cryotherapy	2 minutes
77 Black Seed Oil	2 tsp	78 Cranberry	
79 Rose Hip	500 mg	80 Blood Flow Restriction Training	15 minutes
81 Baicalin	50 mg	82 Autogenic Training and Electroacupuncture	10 minutes
83 Progressive Muscle Relaxation	10 minutes	84 Avoid Magnesium Supplements	
85 Dietary Iron		86 Limit Caffeine Intake	
87 Dietary Oleic Acid			

1

Exercise At Least One Hour a Day

IMPACT

4 / 5

EVIDENCE

5 / 5

How to implement

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

TYPICAL STARTING DOSE

1 hour

Description

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

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

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

How it helps

Experts recommend gentle and dynamic exercise for people with rheumatoid arthritis. It may support the joints by strengthening the muscles around them. Exercise may also reduce inflammation [\[R, R, R, R, R, R\]](#).

The following exercises may improve pain and physical function in people with rheumatoid arthritis:

- Cardio [\[R, R\]](#)
- Strength training [\[R, R, R\]](#)
- A combination of cardio and strength training [\[R, R, R\]](#)
- Aquatic exercise [\[R\]](#)


Please note: *Talk to your doctor before starting a new exercise program. People with rheumatoid arthritis should be careful to stay within their comfort zone. Over-exercising may worsen the symptoms. Avoid exercising tender, injured or severely inflamed joints [\[R, R\]](#).*

PERSONALIZED TO YOUR GENES

Inflammation plays a major role in rheumatoid arthritis. Exercise may reduce inflammation more in people with your *TNF* gene variant [\[R, R\]](#).


YOUR GENETIC VARIANTS			
GENE	SNP	GENOTYPE	EVIDENCE
TNF	rs1800629	GG	<div style="display: flex; align-items: center;"> <div style="width: 20px; height: 10px; background-color: #800080; margin-right: 2px;"></div> <div style="width: 20px; height: 10px; background-color: #ccc; margin-right: 2px;"></div> <div style="width: 20px; height: 10px; background-color: #ccc; margin-right: 2px;"></div> <div style="width: 20px; height: 10px; background-color: #ccc; margin-right: 2px;"></div> </div>


2



Aerobic Exercise (Cardio)

IMPACT
EVIDENCE


4 / 5


3 / 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

Experts recommend gentle and dynamic exercise for people with rheumatoid arthritis. It may support the joints by strengthening the muscles around them. Exercise may also reduce inflammation [\[R, R, R, R, R, R\]](#).

For instance, aerobic exercise may reduce pain and fatigue while increasing quality of life in patients with rheumatoid arthritis [\[R, R\]](#).

The combination of cardio and strength training may improve aerobic capacity, muscle strength, pain, and physical function in people with this condition [\[R, R, R\]](#).

Please note: *Talk to your doctor before starting a new exercise program. People with rheumatoid arthritis should be careful to stay within their comfort zone. Over-exercising may worsen the symptoms. Avoid exercising tender, injured or severely inflamed joints* [\[R, R\]](#).

3

Omega-3 (Fish Oil)

IMPACT
EVIDENCE

3 / 5

4 / 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

Some experts recommend omega-3s for people with rheumatoid arthritis [\[R\]](#).

Omega-3 supplements (1.8-3.8 g/day for 3-9 months) may help with rheumatoid arthritis. They may reduce pain, swollen joints, and morning stiffness [\[R, R, R, R, R\]](#).

Omega-3s may help by reducing inflammation [\[R, R\]](#).

On the other hand, a large study found that people with genetically higher omega-3 levels may have higher odds of rheumatoid arthritis. It's not clear whether this link is applicable to omega-3 intake [\[R\]](#).

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

PERSONALIZED TO YOUR GENES

Inflammation plays a major role in rheumatoid arthritis. Fish oil (omega-3) supplementation may reduce inflammation more in people with your **TNF gene variant** [\[R, R\]](#).

YOUR GENETIC VARIANTS			
GENE	SNP	GENOTYPE	EVIDENCE
TNF	rs1800629	GG	

4




Dietary Omega-3 Fatty Acids

IMPACT

 3 / 5

EVIDENCE

 3 / 5

How to implement

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

Description

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

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

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

- Salmon
- Tuna
- Herring
- Sardines

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

How it helps

A high intake of omega-3 fatty acids may be associated with lowered disease symptoms, inflammation, and triglycerides [\[R\]](#).

5

Probiotics

IMPACT

3 / 5

EVIDENCE

3 / 5

How to implement

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

TYPICAL STARTING DOSE

10 billion

Description

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

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

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

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

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

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

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

How it helps

The following probiotics may help improve joint pain and physical function in people with rheumatoid arthritis:

- [Lactobacillus casei](#) (taken for 2 months) [\[R, R\]](#)
- [Bacillus coagulans](#) (taken for 2 months) [\[R\]](#)
- [L. rhamnosus](#) and [L. reuteri](#) (taken for 3 months) [\[R\]](#)


Probiotics may help by reducing inflammation. However, not all studies found an anti-inflammatory effect [\[R, R, R\]](#).

PERSONALIZED TO YOUR GENES

Your [HLA-DQA1](#) gene variant is linked to rheumatoid arthritis. It likely increases joint inflammation. Probiotics may reduce inflammation by decreasing HLA-DQA1 activity [\[R, R, R\]](#).

YOUR GENETIC VARIANTS			
GENE	SNP	GENOTYPE	EVIDENCE
HLA-DQA2	rs660895	GA	<div style="display: flex; justify-content: center; gap: 5px;"> <div style="width: 10px; height: 10px; background-color: #800080; border-radius: 50%;"></div> <div style="width: 10px; height: 10px; background-color: #800080; border-radius: 50%;"></div> <div style="width: 10px; height: 10px; background-color: #ccc; border-radius: 50%;"></div> <div style="width: 10px; height: 10px; background-color: #ccc; border-radius: 50%;"></div> </div>

6



Transcutaneous Electrical Nerve Stimulation (TENS)

IMPACT

3 / 5

EVIDENCE

2 / 5

How to implement

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

TYPICAL STARTING DOSE

30 minutes

Description

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

How it helps

TENS may reduce pain in people with rheumatoid arthritis in the hand. While acupuncture-like TENS may be more effective at reducing pain intensity and improving muscle power, conventional TENS may cause a greater subjective decrease in disease activity [\[R\]](#).

7



Vitamin K2

IMPACT

3 / 5

EVIDENCE

2 / 5

How to implement

Take a vitamin K2 supplement once daily with a meal that contains fat, as fat increases its absorption. The recommended dosage can vary depending on the specific supplement but typically ranges from 100 to 300 micrograms per day. It is important to continue this supplementation daily for ongoing benefits to bone and cardiovascular health.

TYPICAL STARTING DOSE

100 mcg

Description

Vitamin K2 is a beneficial nutrient we often lack. It's like a traffic cop for your body, directing calcium to your bones and teeth where it's needed, rather than letting it clog up your arteries and organs. Ensuring you get enough Vitamin K2 boosts your bone and heart health.

How it helps

Menaquinone (100 µg/day) may increase the benefits of conventional medication. It may also reduce markers of bone loss [\[R\]](#), [\[R\]](#).

Please note: *Vitamin K can interact with blood thinners (e.g., Coumadin). Make sure to consult your doctor before supplementing with vitamin K or drastically changing your dietary intake.*

8

Anti-Inflammatory Diet

IMPACT
EVIDENCE

2 / 5

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

Following anti-inflammatory diets like the Mediterranean diet may help with rheumatoid arthritis. It may improve symptoms like [\[R, R, R, R\]](#):

- Joint pain
- Joint stiffness
- Quality of life

Arachidonic acid is a compound that can lead to inflammation. It is found in many animal products. **A diet low in arachidonic acid (less than 90 mg/day)** may reduce joint swelling. It may work particularly well in combination with fish oil [\[R, R\]](#).

PERSONALIZED TO YOUR GENES

Arachidonic acid plays a role in joint inflammation. In people with your [FADS2](#) gene variant, the Mediterranean diet may reduce arachidonic acid levels [\[R, R, R, R, R\]](#).

YOUR GENETIC VARIANTS			
GENE	SNP	GENOTYPE	EVIDENCE
FADS1	rs174556	CC	

9

Gamma-Linolenic Acid (GLA)

IMPACT
EVIDENCE

2 / 5

3 / 5

How to implement

Take 200-300 mg of gamma-linolenic acid (GLA) daily as a supplement, usually available as capsules, for a period of 6 months to assess its effects on your condition. It is best absorbed when taken with food.

TYPICAL STARTING DOSE

200 mg

Description

GLA is an omega-6 fatty acid found in certain plant oils, such as evening primrose oil and borage oil. It may have anti-inflammatory properties and can potentially benefit skin health, hormonal balance, and overall well-being.

Your body naturally makes **gamma-linolenic acid (GLA)** to help control inflammation. It's a polyunsaturated fatty acid (PUFA) found in plants like [R](#), [R](#):

- [Borage](#)
- Blackcurrant
- Evening primrose

People mainly use GLA for [R](#):

- Skin conditions
- Dry eyes
- Hair and nail care

How it helps

Some experts say that gamma-linolenic acid (GLA) may help with rheumatoid arthritis. It may reduce joint pain and disability [R](#), [R](#), [R](#), [R](#).

Borage seed oil or blackcurrant seed oil (providing 1.1-2.0 g/day of GLA) may reduce swelling and joint tenderness [R](#), [R](#), [R](#), [R](#), [R](#).

GLA combined with **fish oil** may also help [R](#), [R](#), [R](#), [R](#).

Primrose oil is another source of GLA that may improve arthritis symptoms. However, not all studies found a beneficial effect [R](#), [R](#), [R](#), [R](#).


GLA may help by reducing inflammation [R](#), [R](#).

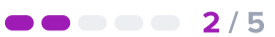
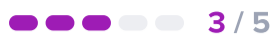
Please note: *Some plant oils may interfere with medications. Check with your doctor before supplementing with GLA* [R](#).

PERSONALIZED TO YOUR GENES

Your [HLA-DRB5](#) gene variant is linked to rheumatoid arthritis. It likely increases joint inflammation. GLA may help by reducing inflammation [R](#), [R](#), [R](#).

YOUR GENETIC VARIANTS			
GENE	SNP	GENOTYPE	EVIDENCE
HLA-DQA2	rs9268839	GA	

10  **Curcumin**

IMPACT  **EVIDENCE** 

How to implement

Take a 500 mg curcumin supplement daily with food. To enhance absorption, take it with a meal that contains fats or oils since curcumin is fat-soluble.

TYPICAL STARTING DOSE

500 mg

Description

Curcumin is a compound found in turmeric known for its anti-inflammatory and antioxidant properties. It has been studied for its potential to reduce inflammation, support joint health, and contribute to overall well-being.

[Turmeric](#) is a yellow spice from India. It may reduce inflammation and [oxidative stress](#) [R].

The most important active compound in turmeric is **curcumin**. People use curcumin for [R, R, R, R, R, R]:

- Joint pain
- Hay fever
- Mood
- High blood sugar
- Gut health
- Liver health

How it helps

Curcumin (500-1,000 mg/day for 6-13 weeks) may help with rheumatoid arthritis. It may reduce joint pain and morning stiffness [R, R,R,R].

However, curcumin may be less effective at lower doses [R].

Curcumin may help by reducing joint inflammation [R, R, R].

Note that curcumin is hard to absorb. Look for supplements with *bioavailable* curcumin, which is easier to absorb. Combining it with [piperine](#) (a compound in black pepper) may also help [R, R].


Please note: *curcumin may interfere with iron absorption due to its iron-chelating properties, potentially exacerbating anemia or making it harder to manage. If you have anemia, consult your healthcare provider before using curcumin or turmeric supplements* [R, R, R].

11




Massage

IMPACT

 2 / 5

EVIDENCE

 3 / 5

How to implement

Schedule a massage session, ideally with a licensed therapist, for 30-60 minutes, once a week. Choose a type of massage that suits your specific needs, such as Swedish for relaxation or deep tissue for muscle tension.

TYPICAL STARTING DOSE

30 minutes

Description

Massage therapy involves the manipulation of soft tissues to relax muscles, reduce stress, and alleviate pain. It can improve circulation, promote relaxation, and provide relief from various physical and mental health concerns.

If you've ever had a professional [massage](#), then you probably know how much good it can do. Massages may help with [\[R\]](#), [\[R\]](#), [\[R\]](#):

- Anxiety
- Pain
- Fatigue

Reflexology is a type of massage. It involves applying pressure to specific parts of your feet or hands. In theory, by pressing on these areas, you can relieve tension from other parts of the body [\[R\]](#).

Acupressure is a similar technique, in which pressure points are used to help with stress and pain [\[R\]](#), [\[R\]](#).


How it helps

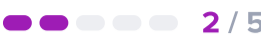

In people with rheumatoid arthritis, **massage therapy** may [\[R\]](#), [\[R\]](#):

- Reduce pain
- Improve joint function

To reduce pain, moderate pressure may be more effective than light pressure [\[R\]](#).

Foot reflexology may also help reduce joint pain [\[R\]](#), [\[R\]](#).

12  **Quercetin**

IMPACT  **EVIDENCE** 

How to implement

Take 250-1000 mg of quercetin supplement daily with a glass of water, preferably with a meal to aid in its absorption.

TYPICAL STARTING DOSE

200 mg

Description

Quercetin is a natural plant flavonoid found in various foods, particularly in fruits and vegetables like apples, onions, and broccoli. It is used as a dietary supplement and is valued for its potential antioxidant and anti-inflammatory properties.

Quercetin is a plant-based antioxidant. It supports the immune system and helps lower inflammation [\[R, R\]](#).

Good sources of quercetin include [\[R\]](#):

- Apples
- Onions
- Tea

People mainly use quercetin supplements to relieve allergies [\[R, R, R\]](#).

How it helps

In a study of 40 people with rheumatoid arthritis, those who consumed lots of raw berries, fruits, vegetables, nuts, roots, seeds, and sprouts rich in quercetin and other antioxidants had fewer symptoms [\[R\]](#).

Quercetin supplements (500 mg/day for 8-16 weeks) may reduce inflammation, joint stiffness, and morning pain [\[R, R, R, R\]](#).

Please note: quercetin may inhibit the production of the thyroid hormone T4 (thyroxine). Individuals with thyroid disorders, particularly hypothyroidism or low T4 levels, should exercise caution when using quercetin and always consult with a healthcare provider before taking this supplement [\[R\]](#).

Please note: quercetin may interfere with iron absorption due to its iron-chelating properties, potentially exacerbating anemia or making it harder to manage. If you have anemia, consult your healthcare provider before using quercetin supplements [\[R\]](#).

13

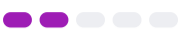


Borage Oil

IMPACT

 2 / 5

EVIDENCE

 2 / 5

How to implement

Take 2-3 grams of borage oil daily, in divided doses, with meals to help with inflammation or skin conditions. It is available in capsule form. This supplementation can be ongoing but consider a break or evaluation after 6 months.

TYPICAL STARTING DOSE

2 g

Description

Borage oil, derived from the seeds of the borage plant, is rich in gamma-linolenic acid (GLA), an omega-6 fatty acid. It is believed to have potential anti-inflammatory properties and may be used as a dietary supplement to support skin health and overall well-being.

Borage oil contains between 180-260mg of GLA per gram.

How it helps

Borage oil is rich in gamma-linolenic acid (GLA), a kind of fatty acid that helps reduce inflammation in the body. When taken regularly, it may help alleviate inflammation in your joints and improve your mobility and joint comfort.

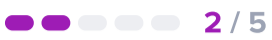
A [meta-analysis of 20 studies](#) concluded that borage oil (and other oils supplying at least 1400 mg/day GLA) **relieves rheumatoid arthritis complaints, while 500 mg/day doses are ineffective** [\[R\]](#).

14

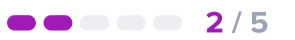


Avoid Strenuous Activity

IMPACT

 2 / 5

EVIDENCE

 2 / 5

How to implement

Refrain from participating in high-intensity physical activities such as running, heavy weightlifting, and high-impact sports. Opt instead for low-impact exercises like walking, swimming, or yoga. It's important to listen to your body's signals and rest as needed, avoiding these strenuous activities until advised otherwise by a health professional.

Description

Avoiding strenuous physical activity in certain medical conditions or during illness can help prevent injury and promote better recovery. It allows the body to conserve energy and supports the healing process.

Strenuous activity is physical activity that requires a lot of effort. Exercise done at 70-85% of a person's heart rate is considered strenuous. Examples include [\[R\]](#):


- Running, cycling, or swimming at high speed
- Running or hiking uphill
- Jumping rope
- Single tennis
- Sports that involve a lot of running (soccer, basketball, hockey, etc.)

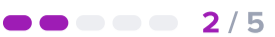
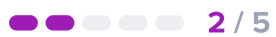
On the other hand, strenuous daily activities include [\[R\]](#):

- Lifting and carrying heavy objects
- Gardening with heavy digging
- Shoveling snow
- Fast dancing

How it helps

A study indicated that strenuous exercise did not worsen joint symptoms in patients with rheumatoid arthritis. The study found no differences in joint pain or swelling post-exercise compared to controls [\[R\]](#).

15  **Pomegranate**

IMPACT  **EVIDENCE** 

How to implement

Incorporate pomegranate into your diet by consuming fresh pomegranate seeds, drinking pure pomegranate juice, or adding pomegranate extract to smoothies or yogurts. Aim for at least one serving per day, which could be about half a cup of seeds or a glass (8 ounces) of juice, to gain its health benefits.

Description

Pomegranate is a fruit native to regions of the Middle East and Mediterranean. It is rich in antioxidants and nutrients such as vitamin C, vitamin K, and dietary fiber. It contains punicalagins, anthocyanins, and ellagic acid, which give it anti-inflammatory effects and potential heart health benefits.


[Pomegranates](#) are red fruits that contain seeds covered by edible sweet coats. They are rich in antioxidants [\[R, R\]](#).

Pomegranate may reduce inflammation and support heart health. People use pomegranate seed oil and peel in cosmetics and traditional medicine [\[R, R\]](#).

How it helps

In a small study of 8 people with rheumatoid arthritis, drinking a concentrated pomegranate juice extract (once a day for 12 weeks) improved inflammation and oxidative stress [\[R\]](#).

Pomegranate extract (250 mg/day for 8 weeks) reduced disease activity, swollen and tender joint count, pain, morning stiffness, and inflammation while improving antioxidant status in a study of 55 people with rheumatoid arthritis [\[R\]](#).

16  **Tai Chi**

IMPACT
●●○○○ 2 / 5

EVIDENCE
●●○○○ 2 / 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

A pilot study found that Tai Chi improved pain and functional status in people with rheumatoid arthritis [\[R\]](#).

Another study reported that Tai Chi helped reduce joint pain and increased balance, grip strength, and overall physical functioning. It also noted improvements in self-efficacy and a reduction in depression [\[R\]](#).


Studies have consistently found no adverse effects from practicing Tai Chi and participants have reported high levels of enjoyment and satisfaction, indicating it is a safe and enjoyable form of exercise for this population [\[R\]](#).

17




Avoid PAHs Exposure

IMPACT

 2 / 5

EVIDENCE

 2 / 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 study of 9735 participants associated exposure to 1-hydroxynaphthalene and 3-hydroxyfluorene with arthritis (especially osteoarthritis). The combined exposure to PAHs and heavy metals further increased the risk [\[R\]](#).

Another study (6072 participants) associated exposure 2-hydroxynaphthalene, 3-hydroxyfluorene, 2-hydroxyfluorene, 3-hydroxyphenanthrene, and 9-hydroxyfluorene with respectively 89%, 55%, 51%, 50%, and 60% higher risk of rheumatoid arthritis. In smokers, PAHs increased the risk over 15 times [\[R\]](#).

A study of 6297 participants associated high levels of 1-hydroxynaphthalene, 2-NAP, 2-hydroxyfluorene, and 3-FLU with rheumatoid arthritis [\[R\]](#).

A study of 21,987 participants associated 1-hydroxynaphthalene with an 81% higher risk of rheumatoid arthritis [\[R\]](#).

PAHs can trigger an immune response, potentially worsening joint inflammation.

18  **Yoga**

IMPACT
●●○○○ 2/5

EVIDENCE
●●○○○ 2/5

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 may help with joint inflammation, particularly in conditions like rheumatoid arthritis, by reducing disease activity and inflammatory markers such as IL-6, TNF-alpha, and cortisol. Regular yoga therapy can improve heart rate variability and decrease pain and stiffness, thus enhancing joint mobility and overall quality of life [\[R, R\]](#).

19




Cold Applications

IMPACT

 2 / 5

EVIDENCE

 2 / 5

How to implement

Apply a cold pack or a bag of frozen peas wrapped in a towel to the affected area for 15-20 minutes, every 2-3 hours during the first 48 hours of experiencing pain or swelling.

TYPICAL STARTING DOSE

15 minutes

Description

Cold applications, such as ice packs, can help reduce inflammation, alleviate pain, and promote muscle recovery after injuries or intense physical activity. Applying cold can provide temporary relief from discomfort and support the body's natural healing processes.

People use cold applications to relieve pain, reduce inflammation, and more [\[R, R\]](#).

Types of cold applications include [\[R, R\]](#):

- Ice packs
- Ice baths
- Cryotherapy

How it helps

According to experts, cold may dull the sensation of pain and reduce swelling. However, they highlight that the evidence is insufficient to support its routine use [\[R, R, R\]](#).

In 7 studies of 401 people with rheumatoid arthritis, whole-body cryotherapy brought improvements in pain, functionality, disease activity, inflammation, well-being, antioxidant capacity, and sleep quality [\[R, R, R, R, R, R, R\]](#).

20  **Ashwagandha**

IMPACT  **EVIDENCE** 

How to implement

Take 250-600 mg of ashwagandha supplement daily. It can be consumed with water or a meal, depending on your preference or as advised by a healthcare provider.

TYPICAL STARTING DOSE

120 mg

Description

[Ashwagandha](#) (*Withania somnifera*) is an herb used in traditional Indian medicine. This herb is known as an *adaptogen* because it helps people adapt to stress.

This herb is known as an *adaptogen* because it helps people adapt to stress [\[R\]](#), [\[R\]](#).

How it helps

Ashwagandha (125-250 mg, 2x/day) reduced pain, stiffness, and disability in a 12-week study of 60 people with knee rheumatoid arthritis [\[R\]](#).

An Ayurvedic therapy containing ashwagandha (5 g, 2x/day) reduced pain, joint tenderness, and swelling in a 3-week study of 86 people with rheumatoid arthritis [\[R\]](#).

21

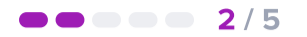


CLA (Conjugated Linoleic Acid)

IMPACT

 2 / 5

EVIDENCE

 2 / 5

How to implement

Take 3 to 4 grams of CLA (conjugated linoleic acid) supplements daily, divided into two doses, preferably with meals to enhance absorption. Continue this regimen daily for at least 6 months to potentially see beneficial results.

TYPICAL STARTING DOSE

3 g

Description

CLA is a fatty acid found in meat and dairy products and is often used as a dietary supplement. Some studies suggest that CLA may have potential benefits for weight management and body composition by promoting fat loss and muscle preservation.

[Conjugated linoleic acids](#) (CLA) are **polyunsaturated fats** (PUFAs). They're mainly found in meat and dairy. People also take them as supplements [\[R\]](#), [\[R\]](#).

CLA supplements are often marketed as weight loss aids [\[R\]](#).

How it helps

In a study of 87 people with rheumatoid arthritis, three months of [CLA](#) supplementation (2.5 g/day) resulted in reduced pain and stiffness [\[R\]](#).

In a study of 52 people with rheumatoid arthritis, the same dose of CLA improved bone health markers [\[R\]](#).


Please note: *CLA supplementation may increase CRP, a marker of inflammation* [\[R\]](#), [\[R\]](#), [\[R\]](#).

22




Folinic Acid

IMPACT

 2 / 5

EVIDENCE

 2 / 5

How to implement

Folinic acid is administered in several forms, including oral tablets, injections, or infusions, depending on the medical condition being treated. Always use folinic acid as prescribed by a healthcare provider. The specific dose and frequency depend on the condition being treated and the individual patient's response. Regular monitoring by a healthcare provider is necessary, especially when used in conjunction with chemotherapy, to adjust doses as needed and to manage any side effects.

Description


Folinic acid, also known as leucovorin, is a form of folic acid used in pharmacology, primarily to diminish the toxic effects of certain chemotherapy medications. Unlike folic acid, folinic acid doesn't require enzymatic conversion to become biologically active and can be directly utilized by the body. It plays a crucial role in DNA synthesis and repair, and in the methylation process, which is vital for cellular health and function.

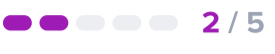

The health benefits of folinic acid are mostly seen in its ability to counteract the side effects of methotrexate, a drug used to treat certain types of cancer and autoimmune diseases. Methotrexate can inhibit the body's ability to use folate, leading to deficiencies. Administering folinic acid can help prevent or mitigate these deficiencies, aiding in faster recovery of healthy cells.

Folinic acid is also used in the treatment of megaloblastic anemia when it's caused by a deficiency in folate and not effectively treated by folic acid due to metabolic or absorption issues. Additionally, there is research into its potential benefits in improving symptoms of mental health disorders such as depression, suggesting that it might aid in managing conditions related to folate metabolism abnormalities.

How it helps

In rheumatoid arthritis patients treated with methotrexate, supplementation with folinic acid may reduce oral, gastrointestinal, and liver toxicity [\[R, R, R\]](#).

23  **Avoid Air Pollution**

IMPACT  **EVIDENCE** 

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 [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#):

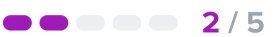
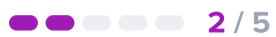
- Lung disease
- Heart disease
- Diabetes
- Asthma
- Skin conditions

How it helps

A systematic review and meta-analysis of 8 studies found significant associations between air pollution markers (ozone, proximity to traffic) and rheumatoid arthritis risk, while PM2.5 had an inverse effect. No clear evidence was found for PM10, CO, NO2, and NO2 [R].

Air pollutants can trigger an inflammatory response in the body that increases flare-ups and worsens their severity.

24  **Evening Primrose Oil**

IMPACT  **EVIDENCE** 

How to implement

Take 500mg to 1000mg of evening primrose oil, in capsule form, once daily with a meal to ensure optimal absorption. This regimen is typically recommended for several months to evaluate its effectiveness for the specific condition being addressed.

Description

Evening primrose is a plant known for its seeds, which are a source of gamma-linolenic acid (GLA), an essential fatty acid. Some studies suggest that evening primrose oil, derived from these seeds, may help alleviate symptoms of conditions like premenstrual syndrome (PMS) and eczema, as well as support overall skin health.

Evening primrose (*Oenothera biennis*) is a flowering plant. Its name comes from the fact that its flowers close during the day and open when the sun sets [\[R\]](#).

[Evening primrose oil](#) comes from the plant's seeds. It is rich in omega-6 fatty acids like [GLA](#). People use this oil to help with high triglycerides [\[R, R\]](#).

How it helps


Evening primrose oil supplementation has shown mixed results in treating rheumatoid arthritis. Some studies reported reduced morning stiffness, pain, and NSAID use, while others found no significant improvements. A combination of evening primrose oil and fish oil improved disease activity and joint tenderness. A Cochrane review concluded that oils containing GLA may help with pain intensity and disability in rheumatoid arthritis patients [\[R, R, R, R, R, R\]](#).

25




Strength Training

IMPACT

 2 / 5

EVIDENCE

 2 / 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

A study found that strength training increased muscle strength and improved physical function in people with early rheumatoid arthritis. The training was well-tolerated, and there was no increase in disease activity [R].

Another study reported that the benefits of strength training, such as improved muscle strength and physical function, were maintained even after the training had stopped [R].

26  **Extra Virgin Olive Oil (EVOO)**

IMPACT  2 / 5

EVIDENCE  2 / 5

How to implement

Incorporate 1-2 tablespoons of extra virgin olive oil into your daily diet. Use it as a dressing for salads, vegetables, or incorporate it into cooking, but avoid using it at high temperatures to preserve its health benefits.

Description

Extra virgin olive oil is a high-quality olive oil obtained from the first pressing of olives. It is rich in monounsaturated fats and antioxidants, like polyphenols, and is associated with various health benefits, including heart health and anti-inflammatory properties.

[Olive oil](#) is fat from the olive, a traditional tree of the Mediterranean Basin [\[R\]](#).

Olive oil has anti-inflammatory and antioxidant properties. It may also reduce the risk of [\[R\]](#), [\[R\]](#):

- Heart disease
- Diabetes
- Cancer

Olive oil is also the primary fat source in the [Mediterranean diet](#), which may improve brain and heart health [\[R\]](#).

How it helps

Extra Virgin Olive Oil (EVOO) contains a natural anti-inflammatory compound called oleocanthal that can help reduce joint inflammation. Regular consumption of EVOO could potentially help in managing joint pain and could prevent inflammation by effectively preventing the production of pro-inflammatory enzymes.


A [systematic review of 14 studies](#) identified olive oil among the foods whose **high consumption reduces the risk of rheumatoid arthritis** [\[R\]](#).

In a [non-placebo-controlled trial of 49 patients with rheumatoid arthritis](#), supplementation with olive oil capsules (6.8 g/day oleic acid) for 24 weeks **improved 5 of 45 clinical measures and decreased macrophage interleukin-1 production by 38.5%**. However, **fish oil was more effective** at improving the condition [\[R\]](#).

The combination of olive oil (9.6 mL/day) and fish oil (3 g/day) taken for 24 weeks **improved the duration of morning stiffness and global assessment better than fish oil alone** in a [non-placebo-controlled trial of 43 patients with rheumatoid arthritis](#) [\[R\]](#).

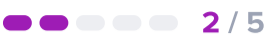
Massaging with topical olive oil for 12 weeks also **improved disease activity and inflammatory pain** in a [non-placebo-controlled trial of 60 women with rheumatoid arthritis](#) [\[R\]](#).

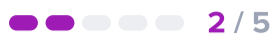
27



Aquatic Therapy

IMPACT
EVIDENCE





How to implement

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

TYPICAL STARTING DOSE
30 minutes

Description

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

How it helps

Aquatic exercises may reduce tender joints and decrease inflammation [\[R, R\]](#).

28



Backward Walking

IMPACT
EVIDENCE





How to implement

Engage in backward walking for 10-15 minutes daily, preferably in a safe, obstacle-free environment to minimize the risk of falls. This can be done in a straight line or in a loop. Ensure to start slowly to maintain balance and gradually increase your pace as you become more comfortable with the movement.


TYPICAL STARTING DOSE
10 minutes

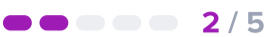
Description

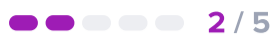
Backward walking, also known as retro walking, can provide unique benefits for balance, coordination, and muscle engagement compared to forward walking. It's used as a form of exercise to improve motor skills and lower-body strength.

How it helps

A meta-analysis of 21 studies and 635 participants found that adding backward walking to conventional treatment improves balance and stability in people with juvenile rheumatoid arthritis [\[R\]](#).

29  **Berries**

IMPACT  2 / 5

EVIDENCE  2 / 5

How to implement

Incorporate a variety of berries such as strawberries, blueberries, raspberries, and blackberries into your daily diet. Aim for at least one cup of fresh or frozen berries every day, either as a snack, part of your breakfast (such as in oatmeal or yogurt), or as a dessert.


Description

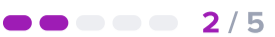
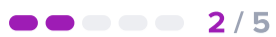
Berries, such as strawberries, blueberries, and raspberries, are packed with antioxidants, vitamins, and fiber. Regular consumption of berries may support heart health, improve cognitive function, and contribute to overall well-being.

How it helps

A study found that blueberries, in combination with standard therapy, improved clinical outcomes in juvenile idiopathic arthritis. This improvement was attributed to the anti-inflammatory properties of blueberries, which also reduced pro-inflammatory cytokine levels [\[R\]](#).

Berries have been associated with reduced joint stiffness and pain in people consuming a vegan diet rich in uncooked berries, fruits, and vegetables. This dietary approach has led to improvement in rheumatoid arthritis symptoms [\[R\]](#).

30  **Vitamin E**

IMPACT  **EVIDENCE** 

How to implement

Take 200 IU of Vitamin E daily as a supplement, preferably with a meal that contains fat to enhance absorption.

TYPICAL STARTING DOSE

200 iu

Description

Vitamin E is a fat-soluble antioxidant found in various foods, such as nuts and seeds. It is known for its ability to protect cells from oxidative damage, support immune function, and may play a role in skin health. Vitamin E supplements are used to bolster antioxidant defenses and may be beneficial for conditions related to oxidative stress.

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

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

- Wheat germ
- Sunflower seeds
- Almonds
- Plant oils

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

How it helps


In a study of 42 people with rheumatoid arthritis, vitamin E supplements (600 mg, 2x/day for 12 weeks), when added to conventional therapy, improved pain [\[R\]](#).

In another study of 87 people with rheumatoid arthritis, 12 weeks of vitamin E supplementation (400 mg/day) reduced inflammation [\[R\]](#).

However, research on over 39,000 women shows that vitamin E supplementation (600 IU/day) may not prevent rheumatoid arthritis [\[R\]](#).

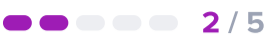
Please note: *While dietary vitamin E is generally considered safe, vitamin E supplements have been linked to prostate cancer. They may also not be the best option for pregnant people. Those who have heart disease, bleeding disorders, or other conditions may also need to avoid them. Consult your doctor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

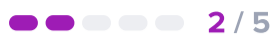
31



Cod Liver Oil

IMPACT
EVIDENCE





How to implement

Take 1-2 teaspoons of cod liver oil daily with a meal. It's best to incorporate it into your routine with breakfast or dinner to help with absorption and to minimize any potential fishy aftertaste or reflux.

Description

Cod liver oil is a supplement derived from cod liver and is a source of omega-3 fatty acids and vitamin D. It can help maintain healthy bones, support immune function, and promote cardiovascular health when used as a dietary supplement.

Cod liver oil is high in vitamin D and A as well as a lot of omega-3 fatty acids and health fats. A single tablespoon provides 34 mcg of vitamin D or 170%DV.

How it helps

Cod liver oil (300-1,000 mg/day for 3-9 months) may decrease morning stiffness, painful and swollen joints, and pain intensity. It may also reduce the need for painkillers [\[R, R, R\]](#).

32



Electroacupuncture

IMPACT
EVIDENCE





How to implement

Attend electroacupuncture sessions twice a week for a minimum of five weeks. Each session, conducted by a certified practitioner, involves the application of small electric currents through acupuncture needles inserted at specific points on the body.

Description


Electroacupuncture combines traditional acupuncture with electrical stimulation, potentially offering pain relief, improved circulation, and enhanced muscle function. It's used in complementary medicine to address various health concerns and promote overall well-being.



How it helps

Electroacupuncture may reduce pro-inflammatory cytokines such as IL-1 and IL-6 in the peripheral blood and joint fluid of people with rheumatoid arthritis. These cytokines are closely associated with inflammation and pain in rheumatoid arthritis [\[R\]](#).

Electroacupuncture as an adjuvant to standard therapy may improve markers of bone metabolism, reduce inflammation, and improve joint function [\[R, R\]](#).

In another study comparing auricular electroacupuncture and autogenic training, both interventions improved pain intensity and disease activity [\[R\]](#).

33  **Aquatic Exercise**

IMPACT  **EVIDENCE** 

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 [\[R\]](#):

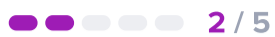

- Reducing the stress and impact on joints
- Lowering fracture risk

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

In 2 studies of over 250 people with rheumatoid arthritis, aquatic exercise produced the greatest pain reduction compared to other exercise types [\[R, R\]](#).

34  **Zinc**

IMPACT  **EVIDENCE** 

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

Rheumatoid arthritis may be associated with lower blood zinc levels [\[R, R, R\]](#).

35  **Avoid Cadmium Exposure**

IMPACT 1 / 5

EVIDENCE 2 / 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 53,829 participants, a 1 µg/L increase in serum cadmium levels was associated with a 28% higher risk of rheumatoid arthritis prevalence [\[R\]](#).

A study involving 49,830 adults associated exposure to cadmium and lead in blood and urine with an increased risk of rheumatoid arthritis [\[R\]](#).

Cadmium exposure can lead to an increase in inflammatory markers that can exacerbate joint inflammation.

36  **Acupuncture**

IMPACT 1 / 5

EVIDENCE 2 / 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

Experts recommend informing people about acupuncture as a complementary and alternative physical therapy that counts with insufficient evidence on rheumatoid arthritis [\[R\]](#).

Acupuncture may have little or no impact on rheumatoid arthritis pain [\[R, R\]](#).

Moxibustion, another form of acupuncture, may enhance the benefits of conventional therapy on pain reduction. However, not all studies found this benefit. Moreover, the supporting studies are small and low-quality [\[R, R\]](#).

37



Limit Coffee Intake

IMPACT ● ● ● ● ● 1 / 5

EVIDENCE ● ● ● ● ● 2 / 5

How to implement

Reduce your coffee consumption to no more than 2-3 cups (approximately 200-300 mg of caffeine) per day. Try to avoid drinking coffee after 2 PM to minimize potential impacts on sleep.

Description

Limiting coffee consumption can help prevent potential side effects like jitteriness, insomnia, and increased heart rate, while allowing for better sleep quality and overall energy regulation. Moderation in coffee intake supports overall well-being without overstimulation.

People often drink coffee for an energy and mood boost [\[R, R\]](#).

However, **coffee also comes with some drawbacks**. Drinking a lot of coffee can increase blood pressure and anxiety. It may also cause headaches [\[R, R, R\]](#).

How it helps

Limiting coffee intake can be beneficial for joint inflammation because excessive caffeine can disrupt sleep patterns, and inadequate sleep may worsen inflammation. Also, some research suggests that excessive caffeine might increase the body's inflammatory response.

A meta-analysis of cohort studies found a suggestive link between coffee intake and rheumatoid arthritis (RA) incidence. Case-control studies showed a significant association. Combining both types revealed a significant link. For seropositive RA, coffee intake had a significant risk, but not for seronegative RA [\[R\]](#).

38



Cupping Therapy

IMPACT ● ● ● ● ● 1 / 5

EVIDENCE ● ● ● ● ● 2 / 5

How to implement

To practice cupping therapy as part of your lifestyle, schedule sessions with a qualified therapist once or twice a month to address specific concerns or for general wellness. Each session usually lasts between 5 to 15 minutes. Consistent treatment over several months may yield the best results.

TYPICAL STARTING DOSE

15 minutes

Description

Cupping therapy is an alternative therapy that involves placing cups on the skin to create suction. Some believe it may help with pain relief and muscle tension.

How it helps

A meta-analysis of 5 trials found weak evidence that adding cupping therapy to Western medicine further improves response rate, disease activity, physical function, and the serum levels of ESR and CRP [\[R\]](#).


Cupping therapy increases blood circulation in affected areas, potentially reducing inflammation and easing joint pain. It can also promote cell repair, enhancing overall joint function.

39




Avoid Exposure to Heavy Metals

IMPACT

 1 / 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 [\[R, R\]](#):

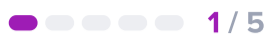
- Lead
- Cadmium
- Arsenic
- Chromium
- Mercury

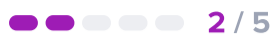
How it helps

A study of 49,830 participants associated high blood cadmium and lead, as well as high urinary cadmium, lead, antimony, tungsten, and uranium with an increased risk of rheumatoid arthritis. Both blood and urinary metals-mixed exposure were positively associated with rheumatoid arthritis, with cadmium and lead contributing the most [\[R\]](#).

Heavy metals can trigger an immune response and cause inflammation in the joints.

40  **Avoid Phthalate Exposure**

IMPACT  1 / 5

EVIDENCE  2 / 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

9322 participants, NHANES: exposure to phthalates is associated with an increased prevalence of RA among adults. Notably, such associations appear to be more pronounced in males and older people [\[R\]](#).

41

**Emoxypine**

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

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

Description

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

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

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

How it helps

In a non-placebo-controlled trial of 62 women with rheumatoid arthritis, taking Emoxypine for 2 weeks reduced inflammation and depressive symptoms while improving functional status and quality of life [\[R\]](#).

42



Garlic Supplement

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Take a garlic supplement, such as a garlic extract or aged garlic supplement, in a dosage of 600-1,200 mg per day, divided into separate doses. This should be taken with meals to minimize digestive issues. Continue daily for at least 8-12 weeks to evaluate its effects on health markers like blood pressure or cholesterol.

TYPICAL STARTING DOSE

200 mg

Description

Garlic is a pungent herb known for its potential health benefits, including cardiovascular support and immune system enhancement. It contains bioactive compounds that may help reduce the risk of chronic diseases and support overall well-being.

[Garlic](#) is a delicious aromatic herb that adds flavor to your food. But did you know that garlic has been a part of traditional medicine for thousands of years? **From ancient Egypt and Rome to China, people have praised garlic for its many health benefits.** Today, we can trace many of those benefits to sulfur-rich compounds found in garlic. People take garlic to help control their blood pressure and cholesterol [\[R\]](#).

Please note: *Garlic can interact with blood thinners (like aspirin, Plavix, Coumadin). If you are on blood thinners, consult your doctor before supplementing with garlic [\[R\]](#).*

How it helps

In a study of 70 women with rheumatoid arthritis, those who consumed supplementary garlic (500 mg/day) had improved antioxidant status, pain scores, and quality of life [\[R\]](#).

Please note: *Garlic can interact with blood thinners (such as aspirin, Plavix, and Coumadin). In addition, garlic can irritate the stomach in some people. Talk to your doctor before taking garlic [\[R,R\]](#).*

43

Bromelain

IMPACT
EVIDENCE

1 / 5

1 / 5

How to implement

Take 500mg of bromelain supplement two to three times daily, preferably with food to reduce the risk of gastrointestinal discomfort. It is recommended to use for short-term relief, typically not exceeding several months, unless supervised by a healthcare provider.

Description

Bromelain is an enzyme found in pineapple that may have anti-inflammatory and digestive benefits. It's often used as a dietary supplement to aid digestion and reduce swelling associated with injuries or surgery.

[Bromelain](#) is an extract from pineapples. It's rich in enzymes that break down proteins [\[R\]](#).

Bromelain may have some health benefits. People use it to [\[R\]](#):

- Maintain joint health
- Help with burns
- Support heart health

How it helps

Bromelain (400 mg/day for 4 weeks) may improve symptoms, reduce stiffness, and improve physical function [\[R\]](#).

44

Sesamin

IMPACT
EVIDENCE

1 / 5

1 / 5

How to implement

Take a sesamin supplement in doses ranging from 100 to 150 mg, twice daily with food. It is advisable to continue this regimen for several weeks to assess its effect, as benefits may accumulate over time.


TYPICAL STARTING DOSE
200 mg



Description

Sesamin is a natural compound found in sesame seeds and sesame oil. It is often used as a dietary supplement due to its potential health benefits. Sesamin is primarily known for its antioxidant properties and potential to support heart and liver health.

How it helps

In a study of 44 people with rheumatoid arthritis, supplementation with sesamin (200 mg/day for 6 weeks) reduced joint pain and tenderness and improved joint damage and inflammation [\[R, R\]](#).

45  **Saffron**

IMPACT  **EVIDENCE** 

How to implement

Take 20 mg of saffron supplement daily. This can be taken at any time of the day, with or without food.

TYPICAL STARTING DOSE

20 mg

Description

Saffron is a spice derived from the stigma of the saffron crocus flower, and is native to the Mediterranean and Asia. Its main compounds include crocin, picrocrocin, and safranal, which may contribute to its antioxidant properties and potential mood-enhancing effects.

[Saffron](#) is a yellow spice praised for its color, taste, and potential health benefits [\[R\]](#).


Saffron is rich in antioxidants such as *crocin*. Researchers are looking into its potential benefits for [\[R, R, R, R\]](#):


- Gut conditions
- Heart health
- Mental health

How it helps

Saffron has anti-inflammatory properties, which can help reduce swelling and inflammation in the joints, providing relief from pain and discomfort. It also possesses antioxidant properties, which can help protect the joint tissues from further damage caused by inflammation.

In a 12-week double-blind, placebo-controlled trial on 66 women with active rheumatoid arthritis (RA), saffron supplements significantly reduced tender and swollen joint counts, pain intensity, and disease activity. No adverse effects were reported. Saffron positively improved clinical outcomes in RA patients [\[R\]](#).

46  **Artemisia Extract**

IMPACT  **EVIDENCE** 

How to implement

Take an artemisia extract supplement, usually available in capsule form, with a typical dosage ranging from 200 to 400 mg daily. This should be taken with water, preferably after meals to reduce the risk of stomach upset. Follow the specific dosage recommended on the product label or by a healthcare provider for up to 4 weeks.

TYPICAL STARTING DOSE**200 mg**


Description



Artemisia extract is derived from various species of the Artemisia plant, and it is used in traditional medicine for its potential medicinal properties. It is being studied for its possible role in supporting digestive health and immune function.

How it helps

In a non-placebo-controlled trial of 159 patients with active rheumatoid arthritis, supplementation with *Artemisia annua* extract (30 g/day) as an add-on to leffflunomide and methotrexate for 48 weeks improved pain score, number of painful joints and ESR at 12 weeks, tenderness score and HAQ at 24 weeks, and the tenderness score, number of painfull joints, number of swollen joints, HAQ, CRP, RF, and CCP-Ab at 48 weeks better than leffflunomide and methotrexate alone [\[R\]](#).

Aretmisia extract may help through its anti-inflammatory properties.

47  **Milk Thistle (Silymarin)**

IMPACT  **EVIDENCE** 

How to implement

Take a 300 mg milk thistle (silymarin) supplement daily with water, preferably with a meal for better absorption. Continue this regimen as advised by your healthcare provider.

TYPICAL STARTING DOSE

300 mg

Description

Silymarin is a natural plant extract derived from the milk thistle plant (*Silybum marianum*). It has been traditionally used for its potential anti-inflammatory and liver-protective properties. Silymarin consists of several flavonolignans, including silybin, silydianin, and silychristin.

Milk thistle (*Silybum marianum*) is a purple flowering plant in the daisy family. Traditionally, it has been used for liver problems. Some people also eat the leaves in salads [\[R, R\]](#).

The extract of milk thistle is called *silymarin* [\[R, R, R\]](#).


People use milk thistle to help with [\[R, R, R\]](#):

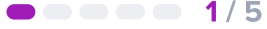
- Liver problems
- Blood sugar control
- Indigestion
- Skin problems

How it helps

Milk Thistle contains silymarin, a flavonoid that may potentially reduce inflammation in your body including joints. However, it is more primarily known for liver support, and conclusive studies on its impact on joint inflammation are still needed.

In a [placebo-controlled trial of 44 patients with rheumatoid arthritis](#), supplementation with silymarin for 90 days **reduced disease activity score** [\[R\]](#).

48  **Mango Extract**

IMPACT  1 / 5

EVIDENCE  1 / 5

How to implement

Take 100-150mg of mango extract supplement daily, preferably with meals to enhance absorption. Continue this supplementation for at least 4-6 weeks to potentially start noticing benefits, such as improved digestion or healthier skin. It's essential to look for a high-quality extract to ensure efficacy.


Description



Mango extract, derived from the fruit, is often used in supplements and skincare products for its potential to provide antioxidant protection and promote skin health. It may help reduce oxidative stress and support a youthful complexion.

How it helps

Taking Mango Extract can decrease joint inflammation due to its high amounts of polyphenols, which are natural compounds known for their anti-inflammatory properties. Therefore, mango extract might help ease inflammation-related discomfort in your joints.

This study explored *Mangifera indica* extract (Vimang tablets, 300 mg) combined with methotrexate (MTX) for rheumatoid arthritis (RA) treatment. Twenty RA patients received MTX with or without the extract (900 mg/day) for 180 days. Only MTX-Vimang group showed improved DAS 28 parameters (80% ACR improvement at 90 days), reduced NSAID use (100% patients), and diminished gastrointestinal side effects (70% patients), with no group differences [\[R\]](#).

49  **Sweet Wormwood**

IMPACT  **EVIDENCE** 

How to implement

Take a sweet wormwood supplement as an extract or tablet form, following the manufacturer's guidelines on dosing, which typically ranges from 100 to 200 mg daily. It's usually taken for no longer than 4 to 6 weeks.

TYPICAL STARTING DOSE**100 mg**

Description

Sweet wormwood (*Artemisia annua*) is a plant native to Asia and has been traditionally used in Chinese herbal medicine as a potent antimalarial compound. This is due to the compound artemisinin and its derivative, which are widely used in modern medicine to treat malaria.


Sweet wormwood (*Artemisia annua*) is a herb used in traditional Chinese medicine. It may help combat infections by parasites, viruses, fungi, and bacteria. In line with this, people have used sweet wormwood for [\[R\]](#), [\[R\]](#):

- Malaria
- Tuberculosis
- Lice
- Scabies
- Dysentery

Artemisinin, the most important anti-malarial drug, was originally isolated from sweet wormwood [\[R\]](#).

How it helps

In a study of 159 people with rheumatoid arthritis, sweet wormwood extract (30 g/ay) used as an add-on to standard therapy increased benefits at reducing joint swelling, pain, and tenderness than standard therapy alone [\[R\]](#).

50  **Aromatherapy**

IMPACT 1 / 5 | EVIDENCE 1 / 5

How to implement

Select essential oils like lavender, peppermint, or eucalyptus. Use a diffuser to disperse the scent into your room for 30-60 minutes at a time, up to 3 times a day. Alternatively, apply a few drops diluted in a carrier oil directly to your skin, such as on your temples or wrists, twice a day.

TYPICAL STARTING DOSE

30 minutes

Description

Aromatherapy is a holistic practice that uses the scents and aromas of essential oils to promote physical, mental, and emotional well-being. It is often used for relaxation, stress reduction, and to address various health concerns through inhalation or topical application of essential oils.

Aromatherapy uses concentrated plant extracts known as **essential oils**. They can be inhaled using a diffuser (a device that releases small amounts of oil into the air) or applied to the skin using a roller [\[R\]](#).

[Lavender](#) is a decorative flower and a calming herb and its essential oil is commonly used in aromatherapy. People use it to [\[R, R, R\]](#):

- Reduce anxiety [\[R\]](#)
- Improve sleep quality [\[R, R\]](#)
- Relieve pain [\[R, R\]](#)


Essential oils can be harmful if not used properly. Tips for using them safely include [\[R, R\]](#):



- Diluting them properly using a plant-based carrier oil (such as olive oil or almond oil)
- Using diffusers in a well-ventilated area for a maximum of 1 hour
- If using on the skin, testing a small area first and waiting a day before using more
- Keeping essential oils away from candles or other heat sources

How it helps

In a non-placebo-controlled trial of 51 patients with rheumatoid arthritis, applying aromatherapy massage on both knees for 30 min during 6 weeks improved pain and fatigue. Applying aromatherapy with 5% compound essential oils (10 min, 3x/week for 3 weeks) improved sleep quality but not pain in a non-placebo-controlled trial of 102 patients with rheumatoid arthritis [\[R, R\]](#).

Essential oils possess anti-inflammatory properties that may lessen swelling and pain when applied topically or inhaled.

51  **Manual Therapy**

IMPACT  **EVIDENCE** 

How to implement


Schedule a session with a certified manual therapist, such as a physical therapist or chiropractor, once a week for at least 3 to 6 weeks. During these sessions, allow the therapist to apply hands-on techniques to manipulate muscles and joints aiming to improve mobility and reduce pain.


Description


Manual therapy encompasses various hands-on techniques used by healthcare professionals, including physical therapists and massage therapists, to alleviate pain, improve mobility, and promote overall musculoskeletal health. It can be effective for addressing a wide range of conditions, from muscle tension to joint disorders.

How it helps

A pilot study indicated that manual therapy (10 sessions), involving postisometric relaxation and joint mobilization, could help in managing knee pain and function in people with rheumatoid arthritis [\[R\]](#).

52  **Black Seed (Black Cumin)**

IMPACT  1/5

EVIDENCE  1/5

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 oil (500mg, 2x daily) reduced joint stiffness and swelling in a placebo-controlled trial of 40 women with rheumatoid arthritis [\[R\]](#).

Black seed oil may help by decreasing inflammation in the joints.

53  **N-acetylcysteine (NAC)**

IMPACT  **EVIDENCE** 

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

N-acetylcysteine, or NAC, may help reduce joint inflammation by boosting your body's production of a powerful antioxidant called glutathione, which can protect your cells from damage caused by inflammation. However, more scientific studies are needed to confirm its effectiveness in treating joint inflammation.

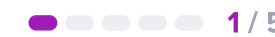
In a [placebo-controlled trial of 51 patients with rheumatoid arthritis](#), supplementation with NAC (600 mg, 2x/day) for 12 weeks **improved GH, VAS, and HAQ scores** [\[R\]](#).

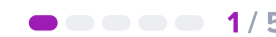
54



Glucosamine

IMPACT
EVIDENCE





How to implement

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

TYPICAL STARTING DOSE

1500 mg

Description

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

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

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

How it helps

In a study of 51 people with rheumatoid arthritis, 3-month supplementation with glucosamine (1,500 mg/day) notably improved symptoms [\[R\]](#).

55



Avoid Lead Exposure

IMPACT
EVIDENCE





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

Two NHANES studies associated high lead and cadmium exposure with an increased risk of osteoarthritis and rheumatoid arthritis [\[R, R\]](#).

Lead can disrupt the immune system, potentially worsening joint inflammation.

56  **Andrographis**

IMPACT  **EVIDENCE** 

How to implement

Take an Andrographis supplement following the dosages provided on the product label, usually ranging from 300 to 600 mg daily. This is typically divided into two to three doses throughout the day, with meals, and should be done for up to 8 weeks to support immune function or relieve cold symptoms.

TYPICAL STARTING DOSE

300 mg

Description


Andrographis is a medicinal herb native to South Asian countries like India and Sri Lanka. It is known for its potential health benefits, primarily due to its active compound, andrographolide, which has anti-inflammatory and immune-boosting properties. Andrographis is often used in traditional medicine to treat conditions such as upper respiratory tract infections, fever, and digestive issues.


[Andrographis](#) (*Andrographis paniculata*) is an Ayurvedic plant known as the “king of [bitters](#)” People traditionally use it to fight infections and the common cold [\[R\]](#).


How it helps

In a placebo-controlled trial of 60 patients with rheumatoid arthritis, supplementation with andrographis (30 mg, 3x/day) for 14 weeks reduced the number and grade of tender and swollen joints, while improving quality of life [\[R\]](#).

Andrographis has anti-inflammatory properties that may help alleviate joint inflammation. It also helps stimulate the immune system, which may further mitigate inflammation and soothe joint pain.

57  **Autogenic Training**

IMPACT  1/5

EVIDENCE  1/5

How to implement

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

TYPICAL STARTING DOSE**10 minutes**

Description

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


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



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

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

How it helps

In a study comparing auricular electroacupuncture and autogenic training, both interventions improved pain intensity and disease activity. Notably, autogenic training helped reduce these symptoms over both the short and long term [\[R\]](#).

58  **Barberry**

IMPACT  **EVIDENCE** 

How to implement

Take a barberry supplement of 500-1000 mg daily, divided into two or three doses with meals for up to 12 weeks. Do not exceed the recommended dose without consulting a healthcare provider.

TYPICAL STARTING DOSE

500 mg

Description


Barberry is an herbal remedy used in traditional medicine for its potential to support digestive health and reduce inflammation. It contains compounds that may have antimicrobial and antioxidant properties.

How it helps

In a placebo-controlled trial of 80 women with active rheumatoid arthritis, supplementation with barberry (2 g/day) for 12 weeks reduced symptom severity and lowered IL-17 levels while increasing IL-10 [\[R\]](#).

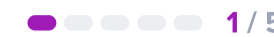
Barberry has anti-inflammatory properties that can help reduce swelling and pain in your joints.

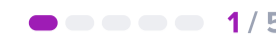
59



Physical Therapy

IMPACT
EVIDENCE





How to implement

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

TYPICAL STARTING DOSE

30 minutes

Description

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

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

Physical therapy can involve [\[R\]](#):

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

People mainly use physical therapy to help with [\[R, R\]](#):

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


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

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

How it helps

Physical and exercise therapy may improve hand pain, joint tenderness, and activities of daily living scores, indicating that targeted physical therapy can be especially beneficial for hand function [\[R\]](#).

60



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

A study observed that people with rheumatoid arthritis who consumed green tea experienced improvements in inflammation. This study suggests that both green tea alone or combined with other treatments like exercise could reduce symptoms and potentially improve bone metabolism [\[R, R\]](#).

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 [\[R\]](#).

61



Infrared Light Therapy

IMPACT

1 / 5

EVIDENCE

1 / 5


Description

Infrared light therapy is a type of light therapy that uses infrared light to improve circulation, reduce pain, and promote healing. It has been shown to be effective in treating a variety of conditions, including arthritis, chronic pain, and wound healing.

How it helps

In a small trial of 37 arthritis (ankylosing spondylitis) patients, infrared pulsed laser devices (low level laser therapy at 810 nm) reduced inflammatory cytokines (TNF, IL-1, and IL-2). The patients had improvement in function and pain after a few months [\[R\]](#).

62



Bacillus Coagulans

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Take a Bacillus coagulans supplement containing 1 to 2 billion CFUs (colony forming units) daily, with a glass of water, preferably with meals. This routine should be consistently followed for at least four weeks to potentially see benefits.

Description

Bacillus coagulans is a probiotic strain believed to support digestive health and boost the immune system. It's used in various probiotic supplements and may aid in maintaining gut balance.

How it helps

In a study of 45 people with rheumatoid arthritis, supplementing with *Bacillus coagulans* probiotics decreased pain, reduced inflammation markers, and improved the ability to walk 2 miles and participate in daily activities after 60 days [\[R\]](#).

63



Moxibustion

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Place a moxa stick (a cigar-shaped stick made from mugwort leaves) approximately 1-2 inches away from the skin's surface over the area to be treated. Light one end of the moxa stick and let it burn slowly, moving it around in a small circular motion or holding it still, depending on the technique being used, for about 10 to 15 minutes per session. Repeat the process 1-3 times a week for several weeks, monitoring for any skin irritation or discomfort.

TYPICAL STARTING DOSE

10 minutes

Description

Moxibustion is a traditional Chinese medicine therapy that involves burning dried mugwort near the skin's surface to stimulate acupuncture points, promoting relaxation, pain relief, and overall well-being.


How it helps

Moxibustion may enhance the benefits of conventional therapy on pain reduction, but not on inflammation. However, not all studies found this benefit. Moreover, the supporting studies are small and low-quality [\[R\]](#), [\[R\]](#).

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64  **Cold Showers**

IMPACT 1 / 5 **EVIDENCE** 1 / 5

How to implement

Start your shower with warm water and gradually decrease the temperature until it is cold. Do this for the last 30 seconds to 2 minutes of your shower. Practice this daily for the best results.

TYPICAL STARTING DOSE

30 seconds


Description

Cold showers can help to boost your mood, improve your skin and hair health, and enhance your immune response. They act like a source of natural energy, waking you up and making you feel more alert. By reducing muscle soreness after workouts, they also aid in physical recovery. It's a quick habit that has potential to improve your overall health.

How it helps

In a study with 121 patients with chronic inflammatory arthritis, whole-body cold mist showers significantly reduced pain compared to control and improved sleep quality, with no difference in depression scores [\[R\]](#).

Cold showers may help by constricting blood vessels, which reduces swelling and pain. Moreover, it can promote the release of endorphins.

65  **Dietary Vitamin A**

IMPACT 1 / 5

EVIDENCE 1 / 5

How to implement

Include foods high in vitamin A in your daily diet, such as sweet potatoes, carrots, spinach, and fortified foods like milk. Aim for 700-900 micrograms (mcg) of vitamin A per day for adults, depending on your age and sex, with a slightly higher intake recommended for women who are pregnant or breastfeeding.

Description


Vitamin A is essential for maintaining healthy vision, immune function, and skin integrity. It also plays a role in cell differentiation and growth, supporting various bodily functions.



How it helps

Lower levels of vitamin A may be associated with increased disease severity in people with rheumatoid arthritis. This suggests that vitamin A might play a role in modulating inflammation [\[R\]](#).

Genetically higher levels of retinol may be associated with a reduced risk of rheumatoid arthritis [\[R\]](#).

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

66  **Resveratrol**

IMPACT  **EVIDENCE** 

How to implement

Take 150-500 mg of resveratrol as a supplement daily, preferably with meals to enhance absorption. This dosage range is based on studies for various health benefits, and it's advised to not exceed 500 mg per day without medical supervision.

TYPICAL STARTING DOSE

150 mg

Description

Resveratrol is a natural compound found in red grapes, red wine, and some berries. It is known for its potential antioxidant properties and its role in promoting heart health.

[Resveratrol](#) is an antioxidant found mainly in [\[R\]](#):


- Berries
- Red grapes
- Red wine
- Peanuts


It's purported to have anti-inflammatory and antioxidant effects [\[R, R, R\]](#).


How it helps

In a non-placebo-controlled trial of 100 patients with rheumatoid arthritis, supplementation with resveratrol (1 g/day) as an add-on to conventional treatment for 3 months reduced clinical markers (i.e., the 28-joint count for swelling and tenderness), the disease activity score assessment for 28 joints, and serum levels of certain biochemical markers (i.e., CRP, erythrocyte sedimentation rate, undercarboxylated osteocalcin, matrix metalloproteinase-3, tumor necrosis factor alpha, and interleukin-6) [\[R\]](#).

Resveratrol may help by reducing inflammation and swelling.

67  **Ginger**

IMPACT  1/5

EVIDENCE  1/5

How to implement

Take a 500 mg ginger supplement daily, preferably with a meal to enhance absorption and minimize potential stomach discomfort.

TYPICAL STARTING DOSE**500 mg**

Description


Ginger is a versatile spice known for its potential anti-inflammatory and digestive benefits. It may help alleviate nausea, reduce muscle soreness, and support gastrointestinal comfort when consumed as part of a balanced diet.

[Ginger root](#) is a cooking spice and a traditional remedy. People mostly use it to relieve [\[R\]](#):

- Nausea
- Menstrual cramps
- Joint pain

How it helps

In a study of 70 people with rheumatoid arthritis, supplementation with ginger powder (1,500 mg/day for 12 weeks) reduced disease markers. The benefit might come from alterations in gene expression [\[R\]](#).

68  **Apply Heat**

IMPACT 1 / 5 **EVIDENCE** 1 / 5

How to implement

Place a warm, not hot, heating pad or a warm wet towel on the affected area for 15-20 minutes at a time. Do this several times a day, ensuring there's at least a 1-hour interval between sessions to avoid skin damage.

TYPICAL STARTING DOSE

15 minutes

Description

Applying heat, such as through heating pads or warm baths, can help relieve muscle tension and soothe pain. It is a common method for managing muscle aches, menstrual cramps, and minor injuries.

People use hot applications to relieve pain, improve blood flow, and more [\[R\]](#), [\[R\]](#).

Types of hot applications include [\[R\]](#), [\[R\]](#):

- Heating pads
- Hot baths
- Saunas
- Hot water bottles

How it helps

Research suggests that cold therapy is often used as an adjunct in the management of rheumatoid arthritis and is useful as palliative therapy. However, more studies are needed to confirm its potential benefits [\[R\]](#).

Cold therapy may help by raising the pain threshold immediately after application [\[R\]](#).

69  **Horsetail**

IMPACT  1 / 5

EVIDENCE  1 / 5

How to implement

Take horsetail as a supplement in capsule form, usually available in doses ranging from 300 to 500 mg. Consume it once or twice daily, with meals to minimize the risk of stomach upset. It's recommended to cycle the supplement, taking it for 4 weeks followed by a 1-week break to prevent possible side effects.


TYPICAL STARTING DOSE**300 mg**

Description

Horsetail is an herb rich in silica, which is important for bone health and may contribute to improved hair, skin, and nail condition. It is sometimes used as a dietary supplement to support these aspects of overall well-being.

How it helps

In a study of 60 people with rheumatoid arthritis, horsetail improved the symptoms in 80% of the people. Horsetail also increased IL-10 while decreasing TNF-alpha [\[R\]](#).

70  **Cat's Claw**

IMPACT 1 / 5 | EVIDENCE 1 / 5

How to implement

Take 250-350 mg of cat's claw extract daily, preferably with a glass of water. This dosage can be split into two separate doses, one in the morning and one in the evening. Continue this regimen for at least 4 to 8 weeks to observe potential benefits.

TYPICAL STARTING DOSE

250 mg

Description

Cat's claw is an herbal supplement derived from a tropical vine known for its potential anti-inflammatory and immune-boosting properties. It's used in traditional medicine to support joint health and overall well-being.

Cat's claw (*Uncaria tomentosa* and *Uncaria guinaensis*) is a vine native to the Amazon rainforest and other tropical regions of Central and South America. Its curved thorns look like cat's claws [\[R\]](#).

Cat's claw has been used for centuries in South American traditional medicine for [\[R\]](#):


- Fever
- Fatigue
- Muscle and joint pain

How it helps


In a placebo-controlled trial of 40 patients with rheumatoid arthritis undergoing sulfasalazine or hydroxychloroquine treatment, supplementation with cat's claw extract for 52 weeks reduced the number of painful joints (by 53.2%) and swollen joints [\[R\]](#).


Cat's claw has anti-inflammatory properties that can help reduce joint swelling. It also stimulates the immune system, which can help accelerate healing and improve overall joint health.

71



Shock Wave Therapy

IMPACT


EVIDENCE


How to implement

Schedule and attend sessions for extracorporeal shock wave therapy (ESWT) with a qualified healthcare provider. Typically, treatments may involve 1 to 3 sessions a week over a span of 3 to 4 weeks, depending on the condition being treated and the severity of symptoms.

Description

Extracorporeal shockwave therapy is a medical treatment that uses shockwaves to stimulate healing and reduce pain in various musculoskeletal conditions. It is often used for conditions such as plantar fasciitis and tendinitis.

In extracorporeal shockwave therapy, sound waves are emitted and passed through parts of the body. Doctors use it to help reduce pain and stimulate tissue recovery in people [\[R\]](#), [\[R\]](#).

How it helps

In a non-placebo-controlled trial of 15 rheumatoid arthritis patients with joint pain, receiving radial extracorporeal shock wave therapy for 3 months improved VAS scores, morning stiffness, and disease activity [\[R\]](#).

72



Cold Exposure

IMPACT


EVIDENCE


How to implement

Gradually expose yourself to cold temperatures for short periods, starting with 1-2 minutes and increasing up to 5-10 minutes. This can be achieved through cold showers, outdoor exposure in cold weather, or ice baths. Aim to do this 2-3 times per week.

TYPICAL STARTING DOSE

1 minutesute


Description

Cold exposure, when done safely and gradually, can have potential health benefits like increased calorie burn, improved circulation, and enhanced resilience to cold temperatures. Cold exposure techniques, such as cold showers or outdoor winter activities, may help boost metabolism and promote overall well-being when practiced mindfully.

Please note: rapid instead of gradual cold exposure causes dangerous, and even fatal, changes in the breath and heart rates, known as the cold shock response. Be cautious with any form of sudden temperature change in your environment, especially if you have heart disease or other chronic conditions [\[R\]](#).

How it helps

Cold exposure can help ease joint inflammation by reducing blood flow and suppressing inflammatory responses, potentially providing relief from pain and swelling. It should be used cautiously and intermittently, as prolonged cold exposure can have negative effects.

73  **Lactobacillus Casei**

IMPACT 1 / 5

EVIDENCE 1 / 5

How to implement

Take a supplement containing Lactobacillus casei daily, with a dosage recommended by the product's manufacturer or a healthcare professional. The specific amount can vary, but it is commonly found in doses around 10 billion colony-forming units (CFUs). Continue this regimen for at least 4 weeks to observe potential health benefits.

TYPICAL STARTING DOSE
10 billion CFU

Description

Lactobacillus casei is a probiotic bacterium known for its potential to support gut health and immune function. It contributes to a balanced gut microbiome and may help alleviate digestive issues like diarrhea.


[Lactobacillus casei](#) is a [probiotic](#) bacterium found in fermented foods (e.g., cheese), as well as in the reproductive and gastrointestinal tracts of humans and other animals [\[R, R\]](#).

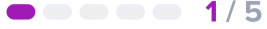
People mainly take *L. casei* to support a healthy gut microbiota [\[R\]](#).

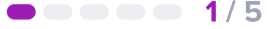
How it helps

In a placebo-controlled trial of 537 patients with knee osteoarthritis, consuming skimmed milk with *L. casei* Shirota for 6 months improved the symptoms while decreasing inflammation [\[R\]](#).

L. casei may help by reducing inflammation in your body, including in the joints.

74  **CBD**

IMPACT  1/5

EVIDENCE  1/5

How to implement

Take a CBD supplement in a dosage ranging from 10 to 40 milligrams per day. Start with the lowest dose and gradually increase it based on your body's response. This can be taken orally in the form of capsules, edibles, or oil drops under the tongue. For ongoing issues, such as anxiety or chronic pain, it may be used daily, while for acute issues, it might be used as needed.

TYPICAL STARTING DOSE

10 mg

Description

CBD is a non-psychoactive compound found in cannabis plants and is used in various forms, including oils and creams. It may have potential benefits for pain relief, anxiety reduction, and overall relaxation, although more research is needed to fully understand its effects.


[Cannabidiol \(CBD\)](#) is a compound found in cannabis. Unlike its cousin THC, **CBD is not psychoactive and can't get you "high"** [\[R\]](#).


People use CBD to:


- Reduce anxiety [\[R, R\]](#)
- Relieve pain [\[R, R, R\]](#)
- Prevent seizures [\[R\]](#)
- Improve sleep [\[R\]](#)

How it helps

In a study of 58 people with rheumatoid arthritis, a cannabis extract containing both CBD and THC reduced pain and increased the quality of sleep. Some research suggests that the combination of CBD and THC is more effective than CBD alone [\[R\]](#).

75  **Coenzyme Q10 (CoQ10)**

IMPACT  1/5

EVIDENCE  1/5

How to implement

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

TYPICAL STARTING DOSE

100 mg

Description

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

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

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


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

- Organ meats
- Fatty fish
- Whole grains

How it helps

Coenzyme Q10 functions as an antioxidant, helping to protect cells from damage and plays an essential role in metabolism. Though it's not directly related to joint inflammation, its antioxidant properties can help reduce oxidative stress which often contributes to inflammation.

In a randomized trial with 54 rheumatoid arthritis (RA) patients, those taking 100 mg/day of CoQ10 for 2 months showed significant reductions in ESR, pain score, and tender joint count compared to placebo, as well as significant differences in DAS-28 and joint counts [R](#).

76  **Whole-Body Cryotherapy**

IMPACT 1 / 5 | EVIDENCE 1 / 5

How to implement

Participate in whole-body cryotherapy sessions by entering a cryotherapy chamber for 2-3 minutes, where temperatures drop to between -100°C to -140°C (-148°F to -220°F). These sessions should be performed 2-3 times a week for optimal benefits.

TYPICAL STARTING DOSE

2 minutes

Description

Whole-body cryotherapy involves brief exposure to extreme cold temperatures in a controlled chamber. It is used to reduce inflammation, alleviate muscle soreness, and promote recovery in athletes and individuals seeking pain relief.

How it helps

In a study of 56 active rheumatoid arthritis patients, half received whole-body cryotherapy and the other half received no treatment. After the intervention, the whole-body cryotherapy group reported a significant reduction in pain. Disease activity and functional capacity improved but were not significant at the 12-week follow-up. The whole-body cryotherapy group also saw changes in cytokine levels and reduced their use of analgesics [\[R\]](#).

Another study demonstrated that whole-body cryotherapy is similarly effective as traditional rehabilitation [\[R\]](#).

Whole-body cryotherapy may help by exposing the body to extreme cold, which can reduce inflammation and pain.

Please note: Rapid cold exposure can cause life-threatening changes to your breathing and heart rate. This is called the cold-shock response. Be cautious of any form of sudden temperature change to your environment, especially if you have heart disease or other health conditions [\[R\]](#).

77



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

2 tsp

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 oil (500mg, 2x daily) reduced joint stiffness and swelling in a placebo-controlled trial of 40 women with rheumatoid arthritis [\[R\]](#).

Black seed oil may help by decreasing inflammation in the joints.

78  **Cranberry**

IMPACT  **EVIDENCE** 

How to implement

Consume one to two 8-ounce servings of unsweetened cranberry juice daily, or take 500 mg of cranberry supplements twice daily. Continue this practice consistently for at least several weeks to potentially observe benefits.

Description

Cranberries are known for their high antioxidant content and potential to promote urinary tract health by preventing bacterial adhesion. Consuming cranberries or cranberry products may help reduce the risk of urinary tract infections and provide antioxidant benefits.


Cranberries are fruits rich in vitamins, minerals, and antioxidants. They are available in different forms, including [\[R\]](#):


- Dried fruits
- Juice
- Powder
- Pills

How it helps

In a [non-placebo-controlled trial of 41 women with rheumatoid arthritis](#), consuming low-calorie cranberry juice (500 mL/day) for 90 days **reduced disease activity and blood markers** [\[R\]](#).

Cranberries are rich in antioxidants and anti-inflammatory compounds. They may help reduce inflammation and oxidative stress in your joints.

79  **Rose Hip**

IMPACT  **EVIDENCE** 

How to implement

Take a 500 mg rose hip supplement daily, preferably with a meal to aid absorption.

TYPICAL STARTING DOSE

500 mg

Description

Rose hip is the fruit of the wild rose plant and is commonly used in various forms, such as oil or extract. It's rich in nutrients like vitamin C, antioxidants, and essential fatty acids, making it valuable for skincare and immune health.


Rose hips are round fruits found on rose plants [\[R\]](#).

They're a **good source of vitamin C and other antioxidants**. Some compounds in rose hips are also **anti-inflammatory** [\[R, R, R\]](#).

How it helps

Rose hip supplements can help manage joint inflammation because they possess potent anti-inflammatory properties, which minimize swelling and discomfort. The supplement also fosters joint mobility and promotes cartilage health, which can reduce symptoms over time.

In a placebo-controlled trial of 89 patients with rheumatoid arthritis, supplementation with rose hip powder (5 g/day) for 6 months improved symptom scores [\[R\]](#).

80  **Blood Flow Restriction Training**

IMPACT 1 / 5 **EVIDENCE** 1 / 5

How to implement

Wrap a blood flow restriction (BFR) band or cuff around the upper portion of your limbs (arms or legs) at a pressure that feels tight but not painful, aiming for a perceived tightness of 7 out of 10. Engage in low-intensity resistance training, such as lifting weights that are 20% to 30% of your one-rep max, or perform bodyweight exercises. Do this for 15-30 minutes, 2-3 times a week. Always release the bands after each exercise set to restore normal circulation.

TYPICAL STARTING DOSE

15 minutes

Description


Blood flow restriction (BFR) training is a specialized fitness and rehabilitation technique that involves applying pressure to restrict blood flow to specific muscles during exercise. This is typically achieved using cuffs or wraps placed on the limbs and then inflated to a controlled pressure. By temporarily reducing blood flow while allowing arterial inflow, BFR training creates a unique physiological response. It induces metabolic stress and muscle fatigue, leading to muscle growth and strength gains, even with lighter weights.

BFR is widely used in rehabilitation settings to aid in the recovery of injured individuals, helping them rebuild muscle strength without overloading compromised areas. It also has applications in improving muscular endurance and may have potential cardiovascular benefits, such as lowering blood pressure and enhancing vascular function. However, it should be performed under the guidance of a trained professional, as it's not suitable for everyone and has specific safety considerations.

How it helps


In a non-placebo-controlled trial of 48 women with rheumatoid arthritis, receiving BFR training for 12 weeks improved muscle strength, mass, and function, as well as health-related quality of life [\[R\]](#).


81



Baicalin

IMPACT
EVIDENCE





How to implement

Take baicalin supplements in doses ranging from 50 to 500 mg per day. Choose a high-quality supplement and consult with a healthcare provider before beginning, especially if taking other medications or if pregnant or breastfeeding. Baicalin should be taken with a glass of water, preferably with a meal to aid absorption, and can be divided into 1-2 doses throughout the day. Continuous use should be reassessed every 3-6 months with healthcare guidance.

TYPICAL STARTING DOSE

50 mg

Description


Baicalin is a natural compound found in certain plants like the Chinese skullcap. It has several health benefits like reducing inflammation, battling bacteria, and protecting the brain. Research also suggests it could be useful in treatments for heart and liver conditions.

How it helps

In a placebo-controlled trial of 374 patients with coronary artery disease and rheumatoid arthritis, supplementation with baicalin (500 mg/day) for 12 weeks lowered triglycerides, total cholesterol, LDL-cholesterol, and CRP levels [R].


Baicalin is a bioactive flavonoid known for its anti-inflammatory properties, which can help ease swelling in the joints.


82



Autogenic Training and Electroacupuncture

IMPACT
EVIDENCE





How to implement

For autogenic training, practice twice daily for 10-20 minutes each session in a quiet, comfortable place where you can sit or lie down without being disturbed. Focus on relaxing different parts of the body and visualize calmness. For electroacupuncture, sessions typically last about 30 minutes and should be done 1-2 times a week for a minimum of 5 weeks. It's important to seek a certified practitioner experienced in electroacupuncture.

TYPICAL STARTING DOSE

10 minutes


Description

Autogenic training is a relaxation technique that involves self-suggestion and progressive muscle relaxation to promote relaxation, reduce stress, and alleviate symptoms of anxiety and tension. Electroacupuncture is a form of acupuncture in which a small electric current is applied to acupuncture needles during treatment. It is believed to enhance the therapeutic effects of traditional acupuncture and may be used for pain management and various health conditions.



How it helps

Autogenic training, a relaxation technique, helps lessen joint inflammation by reducing stress which can indirectly flare up inflammation. Electroacupuncture can direct the body's own painkillers to inflamed joints, thus relieving discomfort and enhancing mobility.

In a non-placebo-controlled trial of 44 patients with rheumatoid arthritis, the combination of autogenic training and electroacupuncture weekly for 6 weeks reduced pain, ESR, and TNF-alpha [R].

83 

Progressive Muscle Relaxation

IMPACT  EVIDENCE 

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

Progressive Muscle Relaxation (PMR) involves tensing and then relaxing muscle groups which may boost the body's natural painkillers, easing joint inflammation. It also promotes relaxation and stress reduction, which are beneficial since stress can trigger inflammation.

In a non-placebo-controlled trial of 72 patients with rheumatoid arthritis, practicing progressive muscle relaxation for 6 weeks enhanced sleep quality and reduced fatigue [R](#)].

84  **Avoid Magnesium Supplements**

IMPACT 0 / 5

EVIDENCE 0 / 5

How to implement

Do not purchase or consume magnesium supplements, including tablets, capsules, or powders. If you are currently taking magnesium supplements, consider discontinuing their use, especially if not medically advised.


Description

Magnesium supplements may not be necessary if you're eating a balanced diet, as it's found in many foods. Overuse can lead to stomach issues, irregular heartbeat, and even cardiac arrest. It's best to get your magnesium naturally through diet, unless a doctor recommends otherwise.

How it helps

Genetically higher levels of magnesium may increase the risk of bipolar disorder and rheumatoid arthritis [\[R\]](#).

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

85  **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 associated with a lower risk for rheumatoid arthritis [\[R\]](#).

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

86

Limit Caffeine Intake

IMPACT

0 / 5

EVIDENCE

0 / 5

How to implement

Limit your caffeine consumption to less than 200 milligrams per day, equivalent to about two 6-ounce cups of coffee. Aim to avoid caffeine-containing foods and beverages such as tea, chocolate, and some soft drinks, especially in the late afternoon and evening to minimize sleep disturbances.

Description

Although caffeine is the world's most popular stimulant, some people choose to limit or avoid it due to potential adverse effects on their sleep, mood, or blood pressure.

How it helps

Caffeine intake may increase the risk of rheumatoid arthritis more in people with certain gene variants [\[R\]](#).

PERSONALIZED TO YOUR GENES

Caffeine intake may increase the risk of rheumatoid arthritis more in people with your [ADORA2A](#) gene variant [\[R\]](#).

YOUR GENETIC VARIANTS	GENE	SNP	GENOTYPE	EVIDENCE
	ADORA2A	rs2298383	TC	<div style="display: flex; justify-content: center; gap: 5px;"> <div style="width: 10px; height: 10px; background-color: #ccc; border-radius: 50%;"></div> <div style="width: 10px; height: 10px; background-color: #ccc; border-radius: 50%;"></div> <div style="width: 10px; height: 10px; background-color: #ccc; border-radius: 50%;"></div> <div style="width: 10px; height: 10px; background-color: #ccc; border-radius: 50%;"></div> <div style="width: 10px; height: 10px; background-color: #ccc; border-radius: 50%;"></div> </div>

87

Dietary Oleic Acid

IMPACT

0 / 5

EVIDENCE

0 / 5

How to implement

Increase your intake of foods rich in oleic acid, such as olive oil, avocados, and almonds. Aim to incorporate these foods into your daily diet, using olive oil for cooking or dressings, eating a handful of almonds as a snack, or including half an avocado in your meals.

Description

Oleic acid is a type of fat that your body can use for energy. It's found in many foods, like olive oil, avocados, and some nuts. Consuming food with oleic acid is good for your heart health because it can help lower bad cholesterol and increase good cholesterol levels in your body.

How it helps

Genetically higher oleic acid levels may be associated with a decreased risk of rheumatoid arthritis [\[R\]](#).

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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.

